Ontario Amendments to the National Building Code of Canada 2020

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Division A

Part 1

1. Article 1.1.1.1. of Division A is revoked and the following substituted:

1.1.1.1. Application of this Code

(1) This Code applies to the *construction*, *demolition*, change of use and *occupancy* of *buildings*.

(2) This Code applies to both site-built and factory-constructed *buildings*. (See Note A-1.1.1.1.(2))

2. Article 1.2.1.1. of Division A is revoked and the following substituted:

1.2.1.1. Compliance with this Code

(1) Compliance with this Code shall be achieved by

(a) complying with the applicable *acceptable solutions* in Division B (See Note A-1.2.1.1.(1)(a)), or

(b) using *alternative solutions* that will achieve at least the minimum level of performance required by the applicable *acceptable solutions* in respect of the *objectives* and *functional statements* attributed to the applicable *acceptable solutions* in MMAH Supplementary Standard SA-1, "Objectives and Functional Statements Attributed to the Acceptable Solutions". (See Note A-1.2.1.1.(1)(b))

(2) For the purposes of Clause (1)(b), the level of performance in respect of a *functional statement* refers to the performance of the *functional statement* as it relates to the *objective* with which it is associated in MMAH Supplementary Standard SA-1, "Objectives and Functional Statements Attributed to the Acceptable Solutions".

3. Article 1.2.2.2. of Division A is revoked and the following substituted:

1.2.2.2. Reserved

4. Sentence 1.2.2.3.(1) of Division A is revoked and the following substituted:

(1) Unless otherwise specified, recycled materials in *building* products may be used and used materials, *appliances* and equipment are permitted to be reused when they meet the requirements of this Code for new materials and are satisfactory for the intended use.

5. Subsection 1.3.3. of Division A is revoked and the following substituted:

1.3.3. Application of Division B (See Note A-1.3.3.)

1.3.3.1. Application of Parts 1, 7 and 12

(1) Part 1 of Division B applies to all *buildings* covered in this Code. (See Article 1.1.1.1.)

(2) Subject to Article 1.3.3.3B., Parts 7 and 12 of Division B apply to all *buildings* covered in this Code.

1.3.3.1A. Application of Part 2

(1) Part 2 of Division B applies to all *farm buildings* covered in this Code.

1.3.3.2. Application of Parts 3, 4, 5 and 6

(1) Subject to Articles 1.3.3.1A., 1.3.3.3B., Parts 3, 4, 5, and 6 of Division B apply to all *buildings* described in Article 1.1.1.1. and

(a) classified as *post-disaster buildings*,

(b) used for *major occupancies* classified as

(i) Group A, *assembly occupancies*,

(ii) Group B, *care*, *care and treatment* or *detention occupancies*, or

(iii) Group F, Division 1, *high-hazard industrial occupancies*, or

(c) exceeding 600 m^2 in *building area* or exceeding 3 *storeys* in *building height* used for *major occupancies* classified as

(i) Group C, *residential occupancies*,

(ii) Group D, *business and personal services occupancies*,

(iii) Group E, *mercantile occupancies*, or

(iv) Group F, Divisions 2 and 3*, medium- and low-hazard industrial occupancies*.

(2) Subject to Articles 1.3.3.1A. and 1.3.3.3B., Part 4 of Division B applies to

(a) a retaining wall exceeding 1 000 mm in exposed height adjacent to

(i) public property,

(ii) access to a *building*, or

(iii) private property to which the public is admitted,

(b) a pedestrian bridge appurtenant to a *building*,

(c) a crane runway,

(d) an exterior storage tank and its supporting structure that is not regulated by the *Technical Standards and Safety Act, 2000*,

(e) signs regulated by Section 3.15. of Division B that are not structurally supported by a *building*,

(f) a structure that supports a wind turbine generator having a rated output of more than 3 kW,

(g) an *outdoor pool* that has a water depth greater than 3.5 m at any point, and

(h) a *permanent solid nutrient storage facility* with supporting walls exceeding 1 000 mm in exposed height.

(3) Section 3.11. of Division B applies to *public pools*.

(4) Section 3.12. of Division B applies to *public spas*.

(5) Section 3.15. of Division B applies to signs.

(6) Section 3.17. of Division B applies to *demountable stages and demountable support structures*.

1.3.3.2A. Application of Part 8

(1) Subject to Article 1.3.3.3B., Part 8 of Division B applies to the design, *construction*, operation and maintenance of all *sewage systems* and to the *construction* of *buildings* in the vicinity of *sewage systems*.

1.3.3.3. Application of Part 9

(1) Subject to Article 1.3.3.3B., Part 9 of Division B applies to all *buildings* described in Article 1.1.1.1. of 3 *storeys* or less in *building height*, having a *building area* not exceeding 600 m^2, and used for *major occupancies* classified as

(a) Reserved,

(b) Group C, *residential occupancies* other than *buildings* used for *retirement homes* (see Note A-9.1.1.1.(1) of Division B),

(c) Group D, *business and personal services occupancies*,

(d) Group E, *mercantile occupancies*, or

(e) Group F, Divisions 2 and 3, *medium- and low-hazard industrial occupancies*.

1.3.3.3A. Application of Part 10

(1) Part 10 of Division B applies to existing *buildings* requiring a permit under section 10 of the Act.

1.3.3.3B. Application of Part 11

(1) Except as provided in Sentence (2), Part 11 of Division B applies to the design and *construction* of existing *buildings*, or parts of existing *buildings*, that have been in existence for at least five years.

(2) If a *building* has been in existence for at least five years but includes an addition that has been in existence for less than five years, Part 11 of Division B applies to the entire *building*.

1.3.3.3C. Existing Buildings

(1) Except as provided in Section 3.18. of Division B, Section 9.41. of Division B and Part 11 of Division B, if an existing *building* is extended or is subject to material alteration or repair, this Code applies only to the design and *construction* of the extensions and those parts of the *building* that are subject to the material alteration or repair.

(2) If an existing previously occupied *building* is moved from its original location to be installed elsewhere, or is dismantled at its original location and moved to be reconstituted elsewhere, this Code applies only to changes to the design and *construction* of the *building* required as a result of moving the *building*.

1.3.3.4. Building Size Determination

(1) Where a *firewall* divides a *building*, each portion of the *building* that is divided shall be considered as a separate *building*, except for the purposes of

(a) a determination of *gross area* in Section 1.2. of Division C,

(b) a fire alarm and detection system in Sentence 3.2.4.2.(1) of Division B or Article 9.10.18.1. of Division B, and

(c) a *plumbing system* interconnected through a *firewall*.

(2) Except as permitted in Sentence (3), where portions of a *building* are completely separated by a vertical *fire separation* that has a *fire-resistance rating* of not less than 1 h and extends through all *storeys* and *service spaces* of the separated portions, each separated portion is permitted to be considered as a separate *building* for the purpose of determining *building height*, provided

(a) each separated portion is not more than 3 *storeys* in *building height* and is used only for *residential occupancies* other than a *retirement home*, and

(b) the unobstructed path of travel for a firefighter from the nearest street to one entrance of each separated portion is not more than 45 m. (See Note A-1.3.3.4.(2))

(3) The vertical *fire separation* referred to in Sentence (2) may terminate at the floor assembly immediately above a *basement* provided the *basement* conforms to Article 3.2.1.2. of Division B.

1.3.3.5. Designated Structures

(1) The following structures are designated for the purposes of clause (d) of the definition of *building* in subsection 1 (1) of the Act:

(a) a retaining wall exceeding 1 000 mm in exposed height adjacent to

(i) public property,

(ii) access to a *building*, or

(iii) private property to which the public is admitted,

(b) a pedestrian bridge appurtenant to a *building*,

(c) a crane runway,

(d) an exterior storage tank and its supporting structure that is not regulated by the *Technical Standards and Safety Act, 2000*,

(e) signs regulated by Section 3.15. of Division B that are not structurally supported by a *building*,

(f) a solar collector that is mounted on a *building* and has a face area equal to or greater than 5 m^2,

(g) a structure that supports a wind turbine generator having a rated output of more than 3 kW,

(h) a dish antenna that is mounted on a *building* and has a face area equal to or greater than 5 m^2,

(i) an *outdoor pool*,

(j) an outdoor *public spa*,

(k) a *permanent solid nutrient storage facility* with supporting walls exceeding 1 000 mm in exposed height,

(l) a *demountable stage*, and

(m) a *demountable support structure*.

6. Article 1.3.4.1. of Division A is amended by adding the following Sentence:

(2) Part 3 prescribes qualifications of persons for the purpose of Section 15.11 of the Act.

7. Section 1.4. of Division A is revoked and the following substituted:

Section 1.4. Terms and Abbreviations

1.4.1. Definitions of Words and Phrases

1.4.1.1. Non-Defined Terms

(1) Words and phrases used in this Code that are not included in the list of definitions in Articles 1.4.1.2., 1.4.1.3. and 1.4.1.4. and are not defined in another provision of this Code shall have the meanings that are commonly assigned to them in the context in which they are used, taking into account the specialized use of terms by the various trades and professions to which the terminology applies.

(2) Where *objectives* and *functional statements* are referred to in this Code, they shall be the *objectives* and *functional statements* described in Parts 2 and 3.

(3) Where *acceptable solutions* are referred to in this Code, they shall be the provisions stated in Parts 2 to 12 of Division B.

(4) Where *alternative solutions* are referred to in this Code, they shall be the *alternative solutions* mentioned in Clause 1.2.1.1.(1)(b).

1.4.1.2. Defined Terms

(1) The words and terms in italics in this Code shall have the following meanings:

(i) the same meaning as in subsection 1 (1) of the Act, if not defined in Clause (b) or (c),

(ii) the same meaning as in each of the following provisions for the purposes described in the provision:

(i) Sentences 1.4.1.3.(1) and (2) of Division A, and

(ii) Sentences 3.13.1.2.(1), 7.1.1A.1.(1), 8.1.1.2.(1) and 11.1.1.2.(1) of Division B, or

(iii) the following meaning for the purposes of this Code:

Absorption trench means an excavation in *soil*, as defined in Part 8 of Division B, or in *leaching bed fill*, being part of a *leaching bed*, in which a *distribution pipe* or *leaching chamber* is laid that allows infiltration of the *effluent* into the *soil*, as defined in Part 8 of Division B, or *leaching bed fill*.

Acceptable solution means a requirement stated in Parts 2 to 12 of Division B.

Accessible means, when applied to a *fixture*, connection, *plumbing appliance*, valve, *cleanout* or equipment, to be accessible with or without having to first remove an access panel, door or similar obstruction, but a *fixture*, connection, *plumbing appliance*, valve, *cleanout* or equipment is not accessible if access can be gained only by cutting or breaking materials.

Access to exit means that part of a *means of egress* within a *floor area* that provides access to an *exit* serving the *floor area*.

Adaptable seating means a fixed seat or seats designed to facilitate a side transfer from a wheelchair. (See Note A-1.4.1.2.(1))

Additional circuit vent means a *vent pipe* that is installed between a *circuit vent* and a *relief vent* to provide additional air circulation.

Adfreezing means the adhesion of *soil* to a *foundation unit* resulting from the freezing of *soil* water. (Also referred to as "frost grip.")

Agricultural occupancy (Group G) means the *occupancy* of a *building* or part thereof that is located on land that is associated with and devoted to the practice of farming, and is used for the purpose of producing crops, raising farm animals, or preparing, marketing, storing or processing agricultural products. (See Note A-1.4.1.2.(1))

Agricultural occupancy with no human occupants (Group G, Division 4) means an *agricultural occupancy* that is not intended to be occupied by persons under normal use and is generally used for the storage of agricultural materials and by-products. (See Note A-1.4.1.2.(1))

Air admittance valve means a one-way valve designed to allow air to enter the *drainage system* when the pressure in the *plumbing system* is less than the atmospheric pressure.

Air barrier system means the assembly installed to provide a continuous barrier to the movement of air.

Air break means the unobstructed vertical distance between the lowest point of an *indirectly connected waste pipe* and the *flood level rim* of the *fixture* into which it discharges.

Air-conditioning means the process of treating air in a space to control simultaneously its temperature, humidity, cleanliness, and distribution to meet the comfort requirements of the occupants of the space.

Air gap means the unobstructed vertical distance through air between the lowest point of a water supply outlet and the *flood level rim* of the *fixture* or device into which the outlet discharges.

Air-supported structure means a structure consisting of a pliable membrane that achieves and maintains its shape and support by internal air pressure.

Alarm signal means an audible signal transmitted throughout a zone or zones or throughout a *building* to advise occupants that a fire emergency exists.

Alert signal means an audible signal to advise designated persons of a fire emergency.

Allowable bearing pressure means the maximum pressure that may be safely applied to a *soil* or *rock* by the *foundation unit* considered in design under expected loading and subsurface conditions.

Allowable load means the maximum load that may be safely applied to a *foundation unit* considered in design under expected loading and subsurface conditions.

Alloyed zinc means an alloy of zinc having the corrosion resistance and physical properties of an alloy containing 0.15% titanium, 0.74% copper and 99.11% zinc, and so tempered as to be capable of being formed into the shape required for a watertight joint.

Alternative solution means a substitute for an *acceptable solution*.

Apparent sound transmission class (ASTC) means a single number rating of the airborne sound attenuation of *building* assemblies separating two adjoining spaces, taking into account both the direct and flanking sound transmission paths. (See Note A-1.4.1.2.(1)) (See also Note A-9.11. of Division B)

Appliance means a device to convert fuel into energy and includes all components, controls, wiring and piping required to be part of the device by the applicable standard referred to in this Code.

Architect means the holder of a licence, a certificate of practice or a temporary licence under the *Architects Act*.

Area affected by a significant drinking water threat means an area described in Clause 1.10.2.3.(2)(b) of Division C.

Artesian groundwater means a confined body of water under pressure in the ground.

As constructed plans means *construction* plans and specifications that show the *building* and the location of the *building* on the property as the *building* has been constructed.

Assembly occupancy (Group A) means the *occupancy* or the use of a *building* or part thereof by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes, or for the consumption of food or drink.

Attic or roof space means the space between the roof and the ceiling of the top *storey* or between a dwarf wall and a sloping roof.

Auxiliary water supply means, when applied to premises, any water supply on or available to the premises other than the primary *potable* water supply for the premises.

Backflow means a flowing back or reversal of the normal direction of the flow.

Backflow preventer means a device or a method that prevents *backflow* in a *water distribution system*.

Back pressure means pressure means pressure higher than the supply pressure.

Back-siphonage means *backflow* caused by a negative pressure in the supply system.

Back-siphonage preventer means a device or a method that prevents *back-siphonage* in a *water distribution system*.

Back vent means a pipe that is installed to vent a *trap* off the horizontal section of a *fixture* drain or the *vertical leg* of a water closet or other *fixture* that has an integral siphonic flushing action and "*back vented*" has a corresponding meaning.

Backwater valve means a *check valve* designed for use in a gravity *drainage system*.

Barrier-free means, when applied to a *building* and its facilities, that the *building* and its facilities can be approached, entered and used by persons with physical or sensory disabilities.

Basement means a *storey* or *storeys* of a *building* located below the *first storey*.

Bathroom group means a group of plumbing *fixtures* installed in the same room, consisting of one domestic-type lavatory, one water closet and either one bathtub, with or without a shower, or one one-headed shower.

Bearing surface means the contact surface between a *foundation unit* and the *soil* or *rock* upon which it bears.

Boarding, *lodging or rooming house* means a *building*

(a) that has a *building height* not exceeding three *storeys* and a *building area* not exceeding 600 m^2,

(b) in which lodging is provided for more than four persons in return for remuneration or for the provision of services or for both, and

(c) in which the lodging rooms do not have both bathrooms and kitchen facilities for the exclusive use of individual occupants.

Boiler means an *appliance* intended to supply hot water or steam for space heating, processing or power purposes.

Bottle trap means a *trap* that retains water in a closed chamber and that seals the water by submerging the inlet pipe in the liquids or by a partition submerged in the liquids.

Braced wall band means an imaginary continuous straight band extending vertically and horizontally through the *building* or part of the *building*, within which *braced wall panels* are constructed.

Braced wall panel means a portion of a wood-frame wall where bracing, sheathing, cladding or interior finish is designed and installed to provide the required resistance to lateral loads due to wind or earthquake.

Branch means a *sanitary drainage pipe* that is connected at its upstream end to the junction of two or more *sanitary drainage pipes* or to a *stack* connected at its downstream end to another *branch*, a sump, a *stack* or a *building drain*.

Branch vent means a *vent pipe* that is connected at its lower end to the junction of two or more *vent pipes* and at its upper end either to another *branch vent*, or to a *stack vent*, *vent stack* or *vent header*, or terminates in *open air*.

Breeching means a *flue pipe* or chamber for receiving *flue* gases from one or more *flue* connections and for discharging these gases through a single *flue* connection.

Building area means the greatest horizontal area of a *building* above *grade* within the outside surface of exterior walls or within the outside surface of exterior walls and the centre line of *firewalls*.

Building Code website means the website at www.ontario.ca/buildingcode.

Building control valve means the valve on a *water system* that controls the flow of *potable* water from the *water service pipe* to the *water distribution system*.

Building drain means the lowest horizontal piping, including any vertical *offset*, that conducts *sewage*, *clear water waste* or storm water by gravity to a *building sewer*.

Building height (in *storeys*) means the number of *storeys* contained between the roof and the floor of the *first storey*.

Building sewer means a pipe that is connected to a *building drain* 1 m outside a wall of a *building* and that leads to a public sewer or *private sewage disposal system*.

Building trap means a *trap* that is installed in a *building drain* or *sanitary building sewer* to prevent the circulation of air between the *sanitary drainage system* and a public sewer.

Business and personal services occupancy (Group D) means the *occupancy* or use of a *building* or part thereof for the transaction of business or the provision of professional or personal services.

Caisson (see *Pile*).

Camp for housing of workers means a camp in which *buildings* or other structures or premises are used to accommodate five or more employees.

Campground means land or premises used as an overnight camping facility that is not a *recreational camp*.

Canopy means a roof-like structure projecting more than 300 mm from the exterior face of the *building*.

Carbon dioxide equivalent means a measure used to compare the impact of various greenhouse gases based on their global warming potential.

Carbon monoxide alarm means a carbon monoxide detection device with an integral audible alarm device designed to sound an alarm within the room, *suite* or space in which it is located when the concentration of airborne carbon monoxide exceeds a pre-determined level and duration.

Care and treatment occupancy (Group B, Division 2) means an *occupancy* in which persons receive special care and treatment.

Care occupancy (Group B, Division 3) means an *occupancy*, other than a *retirement home*, in which special care is provided by a facility, directly through its staff or indirectly through another provider, to residents of the facility

(a) who require special care because of cognitive or physical limitations, and

(b) who, as a result of those limitations, would be incapable of evacuating the *occupancy*, if necessary, without the assistance of another person. (See Note A-1.4.1.2.(1))

Cavity wall means a construction of masonry units laid with a cavity between the wythes. The wythes are tied together with metal ties or bonding units, and are relied on to act together in resisting lateral loads.

Certificate for the occupancy of a building described in Sentence 1.3.3.4.(3) of Division C means a certificate described in Sentence 3.7.4.3.(6) of Division C.

Certificate for the occupancy of a building described in Sentence 1.3.3.5.(1) of Division C means a certificate described in Sentence 3.7.4.3.(7) of Division C.

Certificate for the occupancy of a building not fully completed means a certificate described in Sentence 3.7.4.3.(5) of Division C.

Chamber means a structure in a *shallow buried trench* that is constructed with an open bottom and that contains a pressurized *distribution pipe*.

Check valve means a valve that permits flow in only one direction and prevents a return flow.

Child care centre means a child care centre as defined in subsection 2 (1) of the *Child Care and Early Years Act, 2014*.

Chimney means a primarily vertical shaft enclosing at least one *flue* for conducting *flue* gases to the outdoors.

Chimney liner means a conduit containing a *chimney flue* used as a lining of a *masonry or concrete chimney*.

Circuit vent means a *vent pipe* that serves a number of *fixtures* and connects to the *fixture drain* of the most upstream *fixture*, and "*circuit vented*" has a corresponding meaning.

Class 1 fire sprinkler/standpipe system means an assembly of pipes and fittings that conveys water from the *water service pipe* or *fire service main* to the

sprinkler/standpipe system's outlets, is *directly connected* to the public water supply main only, has no pumps or reservoirs and in which the sprinkler drains discharge to the atmosphere, to dry wells or to other safe outlets.

Class 2 fire sprinkler/standpipe system means a *Class 1 fire sprinkler/standpipe system* that includes a booster pump in its connection to the public water supply main.

Class 3 fire sprinkler/standpipe system means an assembly of pipes and fittings that conveys *potable* water from the *water service pipe* or *fire service main* to the sprinkler/standpipe system's outlets and that is *directly connected* to the public water supply main as well as to one or more of the following storage facilities, which are filled from the public water supply main only: elevated water storage, fire pumps supplying water from aboveground covered reservoirs or pressure tanks. The water in this sprinkler/standpipe system must be maintained in potable condition.

Class 4 fire sprinkler/standpipe system means an assembly of pipes and fittings that conveys water from the *water service pipe* or *fire service main* to the sprinkler/standpipe system's outlets and is *directly connected* to the public water supply main (similar to *Class 1* and *Class 2 fire sprinkler/standpipe systems*) and to an *auxiliary water supply* dedicated to fire department use that is located within 520 m of a pumper connection.

Class 5 fire sprinkler/standpipe system means an assembly of pipes and fittings that conveys water from the *water service pipe* or *fire service main* to the sprinkler/standpipe system's outlets, is *directly connected* to the public water supply main and also interconnected with an *auxiliary water supply*.

Class 6 fire sprinkler/standpipe system means an assembly of pipes and fittings that conveys water from the *water service pipe* or *fire service main* to the sprinkler/standpipe system's outlets and acts as a combined industrial water supply and fire protection system that is supplied from the public water supply main only, with or without gravity storage or pump suction tanks.

Cleanout means a fitting access in a *drainage system* or *venting system* that is installed to provide access for cleaning and inspection and that is provided with a readily replaceable air tight cover.

Clean water means water that has passed through a *recirculation system*.

Clear-water waste means waste water with impurity levels that will not be harmful to health and may include cooling water and condensate drainage from refrigeration and *air-conditioning* equipment and cooled condensate from steam heating systems, but does not include storm water.

Closed container means a container so sealed by means of a lid or other device that neither liquid nor vapour will escape from it at ordinary temperatures.

Closure means a device or assembly for closing an opening through a *fire separation* or

an exterior wall, such as a door, a shutter, a damper, wired glass or glass block, and includes all components such as hardware, closing devices, frames and anchors.

Combustible means that a material fails to meet the acceptance criteria of CAN/ULC-S114, "Standard Method of Test for Determination of Non-Combustibility in Building Materials."

Combustible construction means that type of construction that does not meet the requirements for *noncombustible construction* or *encapsulated mass timber construction*.

Combustible dusts means dusts and particles that are ignitable and liable to produce an explosion.

Combustible fibres means finely divided, combustible vegetable or animal fibres and thin sheets or flakes of such materials which, in a loose, unbaled condition, present a flash fire hazard, including cotton, wool, hemp, sisal, jute, kapok, paper and cloth.

Combustible liquid means a liquid having a *flash point* at or above 37.8°C and below 93.3°C.

Compliance alternative means a substitute for a requirement in another Part of Division B that is listed in Part 10 or 11 of Division B, and "*C.A.*" has a corresponding meaning.

Compressed gas means

(a) any contained mixture or material having a vapour pressure exceeding one or both of the following

(i) 275.8 kPa (absolute) at 21°C, or

(ii) 717 kPa (absolute) at 54°C, or

(b) any liquid having a vapour pressure exceeding 275.8 kPa (absolute) at 37.8°C.

Computer room means a room

(a) that contains electronic computer or data processing equipment such as main frame type,

(b) that is separated from the remainder of the *building* for the purpose of controlling the air quality in the room by a self-contained climate control system, and

(c) that has an *occupant load* of not more than one person for each 40 m² of the room.

Conditioned space means any space within a *building*, the temperature of which is controlled to limit variation in response to the exterior ambient temperature by the provision, either directly or indirectly, of heating or cooling over substantial portions of the year.

Construction index means a level on a scale of 1 to 8 determined in accordance with

Table 11.2.1.1.-A of Division B designating the expected *performance level* of the *building* structure with respect to the type of *construction* and fire protection of an existing *building*, and "*C.I.*" has a corresponding meaning.

Contained use area means a supervised area containing one or more rooms in which occupant movement is restricted to a single room by security measures not under the control of the occupant.

Continuous vent means a *vent pipe* that is an extension of a vertical section of a *branch* or *fixture drain*.

Cooktop means a cooking surface having one or more burners or heating elements.

Critical level means the level of submergence at which a *back-siphonage preventer* ceases to prevent *back-siphonage*.

Dangerous goods means products, materials or substances that are

(a) regulated by TC SOR/2001-286, "Transportation of Dangerous Goods Regulations (TDGR)" (see Table 3.2.7.1. of Division B of CCBFC NRCC-CONST-56437E, "National Fire Code of Canada"), or

(b) classified as controlled products under HC SOR/2015-17, "Hazardous Products Regulations" (see Note A-Table 3.2.7.1. of Division B of CCBFC NRCC-CONST-56437E, "National Fire Code of Canada". (See Note A-1.4.1.2.(1))

Day camp means a camp or resort that admits persons for a continuous period not exceeding 24 hours.

Dead end means a pipe that terminates with a closed fitting.

Dead load means the weight of all permanent structural and non-structural components of a *building*.

Deep foundation means a *foundation unit* that provides support for a *building* by transferring loads either by end-bearing to *soil* or *rock* at considerable depth below the *building*, or by adhesion or friction, or both, in the *soil* or *rock* in which it is placed. *Piles* are the most common type of *deep foundation*.

Demountable stage means a structure that

(a) consists of one or more platforms together with any wall, roof or other structures attached to or located on any of the platforms,

(b) is intended to be used for public or private performances or events, other than performances or events associated with movie or television productions,

(c) is intended to be erected, assembled or installed for a limited specified time,

(d) is capable of being dismantled at its location and moved to be reconstituted elsewhere or is erected for one-time use,

(e) is not located inside a fully enclosed *building*,

(f) is primarily for use by performers and workers, and

(g) may or may not be mounted on wheels.

Demountable support structure means any structure that

(a) is capable of supporting banners, stage sets, props, sound equipment, lighting equipment or other equipment,

(b) is intended to be used for public or private performances or events, other than performances or events associated with movie or television productions,

(c) is intended to be erected, assembled or installed for a limited specified time,

(d) is capable of being dismantled at its location and moved to be reconstituted elsewhere or is erected for one-time use,

(e) is not attached to or located on a *demountable stage*,

(f) is not located inside a fully enclosed *building*,

(g) is primarily for use by performers and workers, and

(h) may or may not be mounted on wheels.

Design activities means the activities described in subsection 15.11 (5) of the Act.

Design bearing pressure means the pressure applied by a *foundation unit* to *soil* or *rock*, which pressure is not greater than the *allowable bearing pressure*.

Design capacity means, in the definition of *sewage system*, the total daily design *sanitary sewage* flow determined in accordance with Article 8.2.1.3. of Division B.

Designer means the person responsible for the design.

Design load means the load applied to a *foundation unit*, which load is not greater than the *allowable load*.

Detention occupancy (Group B, Division 1) means the *occupancy* by persons who are restrained from or are incapable of evacuating to a safe location without the assistance of another person because of security measures not under their control.

Developed length means, the length along the centre line of the pipe and fittings.

Direct-vented (as applying to a fuel-fired space- or water-heating *appliance*) means an *appliance* and its venting system in which all the combustion air is supplied directly from the outdoors and the products of combustion are vented directly to the outdoors via independent, totally enclosed passageways connected directly to the *appliance*.

Directly connected means physically connected in such a way that neither water or gas can escape from the connection.

Distilled beverage alcohol means a beverage that is produced by fermentation and contains more than 20% by volume of water-miscible alcohol.

Distillery means a *process plant* where *distilled beverage alcohols* are produced, concentrated or otherwise processed, and includes facilities on the same site where the concentrated products may be blended, mixed, stored or packaged.

Distributing pipe means a pipe or piping in a *water distribution system*.

Distribution box means a device for ensuring that *effluent* from a *treatment unit* is distributed in equal amounts to each line of *distribution pipe* or *leaching chamber* in a *leaching bed*.

Distribution pipe means a line or lines of perforated or open jointed pipe or tile installed in a *leaching bed* for the purpose of distributing *effluent* from a *treatment unit* to the *soil*, as defined in Part 8 of Division B, or *leaching bed fill* in the *leaching bed*.

Diving board means a flexible board.

Diving platform means a rigid platform that is not a *starting platform*.

Drainage system means an assembly of pipes, fittings, *fixtures* and appurtenances on a property that is used to convey *sewage* and *clear water waste* to a main sewer or a *private sewage disposal system*, and includes a *private sewer*, but does not include *subsoil drainage piping.*

Drinking water system has the same meaning as in subsection 2 (1) of the *Safe Drinking Water Act, 2002*.

Drum trap means a *trap* whose inlet and outlet are in the sides of the cylindrical body of the *trap*.

Dual vent means a *vent pipe* that serves two *fixtures* and connects at the junction of the *trap arms*.

Dwelling unit means a *suite* operated as a housekeeping unit, used or intended to be used by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.

Earth pit privy means a latrine consisting of an excavation in the ground surmounted by a superstructure.

Effluent means *sanitary sewage* that has passed through a *treatment unit*.

Electric space heating means an electric energy source that provides more than 10 percent of the heating capacity provided for a *building* and includes

(a) electric resistance unitary baseboard heating,

(b) electric resistance unitary cabinet heating,

(c) electric resistance ceiling cable or floor cable heating,

(d) electric resistance central furnace heating,

(e) electric hot water space heating, and

(f) air source heat pumps in combination with electric resistance backup heating.

Encapsulated mass timber construction means that type of construction in which a degree of fire safety is attained by the use of encapsulated mass timber elements with an *encapsulation rating* and minimum dimensions for structural members and other *building* assemblies.

Encapsulation rating means the time in minutes that a material or assembly of materials will delay the ignition and combustion of encapsulated mass timber elements when it is exposed to fire under specified conditions of test and performance criteria, or as otherwise prescribed by this Code.

Excavation means the space created by the removal of *soil*, *rock* or *fill* for the purposes of construction.

Exhaust duct means a duct through which air is conveyed from a room or space to the outdoors.

Exit means that part of a *means of egress*, including doorways, that leads from the *floor area* it serves to a separate *building*, an open public thoroughfare, or an exterior open space protected from fire exposure from the *building* and having access to an open public thoroughfare. (See Note A-1.4.1.2.(1))

Exit level means the level of an *exit* stairway at which an exterior *exit* door or *exit* passageway leads to the exterior.

Exit storey (as applying to Subsection 3.2.6. of Division B) means a *storey* having an exterior *exit* door.

Exposing building face means that part of the exterior wall of a *building* that faces one direction and is located between ground level and the ceiling of its top *storey* or, where a *building* is divided into *fire compartments*, the exterior wall of a *fire compartment* that faces one direction.

Exterior cladding means those components of a *building* that are exposed to the outdoor environment and are intended to provide protection against wind, water or vapour.

Factory-built chimney means a *chimney* consisting entirely of factory-made parts, each designed to be assembled with the other without requiring fabrication on site.

Farm building means a *building* or part thereof that contains an *agricultural occupancy*. (See Note A-1.4.1.2.(1))

Fill means *soil*, *rock*, rubble, industrial waste such as slag, organic material or a combination of these that is transported and placed on the natural surface of *soil* or *rock* or organic terrain. It may or may not be compacted.

Fire block means a material, component or system that restricts the spread of fire within a concealed space or from a concealed space to an adjacent space.

Fire compartment means an enclosed space in a *building* that is separated from all other parts of the *building* by enclosing construction providing a *fire separation* having a required *fire-resistance rating*.

Fire damper means a *closure* consisting of a damper that is installed in an air distribution system or a wall or floor assembly and that is normally held open but designed to close automatically in the event of a fire in order to maintain the integrity of the *fire separation*.

Fire detector means a device that detects a fire condition and automatically initiates an electrical signal to actuate an *alert signal* or *alarm signal* and includes *heat detectors* and *smoke detectors*.

Fire load (as applying to an *occupancy*) means the *combustible* contents of a room or *floor area* expressed in terms of the average weight of *combustible* materials per unit area, from which the potential heat liberation may be calculated based on the calorific value of the materials, and includes the furnishings, finished floor, wall and ceiling finishes, trim and temporary and movable *partitions*.

Fire-protection rating means the time in minutes or hours that a *closure* will withstand the passage of flame when exposed to fire under specified conditions of test and performance criteria, or as otherwise prescribed in this Code.

Fire-resistance rating means the time in minutes or hours that a material or assembly of materials will withstand the passage of flame and the transmission of heat when exposed to fire under specified conditions of test and performance criteria, or as determined by extension or interpretation of information derived therefrom as prescribed in this Code. (See Sentence 1.2.1.(2) in MMAH Supplementary Standard SB-2)

Fire-retardant-treated wood means wood or a wood product that has had its surface-burning characteristics, such as flame spread, rate of fuel contribution and density of smoke developed, reduced by impregnation with fire-retardant chemicals.

Fire separation means a construction assembly that acts as a barrier against the spread of fire. (See Note A-1.4.1.2.(1))

Fire service main means a pipe and its appurtenances that are connected to a source of water and that are located on a property

(a) between the source of water and the base of the riser of a water-based fire protection system,

(b) between the source of water and inlets to foam making systems,

(c) between the source of water and the base elbow of private hydrants or monitor nozzles,

(d) as fire pump suction and discharge piping not within a *building*, or

(e) beginning at the inlet side of the check valve on a gravity or pressure tank.

Fire service pipe means a pipe that conveys water from a public water main or private water source to the inside of a *building* for the purpose of supplying the fire sprinkler or standpipe systems.

Firestop means a system consisting of a material, component and means of support used to fill gaps between *fire separations* or between *fire separations* and other assemblies, or used around items that wholly or partially penetrate a *fire separation*.

Fire stop flap means a device intended for use in horizontal assemblies required to have a *fire-resistance rating* and incorporating protective ceiling membranes that operates to close off a duct opening through the membrane in the event of a fire.

Firewall means a type of *fire separation* of *noncombustible construction* that subdivides a *building* or separates adjoining *buildings* to resist the spread of fire and that has a *fire-resistance rating* as prescribed in this Code and has structural stability to remain intact under fire conditions for the required fire-rated time.

First storey means the *storey* that has its floor closest to *grade* and its ceiling more than 1.8 m above *grade*.

Fixture means a receptacle, *appliance*, apparatus or other device that discharges *sewage* or *clear water waste*, and includes a floor drain.

Fixture drain means the pipe that connects a *trap* serving a *fixture* to another part of a *drainage system*.

Fixture outlet pipe means a pipe that connects the waste opening of a *fixture* to the *trap* serving the *fixture*.

Fixture unit, as applying to a *drainage system*, means the unit of measure based on the rate of discharge, time of operation and frequency of use of a *fixture* that expresses the hydraulic load that is imposed by that *fixture* on the *drainage system*.

Fixture unit, as applying to *water distribution systems,* means the unit of measure based on the rate of supply, time of operation and frequency of use of a *fixture* or outlet that expresses the hydraulic load that is imposed by that *fixture* or outlet on the supply system.

Flame-spread rating means an index or classification indicating the extent of spread-of-flame on the surface of a material or an assembly of materials as determined in a standard fire test as prescribed in this Code.

Flammable liquid means a liquid having a *flash point* below 37.8°C and having a vapour

pressure not more than 275.8 kPa (absolute) at 37.8°C as determined by ASTM D323, "Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)."

Flash point means the minimum temperature at which a liquid within a container gives off vapour in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.

Flight means a series of steps between landings. (See Note A-1.4.1.2.(1))

Flood level rim means the top edge at which water can overflow from a *fixture* or device.

Floor area means the space on any *storey* of a *building* between exterior walls and required *firewalls*, including the space occupied by interior walls and *partitions*, but not including *exits*, *vertical service spaces*, and their enclosing assemblies.

Flow control roof drain means a *roof drain* that restricts the flow of *storm water* into the *storm drainage system*.

Flue means an enclosed passageway for conveying *flue* gases.

Flue collar means the portion of a fuel-fired *appliance* designed for the attachment of the *flue pipe* or *breeching*.

Flue pipe means the pipe connecting the *flue collar* of an *appliance* to a *chimney*.

Food premises means a *floor area* where food or drink for human consumption, or an ingredient of food or drink for human consumption, is manufactured, processed, prepared, stored, displayed, handled, served, distributed, sold or offered for sale, but does not include

(a) a private residence,

(b) a boarding house that provides meals for fewer than 10 boarders,

(c) a *building* to which Ontario Regulation 502/17 (Camps in Unorganized Territory) or Ontario Regulation 503/17 (Recreational Camps) made under the *Health Protection and Promotion Act* applies,

(d) a plant, as defined in the *Milk Act*, that is required to be operated under the authority of a licence issued under that Act,

(e) premises where a licensed activity, as defined in the *Food Safety and Quality Act, 2001*, is carried on by a person who is required to hold a licence issued under that Act,

(f) an egg-grading station or an egg-processing station, as defined in subsection 1 (1) of Ontario Regulation 171/10 (Eggs and Processed Egg), made under the *Food Safety and Quality Act, 2001*,

(g) a *floor area* occupied by a church, service club or fraternal organization for the purpose of

(i) preparing meals for special events for its members and personally invited guests, or

(ii) conducting bake sales, or

(h) a *farm building*.

Forced-air furnace means a *furnace* equipped with a fan that provides the primary means for the circulation of air.

Force main means a *sanitary drainage pipe* through which *sanitary sewage* is conveyed by mechanical or pneumatic propulsion.

Foundation means a system or arrangement of *foundation units* through which the loads from a *building* are transferred to supporting *soil* or *rock*.

Foundation unit means one of the structural members of the *foundation* of a *building* such as a footing, raft or *pile*.

Fresh air inlet means a *vent pipe* that is installed in conjunction with a *building trap* and terminates *outdoors*.

Frost action means the phenomenon that occurs when

(a) water in *soil* is subjected to freezing which, because of the water ice phase change or ice lens growth, results in a total volume increase or the build-up of expansive forces under confined conditions or both, and

(b) the subsequent thawing leads to loss of *soil* strength and increased compressibility.

Functional statement means a function set out in Article 3.2.1.1. that a *building* or an element of a *building* is intended to perform.

Furnace means a *space-heating appliance* using warm air as the heating medium and usually having provision for the attachment of ducts.

Gaming premises means premises that are a gaming site as defined in the *Ontario Lottery and Gaming Corporation Act, 1999*.

Gas vent means that portion of a venting system designed to convey vent gases to the outdoors

(a) from the *vent connector* of a gas-fired *appliance*, or

(b) directly from the *appliance* when a *vent connector* is not used.

Grade means the average level of proposed or finished ground adjoining a *building* at all exterior walls.

Graded lumber means lumber that has been graded and stamped to indicate its grade, as determined by the NLGA, “Standard Grading Rules for Canadian Lumber”.

Greenhouse agricultural occupancy (Group G, Division 3) means an *agricultural building* or part thereof that is primarily constructed of roofs and walls designed to transmit natural light.

Greywater means *sanitary sewage* of domestic origin that is derived from *fixtures* other than *sanitary units*.

Gross area means the total area of all floors above *grade* measured between the outside surfaces of exterior walls or between the outside surfaces of exterior walls and the centre line of *firewalls*, except that, in any *occupancy* other than a *residential occupancy*, where an access or a *building* service penetrates a *firewall*, measurements shall not be taken to the centre line of such *firewall*.

Ground water means, when applied to a *sewage system*, water below the surface of the ground that occupies a zone of the earth's mantle that is saturated with water.

Ground water table means, when applied to a *sewage system*, the elevation of the upper surface of the *ground water* existing in the area of the *sewage system*.

Groundwater means a free standing body of water in the ground.

Groundwater level (groundwater table) means the top surface of a free standing body of water in the ground.

Guard means a protective barrier, with or without openings through it, that is around openings in floors or at the open sides of stairs, landings, balconies, *mezzanines*, galleries, raised *walkways* or other locations to prevent accidental falls from one level to another.

Hauled sewage means *sanitary sewage* that

(a) is not finally disposed of at the site where it is produced and is not conveyed by a sewer to *sewage works*, and

(b) is stored or retained at the site where it is produced for periodic collection, handling, treatment, transportation, storage or processing prior to final disposal at a place other than where it was produced,

and includes *sanitary sewage* that is removed from a *sewage system* for the purpose of cleaning or maintaining the system.

Hauled sewage system means works, installations, equipment, operations and land used in connection with the collection, handling, treatment, transportation, storage, processing and disposal of *hauled sewage*, as regulated under the *Environmental Protection Act*.

Hazard index means a level on a scale of 1 to 8 determined in accordance with Tables 11.2.1.1.-B to 11.2.1.1.-N of Division B, designating the life safety hazard to occupants of a *building* based on

(a) use and *occupancy*,

(b) *occupant load*,

(c) the use and function of floor spaces,

(d) the difficulty of egress,

(e) the *fire load* of contents, finishes and furnishings,

(f) the configuration or compartmentation of floor spaces, and

(g) the size of the *building*,

and "*H.I.*" has a corresponding meaning.

Hazardous classroom means a classroom

(a) that is supplied with flammable gas,

(b) that contains hazardous substances such as chemicals or explosive dusts,

(c) that contains large quantities of *combustible* materials, or

(d) where cooking equipment is used.

Hazardous extraction means a process to remove or separate a substance from a solution or mixture that involves the use of *flammable liquids*, *combustible liquids* or flammable gases as solvents in the process.

Hazardous room means a room containing sufficient quantities of a substance that, because of its chemical nature, may create an atmosphere or condition of imminent hazard to health.

Header means a *vent pipe* that connects two or more *vent stacks* or *stack vents* to *open air*.

Header line means a line of pipe with watertight joints installed in a *sewage system* for the purpose of distributing *effluent* from a *treatment unit* to the *distribution pipe* in a *leaching bed*.

Heat detector means a *fire detector* designed to operate at a predetermined temperature or rate of temperature rise.

Heavy timber construction means that type of *combustible construction* in which a degree of fire safety is attained

(a) by placing limitations on the sizes of wood structural members and on the thickness and composition of wood floors and roofs, and

(b) by the avoidance of concealed spaces under floors and roofs.

Heritage building means a *building* or part thereof

(a) that is identified, or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value or interest;

(b) that has been set apart as a National Historic Site of Canada by the Minister of the Environment for Canada under the Canada National Parks Act (Canada);

(c) that has been marked or commemorated as a historic place having national historic interest or significance under the Historic Sites and Monuments Act (Canada); or

(d) that is listed on an inventory of property forming part of the cultural and natural heritage of a place inscribed on the United Nations Educational, Scientific and Cultural Organisation's World Heritage List of sites under the Convention Concerning the Protection of the World Cultural and Natural Heritage.

High ground water table means the highest elevation at which there is physical evidence that the *soil*, as defined in Part 8 of Division B, or the *leaching bed fill* has been saturated with water.

High-hazard agricultural occupancy (Group G, Division 1) means an *agricultural occupancy* containing sufficient quantities of highly *combustible* and flammable or explosive materials which, because of their inherent characteristics, constitute a special fire hazard.

High-hazard industrial occupancy (Group F, Division 1) means an *industrial occupancy* containing sufficient quantities of highly *combustible* and flammable or explosive materials which, because of their inherent characteristics, constitute a special fire hazard.

Holding tank means a tank designed to totally retain all *sanitary sewage* discharged into it and requiring periodic emptying.

Home for special care means a home for the care of persons requiring nursing, residential or sheltered care.

Horizontal branch means that part of a *waste pipe* that is horizontal and installed to convey the discharge from more than one *fixture*.

Horizontal exit means an *exit* from one *building* to another by means of a doorway, vestibule, *walkway*, bridge or balcony.

Horizontal service space means a space such as an attic, duct, ceiling, roof or crawl space

(a) that is oriented essentially in a horizontal plane,

(b) that is concealed and generally inaccessible, and

(c) through which *building* service facilities such as pipes, ducts and wiring may pass.

Hotel means *floor areas*, a *floor area* or part of a *floor area* that contains four or more *suites* and that provides sleeping accommodation for the travelling public or for recreational purposes.

Hub drain means a drain opening for indirect liquid wastes

(a) that does not serve as a floor drain,

(b) that has the same pipe *size*, material and venting requirements as a floor drain,

(c) that has a *flood level rim* above the floor in which it is installed, and

(d) that receives wastes that are discharged directly into the drain opening.

Impeded egress zone means a supervised area in which occupants have free movement but require the release, by security personnel, of security doors at the boundary before they are able to leave the area, but does not include a *contained use area*.

Indirectly connected means not *directly connected*.

Indirect service water heater means a *service water heater* that derives its heat from a heating medium such as warm air, steam or hot water.

Individual vent means a *vent pipe* that serves one *fixture*.

Indoor pool means a *public pool* where the pool and *pool deck* are totally or partially covered by a roof.

Industrial occupancy (Group F) means the *occupancy* or use of a *building* or part thereof for the assembling, fabricating, manufacturing, processing, repairing or storing of goods and materials.

Interceptor means a receptacle that is designed and installed to prevent oil, grease, sand or other materials from passing into a *drainage system*.

Interconnected floor space means superimposed *floor areas* or parts of *floor areas* in which floor assemblies that are required to be *fire separations* are penetrated by openings that are not provided with *closures*.

Lake Simcoe shoreline has the same meaning as in the Lake Simcoe Protection Plan established under the *Lake Simcoe Protection Act, 2008* and dated July, 2009.

Lake Simcoe watershed has the same meaning as in section 2 of the *Lake Simcoe Protection Act, 2008*.

Leaching means dispersal of liquid by downward or lateral drainage or both into permeable *soil*, as defined in Part 8 of Division B, or *leaching bed fill*.

Leaching bed means an absorption system constructed as *absorption trenches* or as a filter bed, located wholly in ground or raised or partly raised above ground, as required by local conditions, to which *effluent* from a *treatment unit* is applied for treatment and disposal and that is composed of

(a) the *soil*, as defined in Part 8 of Division B, *leaching bed fill* or other filter media that is contained between the surface on which the *sanitary sewage* is applied and the bottom of the bed,

(b) the *leaching chamber* or the *distribution pipe* and the stone or gravel layer in which the *distribution pipe* is located, and

(c) the backfill above the *distribution pipe* or the *leaching chamber*, including the topsoil and sodding or other anti-erosion measure, and the side slopes of any portion elevated above the natural ground elevation.

Leaching bed fill means unconsolidated material suitable for the *construction* of a *leaching bed*, placed in the area of the *leaching bed* in order to obtain the required unsaturated zone below the *distribution pipes* or *leaching chambers* and the required lateral extent such that the *effluent* is absorbed.

Leaching chamber means a formed structure with an open bottom and permeable sidewalls installed in a *leaching bed* for the purpose of distributing *effluent* from a *treatment unit* to the *soil*, as defined in Part 8 of Division B, or *leaching bed fill* in the *leaching bed*.

Leader means a pipe that is installed to carry *storm water* from a roof to a *storm building drain* or sewer or other place of disposal.

Limiting distance means the distance from an *exposing building face* to a property line, the centre line of a *street*, lane or public thoroughfare, or to an imaginary line between 2 *buildings* or *fire compartments* on the same property, measured at right angles to the *exposing building face*.

Listed means equipment or materials included in a list published by a certification organization accredited by the Standards Council of Canada.

Liquid manure means manure having a dry matter content of less than 18 per cent or a slump of more than 150 millimetres using the Test Method for the Determination of Liquid Waste (slump test) set out in Schedule 9 to Regulation 347 of the Revised Regulations of Ontario, 1990 (General — Waste Management) made under the *Environmental Protection Act.*

Live load means a variable load due to the intended use and *occupancy* that is to be assumed in the design of the structural members of a *building*. It includes loads due to cranes and the pressure of liquids in containers.

Live/work unit means a *dwelling unit* having an area of not more than 200 m^2 that contains a subsidiary *business and personal services occupancy* or a subsidiary *low-hazard industrial occupancy*, and which is used and operated by one or more persons of a single household.

Loadbearing (as applying to a *building* element) means subjected to or designed to carry loads in addition to its own *dead load*, excepting a wall element subjected only to wind or earthquake loads in addition to its own *dead load*.

Loading rate means the volume in litres of *effluent* per square metre applied in a single day to *soil*, as defined in Part 8 of Division B, or *leaching bed fill*.

Low-hazard industrial occupancy (Group F, Division 3) means an *industrial occupancy* in which the *combustible* content is not more than 50 kg/m^2 or 1 200 MJ/m^2 of *floor area*.

Low human occupancy means, when applied to a *farm building*, an *occupancy* in which the *occupant load* is not more than one person per 40 m^2 of *floor area* during normal use.

Major occupancy means the principal *occupancy* for which a *building* or part thereof is used or intended to be used, and shall be deemed to include the subsidiary *occupancies* that are an integral part of the principal *occupancy*. The *major occupancy* classifications used in this Code are as follows:

Group A, Division 1 – *Assembly occupancies* intended for the production and viewing of the performing arts

Group A, Division 2 – *Assembly occupancies* not elsewhere classified in Group A

Group A, Division 3 – *Assembly occupancies* of the arena type

Group A, Division 4 – *Assembly occupancies* in which the occupants are gathered in the open air

Group B, Division 1 – *Detention occupancies* in which persons are under restraint or are incapable of self-preservation because of security measures not under their control

Group B, Division 2 – *Care and treatment occupancies*

Group B, Division 3 – *Care occupancies*

Group C – *Residential occupancies*

Group D – *Business and personal services occupancies*

Group E – *Mercantile occupancies*

Group F, Division 1 – *High-hazard industrial occupancies*

Group F, Division 2 – *Medium-hazard industrial occupancies*

Group F, Division 3 – *Low-hazard industrial occupancies*

Group G, Division 1 – *High-hazard agricultural occupancies*

Group G, Division 2 – *Agricultural occupancies* not elsewhere classified in Group G

Group G, Division 3 – *Greenhouse agricultural occupancies*

Group G, Division 4 – *Agricultural occupancies with no human occupants*

Make-up water means water added to a *public pool* from an external source.

Marquee means a *canopy* over an entrance to a *building*.

Masonry or concrete chimney means a *chimney* of brick, stone, concrete or masonry units constructed on site.

Means of egress means a continuous path of travel provided for the escape of persons from any point in a *building* or contained open space to a separate *building*, an open public thoroughfare, or an exterior open space protected from fire exposure from the *building* and having access to an open public thoroughfare. *Means of egress* includes *exits* and *access to exits*.

Mechanically vented (as applying to a fuel-fired space- or water-heating *appliance*) means an *appliance* and its combustion venting system in which the products of combustion are entirely exhausted to the outdoors by a mechanical device, such as a fan, blower or aspirator, upstream or downstream from the combustion zone of the *appliance*, and the portion of the combustion venting system that is downstream of the fan, blower or aspirator is sealed and does not include draft hoods or draft control devices. (See Note A-1.4.1.2.(1))

Medium-hazard industrial occupancy (Group F, Division 2) means an *industrial occupancy* in which the *combustible* content is more than 50 kg/m^2 or 1 200 MJ/m^2 of *floor area* and not classified as a *high-hazard industrial occupancy*.

Mercantile occupancy (Group E) means the *occupancy* or use of a *building* or part thereof for the displaying or selling of retail goods, wares or merchandise.

Mezzanine means an intermediate floor assembly between the floor and ceiling of any room or *storey* and includes an interior balcony.

Mobility assistive device means a mobility assistive device as defined in section 2 of Ontario Regulation 191/11 (Integrated Accessibility Standards) made under the *Accessibility for Ontarians with Disabilities Act, 2005*.

Modified pool means a *public pool* that has a basin-shaped floor sloping downward and inward toward the interior from the rim.

Modified stack venting means a *stack venting* arrangement in which the *stack vent* above the connection of the highest *stack vented fixture* is reduced in diameter.

Municipal drinking water system has the same meaning as in subsection 2 (1) of the *Safe Drinking Water Act, 2002*.

Nominally horizontal means at an angle of less than 45° with the horizontal.

Nominally vertical means at an angle of not more than 45° with the vertical.

Nominal pipe size (NPS) means the nominal diameter by which a pipe, fitting, *trap* or other similar item is commercially designated.

Noncombustible means that a material meets the acceptance criteria of CAN/ULC-S114, "Standard Method of Test for Determination of Non-Combustibility in Building Materials."

Noncombustible construction means that type of construction in which a degree of fire safety is attained by the use of *noncombustible* materials for structural members and other *building* assemblies.

Objective means an objective set out in Article 2.2.1.1.

Occupancy means the use or intended use of a *building* or part thereof for the shelter or support of persons, animals or property.

Occupant load means the number of persons for which a *building* or part thereof is designed.

Offset means the piping that connects the ends of two pipes that are parallel.

Offset relief vent means a *relief vent* that provides additional air circulation upstream and downstream of an *offset* in a *stack*.

Open air means the atmosphere outside a *building*.

Open-air storey means a *storey* in which at least 25% of the total area of its perimeter walls is open to the outdoors in a manner that will provide cross-ventilation to the entire *storey*.

Outdoor pool means a *public pool* that is not an *indoor pool*.

Pail privy means a latrine in which the receptacle for human waste consists of a removable container surmounted by a superstructure.

Partition means an interior wall 1 *storey* or part-*storey* in height that is not *loadbearing*.

Party wall means a wall

(a) that is jointly owned and jointly used by two parties under an easement agreement or by a right in law, and

(b) that is erected at or upon a line separating two parcels of land each of which is, or is capable of being, a separate real estate entity.

Perched groundwater means a free standing body of water in the ground extending to a limited depth.

Percolation time means the average time in minutes that is required for water to drop one centimetre during a percolation test or as determined by a *soil* evaluation or analysis.

Performance level means the level of performance under which all or part of an existing *building* functions with respect to its *building systems*.

Permanent solid nutrient storage facility has the same meaning as in subsection 1 (1) of Ontario Regulation 267/03 (General) made under the *Nutrient Management Act, 2002.*

Pharmacy means the premises in a *building* or the part of the premises in which prescriptions are compounded and dispensed for the public or in which drugs are sold by retail.

Pile means a slender *deep foundation unit* made of materials such as wood, steel or concrete or a combination thereof, that is either premanufactured and placed by driving, jacking, jetting or screwing, or cast-in-place in a hole formed by driving, excavating or boring. (Cast-in-place bored *piles* are often referred to as *caissons* in Canada.)

Plenum means a chamber forming part of an air duct system.

Plumbing appliance means a receptacle or equipment that receives or collects water, liquids or *sewage* and discharges water, liquid or *sewage* directly or indirectly to a *plumbing system*.

Plumbing system means a system of connected piping, fittings, valves, equipment, *fixtures* and appurtenances contained in *plumbing*.

Point of entry treatment unit has the same meaning as in subsection 1 (1) of Ontario Regulation 170/03 (Drinking Water Systems) made under the *Safe Drinking Water Act, 2002*.

Pool deck means the area immediately surrounding a *public pool*.

Portable privy means a portable latrine in which the receptacle for human body waste and the superstructure are combined structurally into one unit.

Post-disaster building means a *building* that is necessary for the provision of essential services to the general public in the event of a disaster and includes

- hospitals, emergency treatment facilities and blood banks,
- telephone exchanges,
- power generating stations and electrical substations,
- control centres for natural gas distribution,
- control centres for air, land and marine transportation,
- water treatment facilities,
- water storage facilities,
- water and sewage pumping stations,
- sewage treatment facilities, and
- *buildings* of the following types, unless exempted from this designation by the *principle authority*:
  - emergency response facilities,

- fire, rescue and police stations and housing for vehicles, aircraft or boats used for such purposes, and
- communications facilities, including radio and television stations. (See Note A-1.4.1.2.(1))

Potable means fit for human consumption.

Potable water system means the *plumbing* that conveys *potable* water.

Pressurized distribution system means a *leaching bed* in which the *effluent* is distributed through the use of pressurized *distribution pipes*.

Private sewage disposal system means a *sewage system* or a *sewage works* that is not owned and operated by the Crown, a municipality or an organization acceptable to the Director responsible for issuing an environmental compliance approval required under section 53 of the *Ontario Water Resources Act*.

Private sewer means a sewer other than a *building sewer* that

(a) is not owned or operated by a municipality, the Ministry of the Environment, Conservation and Parks or another public agency,

(b) receives drainage from more than one *sanitary building drain* either directly or through more than one *sanitary building sewer* or receives drainage from more than *one storm building drain* either directly or through one or more *storm building sewers*, and connects to a main sewer, or

(c) serves as a place of disposal on the property,

but does not include

(d) a sewer that carries only the sanitary waste or *storm sewage* from semi-detached houses each containing not more than two *dwelling units*,

(e) a sewer that carries only the sanitary waste or *storm sewage* from one main *building* that is of *care*, *care and treatment*, *detention*, commercial or *industrial occupancy* and one ancillary *building*, or

(f) a sewer that carries only the sanitary waste or *storm sewage* from a row housing complex having five or fewer *dwelling units*.

Private use means, when applied to plumbing *fixtures, fixtures* in residences and apartments, in private bathrooms of *hotels*, and in similar installations in other *buildings* for a single household or an individual.

Private water supply means piping that serves as a source of supply on the property to more than one *water service pipe*.

Private water supply system means an assembly of pipes, fittings, valves, equipment and appurtenances that supplies water from a private source to a *potable water system*.

Privy vault means a latrine in which the receptacle for human waste consists of a constructed vault from which the waste is periodically removed.

Process plant means an *industrial occupancy* where materials, including *flammable liquids*, *combustible liquids* or gases, are produced or used in a process.

Professional engineer means a person who holds a licence or a temporary licence under the *Professional Engineers Act*.

Protected floor space means that part of a *floor area* protected from the effects of fire and used as part of a *means of egress* from an *interconnected floor space*.

Public corridor means a corridor that provides *access to exit* from more than one *suite*. (See Note A-1.4.1.2.(1))

Public heritage building means a *heritage building* where the *occupancy* in whole or in part includes viewing of the *building* by the public provided that displays in it are limited to those relevant to the heritage significance of the *building*.

Public pool means a structure, basin, chamber or tank containing or intended to contain an artificial body of water for swimming, water sport, water recreation or entertainment, but does not include

(a) pools operated in conjunction with less than six *dwelling units*, *suites* or single family residences or any combination of them,

(b) pools that are used only for commercial display and demonstration purposes,

(c) wading pools,

(d) hydro-massage pools, or

(e) pools that serve only as receiving basins for persons at the bottom of water slides.

Public spa means a hydro-massage pool that contains an artificial body of water, that is intended primarily for therapeutic or recreational use, that is not drained, cleaned or refilled before use by each individual and that utilizes hydrojet circulation, air induction bubbles, current flow or a combination of them over the majority of the pool area, but does not include

(a) wading pools, or

(b) spas operated in conjunction with less than six *dwelling units*, *suites* or single family residences, or any combination of them, for the use of occupants or residents and their visitors.

Public use means, when applied to plumbing *fixtures*, *fixtures* in general washrooms of schools, gymnasiums, *hotels*, bars, public comfort stations and other installations in which *fixtures* are installed so that their use is unrestricted.

Public way means a sidewalk, *street*, highway, square or other open space to which the

public has access, as of right or by invitation, expressed or implied.

Rainwater means *storm sewage* runoff that is collected from a roof or the ground, but not from accessible patios and driveways.

Ramp means a path of travel having a slope steeper than 1 in 20.

Recirculation system means a system

(a) that maintains the circulation of water through a *public pool* by pumps, and

(b) that provides continuous treatment of the water, including filtration and chlorination or bromination and any other process that may be necessary for the treatment of the water.

Recreational camp means a camp for recreational activities consisting of one or more *buildings* or other structures established or maintained as living quarters, with or without charge, for the temporary *occupancy* of 10 or more persons for five or more days.

Relief vent means a *vent pipe* that is used in conjunction with a *circuit vent* to provide additional air circulation between a *drainage system* and a *venting system*.

Repair garage means a *building* or part thereof where facilities are provided for the repair or servicing of motor vehicles.

Residential full flow-through fire sprinkler/standpipe system means an assembly of pipes and fittings installed in the residential portions of a *building* containing one or two-family *dwelling units* that conveys water from the *water service pipe* to outlets in the sprinkler and standpipe systems and is fully integrated into the *potable water system* to ensure a regular flow of water through all parts of both systems.

Residential occupancy (Group C) means an *occupancy* in which sleeping accommodation is provided to residents who are not harboured for the purpose of receiving special care or treatment and are not involuntarily detained and includes an *occupancy* in which sleeping accommodation is provided to residents of a *retirement home*.

Residential partial flow-through sprinkler/standpipe system means an assembly of pipes and fittings installed in the residential portions of a *building* containing one or two family *dwelling units* that conveys water from the *water service pipe* to outlets in the sprinkler and standpipe systems and in which flow occurs during inactive periods of the sprinkler and standpipe systems only through the main header to the water closet located at the farthest point of the two systems.

Retirement home means a *building* or part of a *building* that is a retirement home as defined in subsection 2 (1) of the *Retirement Homes Act, 2010*.

Return duct means a duct for conveying air from a space being heated, ventilated or air-conditioned back to the heating, ventilating or *air-conditioning appliance*.

Rim joist means the outermost member in floor framing, other than blocking, be it parallel, perpendicular or on an angle to the floor joists. (See Note A-1.4.1.2.(1))

Riser means a water *distributing pipe* that extends through at least one full *storey*, as defined in Part 7 of Division B.

Rock means that portion of the earth's crust that is consolidated, coherent and relatively hard and is a naturally formed, solidly bonded, mass of mineral matter that cannot readily be broken by hand.

Roof drain means a fitting or device that is installed in the roof to permit *storm water* to discharge into a *leader*.

Roof gutter means an exterior channel installed at the base of a sloped roof to convey *storm* w*ater.*

Run means the horizontal distance between two adjacent tread nosings on a stair. (See Figure A-9.8.4.-B in Note A-9.8.4. of Division B.)

Sanitary building drain means a *building drain* that conducts *sewage* to a *building sewer* from the most upstream *stack*, *branch* or *fixture drain* serving a water closet.

Sanitary building sewer means a pipe that is connected to a *sanitary building drain* 1 000 mm outside a wall of a *building* and that conducts *sewage* to a public sewer or *private sewage disposal system*.

Sanitary drainage pipe means all piping that conveys *sanitary sewage* to a place of disposal, including the *sanitary building drain*, *sanitary building sewer*, *soil pipe*, *soil stack*, *waste stack* and *waste pipe* but not the main sewer or piping in a *sewage* treatment plant.

Sanitary drainage system means a *drainage system* that conducts *sewage*.

Sanitary sewage means

(a) liquid or water borne waste

(i) of industrial or commercial origin, or

(ii) of domestic origin, including human body waste, toilet or other bathroom waste, and shower, tub, culinary, sink and laundry waste, or

(b) liquid or water borne waste discharged from a *public pool* to a drain.

Sanitary sewer means a sewer that conducts *sewage*.

Sanitary unit means a water closet, urinal, bidet or bedpan washer.

Secondary suite means a self-contained *dwelling unit* located in a *building* or portion of a *building* of only *residential occupancy* that contains only one other *dwelling unit* and common spaces, and where both *dwelling units* constitute a single real estate entity. (See Note A-1.4.1.2.(1))

Self-service storage building means a *building* that is used to provide individual storage spaces to the public and that is open to the public only for those purposes.

Septic tank means a watertight vault in which *sanitary sewage* is collected for the purpose of removing scum, grease and solids from the liquid without the addition of air and in which solids settling and anaerobic digestion of the *sanitary sewage* takes place.

Service room means a room provided in a *building* to contain equipment associated with *building* services. (See Note A-1.4.1.2.(1))

Service space means space provided in a *building* to facilitate or conceal the installation of *building* service facilities such as chutes, ducts, pipes, shafts or wires.

Service water heater means a device for heating water for *plumbing* services.

Sewage means *sanitary sewage* or *storm sewage*.

Sewage system means

(a) a chemical toilet, an incinerating toilet, a recirculating toilet, a self-contained portable toilet and all forms of privy, including a *portable privy*, an *earth pit privy*, a *pail privy*, a *privy vault* and a composting toilet system,

(b) a *greywater* system,

(c) a cesspool,

(d) a *leaching bed* system, or

(e) a system that requires or uses a *holding tank* for the retention of *hauled sewage* at the site where it is produced before its collection by a *hauled sewage system*,

where these

(f) have a *design capacity* of 10,000 litres per day or less,

(g) have, in total, a *design capacity* of 10,000 litres per day or less, where more than one of these are located on a lot or parcel of land, and

(h) are located wholly within the boundaries of the lot or parcel of land on which is located the *building* or *buildings* they serve.

Sewage works means sewage works as defined in subsection 1 (1) of the *Ontario Water Resources Act*.

Sewer lateral extension means the portion of a *storm building sewer* or *sanitary building sewer* that extends from the public sewer up to 1.5 m into the property.

Shallow buried trench means an *absorption trench* that contains a *chamber* or *leaching chamber*.

Shallow foundation means a *foundation unit* that derives its support from *soil* or *rock* located close to the lowest part of the *building* that it supports.

Shelf and rack storage system means a self-contained structural system within a *building*, having one or more elevated platforms or walkway levels for personnel access that may also support conveyors and other material handling, storage and distribution equipment.

Significant drinking water threat has the same meaning as in subsection 2 (1) of the *Clean Water Act, 2006*.

Size means the nominal diameter by which a pipe, fitting, *trap* or other similar item is commercially designated.

Smoke alarm means a combined *smoke detector* and audible alarm device designed to sound an alarm within the room or *suite* in which it is located upon the detection of smoke within that room or *suite*.

Smoke detector means a *fire detector* designed to operate when the concentration of airborne combustion products exceeds a predetermined level.

Soil means, except for the purposes of Part 8 of Division B, a portion of the earth's crust that is fragmentary or such that individual particles of a dried sample may be readily separated by agitation in water, and includes boulders, cobbles, gravel, sand, silt, clay and organic matter.

Soil pipe means a *sanitary drainage pipe* that carries the discharge of a *sanitary unit*, with or without the discharge from any other *fixture*.

Soil stack means a vertical *soil pipe* that passes through one or more *storeys* and includes any *offset* that is part of the stack.

Solid masonry means a single wythe or multi-wythe construction made of *solid masonry units* or semi-solid, cored, or hollow masonry units, the cells of which may or may not be filled with mortar or grout. In multi-wythe masonry construction, the space between the wythes consists of a mortar-filled collar joint or grout-filled space and the wythes may or may not be constructed of the same masonry materials.

Solid masonry unit means a concrete block or brick unit, a clay brick unit, or a calcium silicate brick unit whose net solid area is at least 75% of its gross area. (See Note A-1.4.1.2.(1))

Sound transmission class (STC) means a single number rating of the airborne sound attenuation of a *building* assembly separating two adjoining spaces, taking into account the direct sound transmission path. (See Note A-1.4.1.2.(1)) (See also Note A-9.11. of Division B)

Source protection area has the same meaning as in subsection 2 (1) of the *Clean Water Act, 2006*.

Source protection plan has the same meaning as in subsection 2 (1) of the *Clean Water Act, 2006*.

Space heater means a *space-heating appliance* for heating the room or space within which it is located, without the use of ducts.

Space-heating appliance means an *appliance* intended for the supplying of heat to a room or space directly, such as a *unit heater*, or to rooms or spaces of a *building* through a heating system such as a central *furnace* or *boiler*.

Sprinklered (as applying to a *building* or part thereof) means that the *building* or part thereof is equipped with a system of automatic sprinklers.

Stack vent means a *vent pipe* that connects the top of a *soil stack* or *waste stack* to a *header* or *open air* and "*stack vented*" has a corresponding meaning.

Stack venting means, when used with reference to *fixtures*, an arrangement such that the connections of the drainage piping from the *stack vented fixtures* to the stack provide venting to the *fixture traps* so that no additional *vent pipe* is required.

Stage means a space that is designed primarily for theatrical performances with provision for quick change scenery and overhead lighting, including environmental control for a wide range of lighting and sound effects and that is traditionally, but not necessarily, separated from the audience by a proscenium wall and curtain opening.

Starting platform means a rigid platform located entirely on a *pool deck* that consists of a top that, if projected horizontally over the water surface, would be less than 1 000 mm in vertical height above the surface and that is designed to be used by a swimmer to dive from at the start of a swimming race.

Storage garage means a *building* or part thereof intended for the storage or parking of motor vehicles and containing no provision for the repair or servicing of such vehicles. (See Note A-1.4.1.2.(1))

Storey means, except for the purposes of Part 7 of Division B, the portion of a *building*

(a) that is situated between the top of any floor and the top of the floor next above it, or

(b) that is situated between the top of the floor and the ceiling above the floor, if there is no floor above it.

Storm building drain means a *building drain* that conducts storm water and is connected at its upstream end to a *leader*, sump or catch basin, and at its downstream end to a *building sewer* or a designated storm water disposal location.

Storm building sewer means a *building sewer* that conveys *storm sewage* to a place of disposal and commences 1 000 mm from the *building*.

Storm drainage pipe means all the connected piping that conveys *storm sewage* to a place

of disposal and includes the *storm building drain*, *storm building sewer*, rain water *leader*, catch basin and area drain installed to collect water from the property and the piping that drains water from a swimming pool, other than a *public pool*, or from water cooled *air-conditioning* equipment, but does not include

(a) a *subsoil drainage pipe*, or

(b) a private sewage treatment and disposal facility designed for the treatment or retention of *storm sewage* prior to discharge to the natural environment.

Storm drainage system means a *drainage system* that conveys *storm sewage*.

Storm sewage means water that is discharged from a surface as a result of rainfall, snow melt or snowfall.

Storm sewer means a sewer that conveys *storm sewage*.

Stove means an *appliance* intended for cooking or space heating or both.

Street means any highway, road, boulevard, square or other improved thoroughfare that is 9 m or more in width, that has been dedicated or deeded for public use and that is accessible to fire department vehicles and equipment.

Subsoil drainage pipe means a pipe that is installed underground to intercept and convey subsurface water, and includes foundation drain pipes.

Subsurface investigation means the appraisal of the general subsurface conditions at a *building* site by analysis of information gained by such methods as geological surveys, in situ testing, sampling, visual inspection, laboratory testing of samples of the subsurface materials and *groundwater* observations and measurements.

Suite means a single room or series of rooms of complementary use, operated under a single tenancy, and includes

(a) *dwelling units*,

(b) individual guest rooms in motels, *hotels*, boarding houses, rooming houses and dormitories, and

(c) individual stores and individual or complementary rooms for *business and personal services occupancies*.

Supply duct means a duct for conveying air from a heating, ventilating or *air-conditioning appliance* to a space to be heated, ventilated or air-conditioned.

Surface water means water on the surface of the ground.

Tapered tread means a tread with non-parallel edges that increases or decreases its *run* uniformly over its width.

Tarion Warranty Corporation means Tarion Warranty Corporation as designated under section 2 of the *Ontario New Home Warranties Plan Act*.

Theatre means a place of public assembly intended for the production and viewing of the performing arts or the screening and viewing of motion pictures, and consisting of an auditorium with permanently fixed seats intended solely for a viewing audience.

Trap means a fitting or device that is designed to hold a liquid seal that will prevent the passage of gas but will not materially affect the flow of a liquid.

Trap arm means that portion of a *fixture drain* between the *trap weir* and the *vent pipe* fitting.

Trap dip means the lowest part of the upper interior surface of a *trap*.

Trap seal depth means the vertical distance between the *trap dip* and the *trap weir*.

Trap standard means the *trap* for a *fixture* that is integral with the support for the *fixture*.

Trap weir means the highest part of the lower interior surface of a *trap*.

Treatment unit means a device that, when designed, installed and operated in accordance with its design specifications, provides a specific degree of *sanitary sewage* treatment to reduce the contaminant load from that of *sanitary sewage* to a given *effluent* quality.

Tribunal means the Licence Appeal Tribunal established under the *Licence Appeal Tribunal Act, 1999*.

Type A dispersal bed means a *leaching bed* that receives *effluent* from a Level IV *treatment unit* as described in Table 8.6.2.2. of Division B and that is comprised of a stone layer or *leaching chambers* installed over an unsaturated sand layer as described in Subsection 8.7.7. of Division B.

Type B dispersal bed means a *leaching bed* comprised of a *pressurized distribution system* that uniformly distributes *effluent* from a Level IV *treatment unit* as described in Table 8.6.2.2. of Division B to the underlying *soil*, as defined in Part 8 of Division B, through a set of *distribution pipes* installed in a bed comprised of septic stone.

Underpinning means the process of strengthening the *foundation* or lowering the level of a *foundation* of an existing *building*.

Unit heater means a suspended *space heater* with an integral air-circulating fan.

Unprotected opening means, when applied to an *exposing building face*

(a) a doorway, window or opening, other than one equipped with a closure having the required *fire-protection rating*, or

(b) any part of a wall forming part of the *exposing building face* that has a *fire-resistance rating* less than required for the *exposing building face*.

Unstable liquid means a liquid, including *flammable liquids* and *combustible liquids*, that is chemically reactive to the extent that it will vigorously react or decompose at or near normal temperature and pressure conditions or that is chemically unstable when

subjected to impact.

Vacuum breaker means *back-siphonage preventer*.

Vapour barrier means the elements installed to control the diffusion of water vapour. (See Note A-1.4.1.2.(1))

Vent connector (as applying to heating or cooling systems) means the part of a venting system that conducts the *flue* gases or vent gases from the *flue collar* of a gas *appliance* to the *chimney* or *gas vent*, and may include a draft control device.

Vent pipe means a pipe that is part of a *venting system*.

Vent stack means a *vent pipe* that is connected at its upper end to a *header* or is terminated in *open air* and that is used to limit pressure differential in a *soil* or *waste stack*.

Venting system means an assembly of pipes and fittings that connects a *drainage system* with *open air* for circulation of air and the protection of *trap* seals in the *drainage system*.

Vertical leg means the vertical portion of a *fixture* drain and includes the portion of a drain from the outlet of a water closet bowl to the point where the connecting piping changes to horizontal.

Vertical service space means a shaft oriented essentially vertically that is provided in a *building* to facilitate the installation of *building* services including mechanical, electrical and plumbing installations and facilities such as elevators, refuse chutes and linen chutes.

Vulnerable area has the same meaning as in subsection 2 (1) of the *Clean Water Act, 2006*.

Walkway means a covered or roofed pedestrian thoroughfare used to connect 2 or more *buildings*.

Waste pipe means a *sanitary drainage pipe* that carries the discharge from a *fixture* directly to a *waste stack*, *soil stack*, *sanitary building drain*, *branch* or *sewage system*.

Waste stack means a vertical *waste pipe* that passes through one or more *storeys* and includes any offset that is part of the stack that conducts liquid waste from *fixtures* other than *sanitary units*.

Water distribution system means an assembly of pipes, fittings, valves and appurtenances that conveys *potable water* to water supply outlets, *fixtures*, *plumbing appliances* and devices from the *water service pipe* or from a *point of entry treatment unit* located in the *building*.

Water purveyor means the owner or operator of a *drinking water system*.

Water service pipe means a pipe on the property that conveys *potable* water from

a *drinking water system* or a *private water supply* to the inside of the *building*.

Water system means a *water service pipe*, a *private water supply*, a *water distribution system*, a *fire service main* or any part of any of them.

Wave action pool means a *public pool* equipped with a means for inducing wave motion in the water.

Wet vent means a *waste pipe* that also serves as a *vent pipe*.

Working capacity means the volume of liquid that a *treatment unit* or *holding tank* is capable of holding without overflowing while it is in its working position, but does not include the volume of liquid contained in a compartment in which a pump or siphon is installed.

X-ray equipment includes x-ray imaging systems, processing equipment and equipment directly related to the production of images for diagnosis or directly related to irradiation with x-rays for therapy.

X-ray machine means an electrically-powered device producing x-rays

(a) for the irradiation of a human being or an animal for a therapeutic or diagnostic purpose, or

(b) for industrial use.

Yoke vent means a *vent pipe* that is connected at its lower end to a *soil* or *waste stack* and at its upper end to a *vent stack* or a *branch vent* that is connected to a *vent stack*.

(2) Where a word or term that is defined in Sentence (1) is used, it shall be read as if it has the same meaning as in that Sentence, unless the context requires otherwise.

1.4.1.3. Definition of Applicable Law

(1) For the purposes of clause 8 (2) (a) of the Act, *applicable law* means,

(a) the statutory requirements in the following provisions with respect to the following matters:

(i) section 3 of the *Building Transit Faster Act, 2020* with respect to the issuance of a permit under that section,

(ii) section 14 of Ontario Regulation 137/15 (General) made under the *Child Care and Early Years Act, 2014* with respect to the approval of plans for a new *building* to be erected or an existing *building* to be used, altered or renovated for use as a *child care centre* or for alterations or renovations to be made to premises used by a *child care centre*,

(iii) section 114 of the *City of Toronto Act, 2006* with respect to the approval by the City of Toronto or the Ontario Land Tribunal of plans and drawings,

(iv) section 59 of the *Clean Water Act, 2006* with respect to the issuance of a notice by the risk management official for the *construction* of a *building*,

(v) section 28 of the *Conservation Authorities Act* with respect to the prohibition of development activities,

(vi) sections 28.1, 28.1.1 and 28.1.2 of the *Conservation Authorities Act* with respect to a permit issued for the *construction* of a *building* or structure or for any change to a *building* or structure that would increase its size, alter its use or increase the number of *dwelling units*,

(vii) section 194 of the *Education Act* with respect to the approval of the Minister for the *demolition* of a *building*,

(viii) section 17.2 of the *Environmental Assessment Act* with respect to the approval of the Minister or the Ontario Land Tribunal to proceed with a project,

(ix) section 46 of the *Environmental Protection Act* with respect to the approval of the Minister to use land or land covered by water that has been used for the disposal of waste,

(x) section 47.3 of the *Environmental Protection Act* with respect to the issuance of a renewable energy approval,

(xi) section 168.3.1 of the *Environmental Protection Act* with respect to the *construction* of a *building* to be used in connection with a change of use of a property,

(xii) paragraph 2 of subsection 168.6 (1) of the *Environmental Protection Act* if a certificate of property use has been issued in respect of the property under subsection 168.6 (1) of that Act,

(xiii) section 14 of the *Milk Act* with respect to the permit from the Director for the *construction* or alteration of any *building* intended for use as a plant,

(xiv) section 11.1 of Ontario Regulation 267/03 (General), made under the *Nutrient Management Act, 2002*, with respect to a proposed *building* or structure to house farm animals or store nutrients if that Regulation requires the preparation and approval of

a nutrient management strategy before *construction* of the proposed *building* or structure,

(xv) subsection 30 (2) of the *Ontario Heritage Act* with respect to a consent of the council of a *municipality* to the alteration or *demolition* of a *building* where the council of the *municipality* has given a notice of intent to designate the *building* under subsection 29 (3) of that Act,

(xvi) section 33 of the *Ontario Heritage Act* with respect to the consent of the council of a *municipality* for the alteration of property,

(xvii) section 34 of the *Ontario Heritage Act* with respect to the consent of the council of a *municipality* for the *demolition* of a *building*,

(xviii) section 34.5 of the *Ontario Heritage Act* with respect to the consent of the Minister to the alteration or *demolition* of a designated *building*,

(xix) subsection 34.7 (2) of the *Ontario Heritage Act* with respect to a consent of the Minister to the alteration or *demolition* of a *building* where the Minister has given a notice of intent to designate the *building* under section 34.6 of that Act,

(xx) section 42 of the *Ontario Heritage Act* with respect to the permit given by the council of a *municipality* for the erection, alteration or *demolition* of a *building*,

(xxi) section 17.4 of the *Ontario New Home Warranties Plan Act* with respect to the provision of a confirmation by the Registrar for the *construction* of a residential condominium conversion project,

(xxii) section 14 of the *Ontario Planning and Development Act, 1994* with respect to any conflict between a development plan made under that Act and a zoning by-law that affects the proposed *building* or structure,

(xxiii) section 37 of the *Planning Act*

(A) with respect to the payment of money or making arrangements satisfactory to the council of a *municipality* for the payment of money, where the payment is required by a community benefits charge by-law passed under subsection 37 (2) of the *Planning Act*, and

(B) with respect to the provision of facilities, services or matters in accordance with subsection 37 (6) of the *Planning Act* or

making arrangements satisfactory to the council of a *municipality* for their provision,

(xxiv) section 41 of the *Planning Act* with respect to the approval by the council of the *municipality* or the Ontario Land Tribunal of plans and drawings,

(xxv) section 42 of the *Planning Act* with respect to the payment of money or making arrangements satisfactory to the council of a *municipality* for the payment of money, where the payment is required under subsection 42 (6) of that Act,

(xxvi) section 2 of Ontario Regulation 239/13 (Activities on Public Lands and Shore Lands — Work Permits and Exemptions), made under the *Public Lands Act*, with respect to the work permit authorizing the *construction* or placement of a *building* on public land,

(xxvii) section 5 of Ontario Regulation 239/13 with respect to the exemption from the requirement to obtain a work permit authorizing the *construction* or placement of a *building* within an unpatented mining claim,

(xxviii) section 34 or 38 of the *Public Transportation and Highway Improvement Act* with respect to the permit from the Minister for the placement, erection or alteration of any *building* or other structure or the use of land,

(b) the following provisions of Acts and regulations:

(i) subsection 102 (3) of the *City of Toronto Act, 2006*,

(ii) sections 28 and 53 of the *Development Charges Act, 1997*,

(iii) sections 257.83 and 257.93 of the *Education Act*,

(iv) subsection 17.2 (5) of the *Environmental Assessment Act*,

(v) subsection 133 (4) of the *Municipal Act, 2001*,

(vi) subsection 24 (3) of the *Niagara Escarpment Planning and Development Act*,

(vii) subsection 27 (9) of the *Ontario Heritage Act*,

(viii) section 33 of the *Planning Act* except where, in the case of the *demolition* of a residential property, a permit to *demolish* the property is obtained under that section,

(ix) section 46 of the *Planning Act*,

(c) by-laws made by a *municipality* under an agreement entered into under section 5.81 of the *Aeronautics Act* (Canada),

(d) regulations made by a conservation authority under clause 28 (1) (c) of the *Conservation Authorities Act* as it read immediately before its repeal by section 25 of Schedule 4 to the *Building Better Communities and Conserving Watersheds Act, 2017*, with respect to permission of the authority for the *construction* of a *building* or structure if, in the opinion of the authority, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected by the development,

(e) by-laws made under section 108 of the *City of Toronto Act, 2006*, but only with respect to the issuance of a permit for the *construction* of a green roof if the *construction* of the roof is prohibited unless a permit is obtained,

(f) by-laws made under section 40.1 of the *Ontario Heritage Act*,

(g) by-laws made under section 34 or 38 of the *Planning Act*,

(h) subject to clause (i), by-laws made under Ontario Regulation 173/16 (Community Planning Permits) made under the *Planning Act*,

(i) by-laws referred to in clause (h) in relation to the development of land, but only with respect to the issuance of a development permit if the development of land is prohibited unless a development permit is obtained,

(j) by-laws made under Ontario Regulation 246/01 (Development Permits) made under the *Planning Act* which continue in force despite the revocation of that Regulation by reason of section 19 of Ontario Regulation 173/16 (Community Planning Permits) made under that Act,

(k) orders made by the Minister under section 34.1 or 47 of the *Planning Act* or subsection 17 (1) of the *Ontario Planning and Development Act, 1994*, and

(l) by-laws made under any private Act that prohibit the proposed *construction* or *demolition* of the *building* unless the by-law is complied with.

(2) For the purposes of clause 10 (2) (a) of the Act, *applicable law* means any general or special Act, and all regulations and by-laws enacted under them that prohibit the proposed use of the *building* unless the Act, regulation or by-law is complied with.

1.4.1.4. Other Definitions for the Purposes of the Act

(1) For the purposes of the Act, *architect*, *as constructed plans* and *professional engineer* have the same meaning as that set out in Clause 1.4.1.2.(1)(c).

1.4.2. Symbols and Other Abbreviations

1.4.2.1. Symbols and Other Abbreviations

(1) In this Code, a symbol or abbreviation listed in Column 1 of Table 1.4.2.1. has the meaning listed opposite it in Column 2.

Table 1.4.2.1.
Symbols and Abbreviations
Forming Part of Sentence 1.4.2.1.(1)

Symbol or Abbreviation	Meaning
1 in 2	slope of 1 vertical to 2 horizontal
ASWG	American Steel Wire Gage
ABS	acrylonitrile-butadiene-styrene
Bq	becquerel(s)
$CBOD_5$	the five day carbonaceous biochemical oxygen demand
cd	candela(s)
CFU	colony forming units
cm	centimetre(s)
cm^2	square centimetre(s)
CO_2e	*carbon dioxide equivalent*
CPVC	chlorinated poly (vinyl chloride)
dB(A)	A-weighted sound level
°	degree(s)
°C	degree(s) Celsius
diam	diameter
DWV	drain, waste and vent
EIFS	Exterior Insulation and Finish Systems
ft	foot (feet)
g	gram(s)
ga	gauge
gal	imperial gallon(s)
gal/min	imperial gallon(s) per minute
h	hour(s)
HDD	heating degree-day(s)
HVAC	heating, ventilating and *air-conditioning*
Hz	hertz
in.	inch(es)
J	joule(s)
K	degree(s) Kelvin
kg	kilogram(s)
kg/m^2	kilograms per square metre
kN	kilonewton(s)
kPa	kilopascal(s)

kV	kilovolt(s)
kW	kilowatt(s)
L	litre(s)
L/min	litre(s) per minute
L/s	litre(s) per second
LPF	litres per flush
lx	lux
m	metre(s)
M	metric nomenclature for reinforcing bars
m^2	square metre(s)
m^3	cubic metre(s)
m/s	metre(s) per second
max.	maximum
mg/L	milligram(s) per litre
min	minute(s)
min.	minimum
MJ	megajoule(s)
mm	millimetre(s)
MPa	megapascal(s)
N	newton
n/a	not applicable
ng	nanogram(s)
No.	number(s)
nom.	nominal
o.c.	on centre
OSB	oriented strandboard
Pa	pascal(s)
PB	polybutylene
PE	polyethylene
PE/AL/PE	polyethylene/aluminum/polyethylene
PEX	crosslinked polyethylene
PEX/AL/PEX	crosslinked polyethylene/aluminum/crosslinked polyethylene
PVC	poly (vinyl chloride)
R	thermal resistance value (imperial unit)
RSI	thermal resistance value (metric unit)
s	second(s)
temp.	temperature
T&G	tongue and groove
V	volt(s)
W	watt(s)
wt	weight

%	percent
µg	microgram(s)
µm	micron
U-value	overall thermal transmittance

8. Article 1.5.1.1. of Division A is revoked and the following substituted:

1.5.1.1. Application of Referenced Documents

(1) The provisions of documents referenced in this Code, and of any documents referenced within those documents, apply only to the extent that they relate to

(a) *buildings*, and

(b) the *objectives* and *functional statements* attributed to the applicable *acceptable solutions* in Division B where the documents are referenced. (See Note A-1.5.1.1.(1))

Part 2

9. Article 2.1.1.2. of Division A is revoked and the following substituted:

2.1.1.2. Application of Objectives

(1) The objectives described in this Part apply

(a) to all *buildings* covered in this Code (see Article 1.1.1.1.), and

(b) only to the extent that they relate to compliance with this Code as required in Article 1.2.1.1.

10. Sentence 2.2.1.1.(1) of Division A is revoked and the following substituted:

(1) The *objectives* of this Code are as follows (see Note A-2.2.1.1.(1)):

OS Safety

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury.

OS1 Fire Safety

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by—

OS1.1 – fire or explosion occurring

OS1.2 – fire or explosion impacting areas beyond its point of origin

OS1.3 – collapse of physical elements due to a fire or explosion

OS1.4 – fire safety systems failing to function as expected

OS1.5 – persons being delayed in or impeded from moving to a safe place during a fire emergency

OS2 Structural Safety

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*,

a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury due to structural failure. The risks of injury due to structural failure addressed in this Code are those caused by—

OS2.1 – loads bearing on the *building* elements that exceed their *loadbearing* capacity

OS2.2 – loads bearing on the *building* that exceed the *loadbearing* properties of the supporting medium

OS2.3 – damage to or deterioration of *building* elements

OS2.4 – vibration or deflection of *building* elements

OS2.5 – instability of the *building* or part thereof

OS2.6 – collapse of the *excavation*

OS3 Safety in Use

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury due to hazards. The risks of injury due to hazards addressed in this Code are those caused by—

OS3.1 – tripping, slipping, falling, contact, drowning or collision

OS3.2 – contact with hot surfaces or substances

OS3.3 – contact with energized equipment

OS3.4 – exposure to hazardous substances

OS3.5 – exposure to high levels of sound from fire alarm systems

OS3.6 – persons becoming trapped in confined spaces

OS3.7 – persons being delayed in or impeded from moving to a safe place during an emergency (see Note A-2.2.1.1.(1))

OS4 Resistance to Unwanted Entry

An objective of this Code is to limit the probability that, as a

result of the design or *construction* of the *building*, a person in the *building* will be exposed to an unacceptable risk of injury due to the *building's* low level of resistance to unwanted entry. The risks of injury due to unwanted entry addressed in this Code are those caused by—

OS4.1 – intruders being able to force their way through locked doors or windows

OS4.2 – occupants being unable to identify potential intruders as such

OH Health

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person will be exposed to an unacceptable risk of illness.

OH1 Indoor Conditions

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person in the *building* will be exposed to an unacceptable risk of illness due to indoor conditions. The risks of illness due to indoor conditions addressed in this Code are those caused by—

OH1.1 – inadequate indoor air quality

OH1.2 – inadequate thermal comfort

OH1.3 – contact with moisture

OH2 Sanitation

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person in the *building* will be exposed to an unacceptable risk of illness due to unsanitary conditions. The risks of illness due to unsanitary conditions addressed in this Code are those caused by—

OH2.1 – exposure to human or domestic waste

OH2.2 – consumption of contaminated water

OH2.3 – inadequate facilities for personal hygiene

OH2.4 – contact with contaminated surfaces

OH2.5 – contact with vermin and insects

OH2.6 – unsanitary conditions caused by exposure to human or domestic waste

OH3 Noise Protection

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person in the *building* will be exposed to an unacceptable risk of illness due to high levels of sound originating in adjacent spaces in the *building*. The risks of illness due to high levels of sound addressed in this Code are those caused by—

OH3.1 – exposure to airborne sound transmitted through assemblies separating *dwelling units* from adjacent spaces in the *building*

OH4 Vibration and Deflection Limitation

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person in the *building* will be exposed to an unacceptable risk of illness due to high levels of vibration or deflection of *building* elements.

OH5 Hazardous Substances Containment

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, the public will be exposed to an unacceptable risk of illness due to the release of hazardous substances from the *building*.

OH6 Privacy

An objective of this Code is to limit the probability that, as a result of the design or *construction* of a *building*, a person in the *building* will be provided with an unacceptable level of privacy.

OH7 View to the Outdoors

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person in the *building* will be unable to experience a view to the outdoors.

OA Accessibility

An objective of this Code is to limit the probability that, as a result

of the design or *construction* of the *building*, a person with a physical or sensory limitation will be unacceptably impeded from accessing or using the *building* or its facilities.

OA1 Barrier-Free Path of Travel

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person with a physical or sensory limitation will be unacceptably impeded from accessing the *building* or circulating within it.

OA2 Barrier-Free Facilities

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, a person with a physical or sensory limitation will be unacceptably impeded from using the *building's* facilities.

OP Fire, Structural, Water and Sewage Protection of Buildings

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, the *building* or adjacent *buildings* will be exposed to an unacceptable risk of damage due to fire or structural insufficiency, or the *building* or part thereof will be exposed to an unacceptable risk of loss of use also due to structural insufficiency.

OP1 Fire Protection of the Building

An objective of this Code is to limit the probability that, as a result of its design or *construction,* the *building* will be exposed to an unacceptable risk of damage due to fire. The risks of damage due to fire addressed in this Code are those caused by—

OP1.1 – fire or explosion occurring

OP1.2 – fire or explosion impacting areas beyond its point of origin

OP1.3 – collapse of physical elements due to a fire or explosion

OP1.4 – fire safety systems failing to function as expected

OP2 Structural Sufficiency of the Building

An objective of this Code is to limit the probability that, as a result of its design or *construction*, the *building* or part thereof

will be exposed to an unacceptable risk of damage or loss of use due to structural failure or lack of structural serviceability. The risks of damage and of loss of use due to structural failure or lack of structural serviceability addressed in this Code are those caused by—

OP2.1 – loads bearing on the *building* elements that exceed their *loadbearing* capacity

OP2.2 – loads bearing on the *building* that exceed the *loadbearing* properties of the supporting medium

OP2.3 – damage to or deterioration of *building* elements

OP2.4 – vibration or deflection of *building* elements

OP2.5 – instability of the *building* or part thereof

OP2.6 – instability or movement of the supporting medium

OP3 Protection of Adjacent Buildings from Fire

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, adjacent *buildings* will be exposed to an unacceptable risk of damage due to fire. The risks of damage to adjacent *buildings* due to fire addressed in this Code are those caused by—

OP3.1 – fire or explosion impacting areas beyond the *building* of origin

OP4 Protection of Adjacent Buildings from Structural Damage

An objective of this Code is to limit the probability that, as a result of the design or *construction* of the *building*, adjacent *buildings* will be exposed to an unacceptable risk of structural damage. The risks of structural damage to adjacent *buildings* addressed in this Code are those caused by—

OP4.1 – settlement of the medium supporting adjacent *buildings*

OP4.2 – collapse of the *building* or portion thereof onto adjacent *buildings*

OP4.3 – impact of the *building* on adjacent *buildings*

OP4.4 – collapse of the *excavation*

OP5 Water and Sewage Protection of Buildings and Facilities

An objective of this Code is to limit the probability that, as a

result of the design or *construction* of a *building*, a *building* will be exposed to unacceptable risk of damage due to leakage of service water or *sewage*.

OR Resource Conservation

An objective of this Code is to limit the probability that, as a result of the design or *construction* of a *building*, a resource will be exposed to an unacceptable risk of depletion or the capacity of the infrastructure supporting the use, treatment or disposal of the resource will be exposed to an unacceptable risk of being exceeded.

OR1 Water and Energy Conservation

An objective of this Code is to limit the probability that, as a result of the design or *construction* of a *building*, a resource will be exposed to an unacceptable risk of depletion. The risks of resource depletion addressed in this Code are those caused by—

OR1.1 – the consumption of water

OR1.2 – the consumption of energy

OR2 Infrastructure Capacity

An objective of this Code is to limit the probability that, as a result of the design or *construction* of a *building* the capacity of the infrastructure supporting the use, treatment or disposal of a resource will be exposed to an unacceptable risk of being exceeded. The risks of exceeding capacity addressed in this Code are those caused by—

OR2.1 – excessive demand on the infrastructure

OE Environmental Integrity

An objective of this Code is to limit the probability that, as a result of the design or *construction* or operation of the *building*, the natural environment will be exposed to an unacceptable risk of degradation

OE1 Air Quality

An objective of this Code is to limit the probability that, as a result of the design or *construction* of a *building*, the natural environment will be exposed to an unacceptable risk of degradation due to emissions of greenhouse gases into the air. The risks of degradation addressed in this Code are those caused by—

OE1.1 – emissions of greenhouse gases into the air

OE1.2 – the release of contaminants, other than greenhouse gases, into the air

OE2 Water and Soil Quality

An objective of this Code is to limit the probability that, as a result of the design or *construction* of a *building*, the natural environment will be exposed to an unacceptable risk of degradation due to excessive release of contaminants into water or *soil*.

OC Conservation of Buildings

An objective of this Code is to limit the probability that, as a result of the extension, material alteration or repair of an existing *building* or a change in use of an existing *building*, the existing *building* cannot be acceptably conserved.

Part 3

11. Article 3.1.1.2. of Division A is revoked and the following substituted:

3.1.1.2. Application of Functional Statements

(1) The functional statements described in this Part apply

(a) to all buildings covered in this Code (see Article 1.1.1.1.), and

(b) only to the extent that they relate to compliance with this Code as required in Article 1.2.1.1.

12. (1) Sentence 3.2.1.1.(1) of Division A is amended by adding the following functional statement:

F45 To minimize the risk of the spread of diseases through communal shower facilities.

(2) Sentence 3.2.1.1.(1) of Division A is amended by revoking functional statements F90 to F100.

(3) Sentence 3.2.1.1.(1) of Division A is amended by adding the following functional statements:

F101 To limit unwanted visual exposure.

F102 To provide a view to the outdoors in *buildings*.

F110 To control the release of contaminants into *soil, groundwater, surface water*, and air.

F111 To minimize the risk of malfunction, damage of failure of a *sewage system*.

F112 To provide adequate treatment of *sanitary sewage* and *effluent.*

F113 To minimize the risk of injury as a result of contact with *sanitary sewage* or partially treated *effluent*.

F120 To minimize the risk of injury to persons entering or exiting the pool, as a result of unfamiliarity with the pool.

F121 To minimize the risk of injury to persons using the pool, as a result of unfamiliarity with the pool.

F122 To minimize the risk of contamination of pool water.

F123 To facilitate timely response to incapacitated pool users.

F124 To minimize the risk of entrapment or injury to a person within the pool, as a result of water, air or vacuum action.

F130 To limit excessive water consumption.

F131 To limit excessive energy consumption.

F132 To limit excessive demand on the infrastructure.

F133 To limit excessive peak demand on the infrastructure.

F140 To facilitate the reuse and material alteration and repair of existing *buildings*.

F150 To limit excessive emissions of greenhouse gases into the air.

F151 To limit the excessive release of contaminants, other than greenhouse gases, into the air.

Division B

Part 1

13. Part 1 of Division B is revoked and the following substituted:

Part 1

General

Section 1.1. General

1.1.1. Application

1.1.1.1. Application

(1) This Part applies to all *buildings* covered in this Code.

1.1.2. Reserved.

1.1.3. Climatic and Seismic Data

1.1.3.1. Climatic and Seismic Values

(1) The climatic and seismic values required for the design of buildings under this Code shall be in conformance with the climatic and seismic values provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(2) The outside winter design temperatures determined from MMAH Supplementary Standard SB-1, "Climatic and Seismic Data", shall be those listed for the January 2.5% values. (See Note A-1.1.3.1.(2)).

1.1.3.2. Depth of Frost Penetration

(1) Depth of frost penetration shall be established on the basis of local experience.

1.1.4. Reserved

Section 1.2. Definitions

1.2.1. Definitions

1.2.1.1. Non-defined Terms

(1) Words and phrases used in Division B that are not included in the list of definitions in Articles 1.4.1.2., 1.4.1.3. and 1.4.1.4. of Division A and are not defined in another provision of this Code shall have the meanings that are commonly assigned to

them in the context in which they are used, taking into account the specialized use of terms by the various trades and professions to which the terminology applies.

(2) Where *objectives* and *functional statements* are referred to in Division B, they shall be the *objectives* and *functional statements* described in Parts 2 and 3 of Division A.

(3) Where *acceptable solutions* are referred to in Division B, they shall be the provisions stated in Parts 2 to 12.

1.2.1.2. Defined Terms

(1) Words that appear in italics are defined in Article 1.4.1.2. of Division A and in the *Building Code Act, 1992*.

1.2.2. Symbols and Other Abbreviations

1.2.2.1. Symbols and Other Abbreviations

(1) The symbols and other abbreviations in Division B shall have the meanings assigned to them in Article 1.4.2.1. of Division A and Article 1.3.2.1.

Section 1.3. Referenced Documents and Organizations

1.3.1. Referenced Documents

1.3.1.1. Effective Date

(1) Unless otherwise specified in this Code, the documents referenced in this Code shall include all amendments, revisions, reaffirmations, reapprovals, addenda and supplements effective to July 15, 2019.

1.3.1.2. Applicable Editions

(1) Where documents are referenced in this Code, they shall be in the editions designated in Table 1.3.1.2.

Table 1.3.1.2.
Documents Referenced in the Building Code

Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document	Code Reference
ACGIH	2013, 28th Edition	Industrial Ventilation Manual: A Manual of Recommended Practice for Design	2.4.2.5.(1) 6.2.1.1.(1) 6.3.2.14.(2)
ACI	355.2-19	Qualification of Post-Installed Mechanical Anchors in Concrete (ACI 355.2-19) and Commentary	4.1.8.18.(7)
ACI	355.4M-19	Qualification of Post-Installed Adhesive Anchors in Concrete (ACI 355.4M-19) and Commentary	4.1.8.18.(7)

AISI	S201-12	North American Standard for Cold Formed Steel Framing – Product Data 2012 Edition	9.24.1.2.(1)
ANSI	A135.6-2012	Engineered Wood Siding	Table 5.9.1.1. 9.27.9.1.(1)
ANSI	A208.1-2009	Particleboard	9.23.15.2.(3) 9.29.9.1.(1) 9.30.2.2.(1)
ANSI	E1.21-2013	Entertainment Technology - Temporary Structures Used for Technical Production of Outdoor Entertainment Events	3.17.2.8.(1)
ANSI/ASHRAE	62.1-2016	Ventilation for Acceptable Indoor Air Quality	6.3.1.1.(2) 6.3.1.1.(3) 6.3.2.2.(1) 6.3.2.10.(15)
ANSI/CSA	ANSI Z21.22-2015 / CSA 4.4-2015	Relief Valves for Hot Water Supply Systems	7.2.10.11.(1)
APA	ANSI/APA PRG 320-2018	Standard for Performance-Rated Cross-Laminated Timber	3.1.6.3.(3)
APHA/AWWA/ WEF	2023, 24th Edition	Standard Methods for the Examination of Water and Wastewater	8.9.2.4.(1)
ASCE	ASCE/SEI 49-12	Wind Tunnel Testing for Buildings and Other Structures	4.1.7.14.(1)
ASHRAE	2021	Fundamentals	5.2.1.3.(1) 6.2.1.1.(1) 6.3.2.12.(1) 7.6.3.1.(2) 7.7.3.1.(1) 9.32.2.3.(4) 9.32.3.2.(1) 9.33.4.1.(1) 9.33.6.2.(8) 9.33.6.7.(2)
ASHRAE	2023	HVAC Applications	6.2.1.1.(1) 6.3.2.12.(1) 7.6.3.1.(2) 7.7.3.1.(1) 9.32.2.3.(4) 9.32.3.2.(1) 9.33.4.1.(1) 9.33.6.2.(8) 9.33.6.7.(2)
ASHRAE	2020	HVAC Systems and Equipment	6.2.1.1.(1) 6.3.2.12.(1) 7.6.3.1.(2) 7.7.3.1.(1) 9.32.2.3.(4) 9.32.3.2.(1) 9.33.4.1.(1) 9.33.6.2.(8) 9.33.6.7.(2)

ASHRAE	2022	Refrigeration	6.2.1.1.(1) 6.3.2.12.(1) 7.6.3.1.(2) 7.7.3.1.(1) 9.32.2.3.(4) 9.32.3.2.(1) 9.33.4.1.(1) 9.33.6.2.(8) 9.33.6.7.(2)
ASHRAE	Guideline 12-2000	Minimizing the Risk of Legionellosis Associated with Building Water Systems	6.2.1.1.(1) 6.3.2.15.(9) 6.3.2.16.(1)
ASME	A112.19.8-2007	Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs	3.12.4.1.(9)
ASME	B16.3-2016	Malleable Iron Threaded Fittings: Classes 150 and 300	7.2.6.6.(1)
ASME	B16.4-2016	Gray Iron Threaded Fittings: Classes 125 and 250	7.2.6.5.(1) Table 7.2.11.2.
ASME	B16.5-2017	Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24 Metric/Inch Standard	7.2.6.12.(1)
ASME	B16.9-2018	Factory-Made Wrought Buttwelding Fittings	7.2.6.11.(1) 7.2.6.14.(1)
ASME	B16.12-2009	Cast Iron Threaded Drainage Fittings	7.2.6.3.(1)
ASME	B16.15-2018	Cast Copper Alloy Threaded Fittings: Classes 125 and 250	7.2.7.3.(1)
ASME	B16.18-2018	Cast Copper Alloy Solder Joint Pressure Fittings	7.2.7.6.(1) 7.2.7.6.(2) Table 7.2.11.2.
ASME	B16.22-2018	Wrought Copper and Copper Alloy Solder Joint Pressure Fittings	7.2.7.6.(1) Table 7.2.11.2.
ASME	B16.23-2016	Cast Copper Alloy Solder Joint Drainage Fittings: DWV	7.2.7.5.(1)
ASME	B16.24-2016	Cast Copper Alloy Pipe Flanges and Flanged Fittings: Classes 150, 300, 600, 900, 1500 and 2500	7.2.7.2.(1)
ASME	B16.26-2013	Cast Copper Alloy Fittings for Flared Copper Tubes	7.2.7.7.(1) 7.2.7.7.(2) Table 7.2.11.2.
ASME	B16.29-2018	Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV	7.2.7.5.(1)
ASME	ANSI/ASME B18.6.1-1981	Wood Screws (Inch Series)	Table 5.9.1.1. 9.23.3.1.(3)
ASME	B31.9-2017	Building Services Piping	7.3.2.8.(1)
ASME	B36.19M-2018	Stainless Steel Pipe	7.2.6.10.(1)
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CSA / IAPMO	CSA B45.5-17 / IAPMO Z124-2017	Plastic plumbing fixtures	7.2.2.2.(1)
CSA / ICC	CSA B805-18 / ICC 805-2018	Rainwater harvesting systems	7.7.2.4.(4)
CSSBI	23M-2016	Standard for Residential Steel Cladding	9.27.11.1.(1)
CWC	2014	Engineering Guide for Wood Frame Construction	9.4.1.1.(1) 9.23.13.1.(2) 9.23.13.2.(2) 9.23.13.3.(2)
DBR	Technical Paper No. 194, May 1965	Fire Endurance of Protected Steel Columns and Beams	Table 11.5.1.1.-A Table 11.5.1.1.-B Table 11.5.1.1.-C Table 11.5.1.1.-D/E Table 11.5.1.1.-F
DBR	Technical Paper No. 207, October 1965	Fire Endurance of Unit Masonry Walls	Table 11.5.1.1.-A Table 11.5.1.1.-B Table 11.5.1.1.-C Table 11.5.1.1.-D/E Table 11.5.1.1.-F
DBR	Technical Paper No. 222, June 1966	Fire Endurance of Light-Framed and Miscellaneous Assemblies	Table 11.5.1.1.-A Table 11.5.1.1.-B Table 11.5.1.1.-C Table 11.5.1.1.-D/E Table 11.5.1.1.-F
EPA	625/R-92/016 (1994)	Radon Prevention in the Design and Construction of Schools and Other Large Buildings	6.2.1.1.(1)
FINA	2021	Rules and Regulations - FINA Facilities Rules 2021-2025 - FR3 Diving	3.11.4.1.(17)
HC	SOR/2015-17	Hazardous Products Regulations	1.4.1.2.(1) of Division A
HI	2005	Hydronics Institute Manuals	6.2.1.1.(1) 9.32.2.3.(4) 9.32.3.2.(1) 9.33.4.1.(1) 9.33.6.7.(2)
HPVA	ANSI/HPVA HP-1-2009	American National Standard for Hardwood and Decorative Plywood	Table 5.9.1.1. 9.27.8.1.(1) 9.30.2.2.(1)
HRAI	2017 Edition	HRAI Digest	6.2.1.1.(1) 9.32.2.3.(4) 9.32.3.2.(1) 9.33.4.1.(1)
HUD	Rehabilitation Guidelines 2000	Guideline on Fire Ratings of Archaic Materials and Assemblies	Table 11.5.1.1.-A Table 11.5.1.1.-B Table 11.5.1.1.-C Table 11.5.1.1.-D/E Table 11.5.1.1.-F
HVI	HVI 915-2013	Loudness Testing and Rating Procedure	9.32.3.10.(2)

			Table 9.32.3.10-B
HVI	HVI 916-2013	Airflow Test Procedure	9.32.3.10.(1)
IAPMO	PS 63-2014	Plastic Leaching Chambers	8.7.2.3.(3)
ISO	3864-1:2011	Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings	3.4.5.1.(2) 9.9.11.3.(2)
ISO	7010:2011	Graphical symbols - Safety colours and safety signs - Registered safety signs	3.4.5.1.(2) 9.9.11.3.(2)
ISO	8201:2017	Acoustics - audible emergency evacuation signal	3.2.4.18.(2)
ISO	10848-1:2017	Acoustics - Laboratory measurement of the flanking transmission of airborne and impact sound between adjoining rooms	5.8.1.4.(2) 5.8.1.4.(3) 5.8.1.5.(2) 5.8.1.5.(3)
ISO	15712-1:2005	Building acoustics - Estimation of acoustic performance of buildings from the performance of elements - Part 1: Airborne sound insulation between rooms	5.8.1.4.(1) 5.8.1.4.(2) 5.8.1.4.(4) 5.8.1.4.(5) 5.8.1.4.(6) 5.8.1.5.(1) 5.8.1.5.(2) 5.8.1.5.(5) 5.8.1.5.(6)
ISO	23599: 2019	Assistive products for blind and vision-impaired persons – Tactile walking surface indicators	3.8.3.18.(1)
MMAH	Supplementary Standard SA-1, September 9, 2024	Objectives and Functional Statements Attributed to the Acceptable Solutions	1.2.1.1.(1) of Division A 1.2.1.1.(2) of Division A
MMAH	Supplementary Standard SB-1, January 1, 2024	Climatic and Seismic Data	1.1.2.1.(1) 1.1.2.1.(2) 2.1.2.3.(4) 2.1.2.3.(5) 3.2.6.2.(2) 3.2.8.4.(1) 3.3.1.7.(1) 5.2.1.1.(1) 5.2.1.1.(2) 6.2.1.2.(1) 7.4.10.4.(1) 9.4.1.1.(3) 9.4.2.2.(1) Tables 9.6.1.3.-A to 9.6.1.3.-G Table 9.32.3.4. 9.33.3.2.(1) 9.33.4.1.(1)
MMAH	Supplementary Standard SB-2, January 1, 2024	Fire Performance Ratings	2.2.1.10.(2) 3.1.4.8.(4) 3.1.5.5.(4)

			3.1.5.6.(2) 3.1.5.29.(1) 3.1.6.9.(6) 3.1.6.10.(2) 3.1.7.1.(2) 3.1.8.16.(2) 3.1.9.5.(1) 3.1.12.1.(3) 3.2.3.12.(1) 3.2.3.13.(4) 3.6.1.5.(1) 3.13.2.1.(11) 3.13.3.5.(1) 3.13.3.6.(2) 3.13.4.2.(7) 9.10.3.1.(1) 9.10.3.2.(1) 9.10.5.1.(3) 9.10.9.11.(1)
MMAH	Supplementary Standard SB-3, January 1, 2024	Fire and Sound Resistance Tables	5.8.1.3.(1) 5.8.1.3.(2) 9.10.3.1.(1) 9.10.5.1.(3) 9.11.1.3.(1) 9.11.1.3.(2) Table 9.11.1.4. 9.29.5.9.(5)
MMAH	Supplementary Standard SB-4, January 1, 2024	Measures for Fire Safety in High Buildings	3.2.6.2.(1) 3.2.6.2.(7) 3.2.6.5.(3) 3.2.6.9.(1) 3.13.3.6.(5) Table 11.5.1.1.-C Table 11.5.1.1.-D/E Table 11.5.1.1.-F
MMAH	Supplementary Standard SB-6, January 1, 2024	Percolation Times and Soil Descriptions	8.2.1.2.(2)
MMAH	Supplementary Standard SB-7, January 1, 2024	Guards for Housing and Small Buildings	9.8.8.2.(6)
MMAH	Supplementary Standard SB-8, January 1, 2024	Design, Construction and Installation of Anchorage Systems for Fixed Access Ladders	3.6.1.6.(1)
MMAH	Supplementary Standard SB-9, January 1, 2024	Requirements for Soil Gas Control	9.13.4.1.(3) 9.13.4.2.(1)
MMA	Supplementary Standard SB-10, December 22, 2016	Energy Efficiency Requirements	Table 9.7.3.3. 12.2.1.2.(2)

			12.2.2.1.(1) 12.2.3.1.(1)
MMAH	Supplementary Standard SB-11, January 1, 2024	Construction of Farm Buildings	2.1.2.3.(5)
MMA	Supplementary Standard SB-12, July 7, 2016	Energy Efficiency for Housing	Table 9.7.3.3. Table 11.5.1.1.-C 12.2.1.2.(3)
MMAH	Supplementary Standard SB-13, January 1, 2024	Glass in Guards	3.1.21.1.(1)
MMAH	Supplementary Standard SC-1, January 1, 2024	Code of Conduct for Registered Code Agencies	3.7.4.1.(2) of Division C
MOE	PIBS 6879 2008	Design Guidelines for Sewage Works	7.1.2.5.(1)
MOE	PIBS 6881e 2008	Design Guidelines for Drinking-Water Systems	7.1.2.5.(2)
NFPA	2023 Publication	National Fire Codes	6.2.1.1.(1)
NFPA	13-2019	Standard for the Installation of Sprinkler Systems	3.1.9.1.(4) 3.2.4.8.(2) 3.2.4.15.(1) 3.2.5.12.(1) 3.2.5.12.(9) 3.2.8.2.(5) 3.2.8.3.(2) 3.3.2.14.(3) 3.16.1.1.(3) 3.16.1.1.(4) 3.16.1.6.(2) 3.16.1.6.(8) 3.16.1.7.(2) 3.16.2.1.(1) 3.16.2.2.(1) 3.16.3.1.(1) 9.10.9.9.(4)
NFPA	13D-2016	Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes	3.2.4.1.(2) 3.2.5.12.(3) 3.2.7.9.(4)
NFPA	13R-2019	Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies	3.2.5.12.(2)
NFPA	14-2013	Standard for the Installation of Standpipe and Hose Systems	3.2.5.9.(1) 3.2.5.10.(1)
NFPA	20-2016	Standard for the Installation of Stationary Pumps for Fire Protection	3.2.4.9.(4) 3.2.5.18.(1)
NFPA	24-2013	Standard for the Installation of Private Fire Service Mains and Their Appurtenances	7.2.11.1.(1)
NFPA	68-2013	Standard on Explosion Protection by Deflagration Venting	3.3.6.3.(1) 3.3.6.4.(2) 3.3.6.4.(1)

NFPA	72-2019	National Fire Alarm and Signaling Code	3.2.4.20.(17) 6.9.4.4.(3) 9.10.19.1.(2) 9.10.19.3.(4) 9.32.3.9C.(3)
NFPA	80-2013	Standard for Fire Doors and Other Opening Protectives	3.1.8.5.(2) 3.1.8.12.(2) 3.1.8.16.(1) 3.1.9.1.(5) 3.13.3.1.(2) 9.10.9.9.(5) 9.10.13.1.(1)
NFPA	82-2014	Standard on Incinerators and Waste and Linen Handling Systems and Equipment	6.2.2.1.(1) 9.10.10.5.(2)
NFPA	91-2015	Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists and Noncombustible Particulate Solids	6.3.4.3.(1)
NFPA	96-2014	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations	3.2.4.8.(2) 3.6.3.5.(1) 6.3.1.6.(1)
NFPA	105-2013	Standard for Smoke Door Assemblies and other Opening Protectives	3.1.8.5.(3) 3.1.8.5.(7)
NFPA	130-2023	Standard for Fixed Guideway Transit and Passenger Rail Systems	3.13.7.1.(1)
NFPA	211-2019	Standard for Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances	6.3.3.2.(2) 6.3.3.3.(1)
NFPA	701-2023	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films	3.14.1.6.(1) 3.14.2.5.(1) 3.17.2.5.(1)
NFRC	100-2014	Procedure for Determining Fenestration Product U-Factors	12.3.1.2.(1)
NFRC	200-2014	Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence	12.3.1.2.(1)
NLGA	2017	Standard Grading Rules for Canadian Lumber	1.4.1.2.(1) of Division A 9.3.2.1.(1) Table 9.3.2.1. Tables 9.23.4.2.-A to 9.23.4.3.-J
NSF	NSF/ANSI 46-2010	Evaluation of Components and Devices Used in Wastewater Treatment Systems	8.6.2.1.(2)
NSF	NSF/ANSI 61-2013	Drinking Water System Components - Health Effects	7.2.10.7C.(1)
SMACNA	ANSI/SMACNA 006-2006	HVAC Duct Construction Standards - Metal and Flexible	9.33.6.5.(2) 9.33.6.7.(9) 9.33.6.7.(10)
SPRI	ANSI/GRHC/SPRI VR-1-2018	Procedure for Investigating Resistance to Root or Rhizome Penetration on Vegetative Roofs	5.6.1.2.(2)

TPIC	2019	Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses	9.23.14.11.(1)
UL	ANSI/CAN/UL/ULC 300-2019	Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment	6.9.1.3.(1)
UL	ANSI/UL-1784-2015	Standard for Air Leakage Tests of Door Assemblies and Other Opening Protectives	3.1.8.4.(4)
UL	UL 2034-2008	Single and Multiple Station Carbon Monoxide Alarms	9.32.3.9C.(1)
ULC	CAN/ULC-S101-14	Standard Method of Fire Endurance Tests of Building Construction and Materials	2.2.1.8.(4) 2.2.1.10.(1) 3.1.5.7.(2) 3.1.5.14.(5) 3.1.5.14.(6) 3.1.5.15.(3) 3.1.5.15.(4) 3.1.7.1.(1) 3.1.11.7.(1) 3.2.3.8.(1) 9.10.16.3.(1)
ULC	CAN/ULC-S102-10	Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies	3.1.5.24.(1) 3.1.12.1.(1) Table 5.9.1.1. Table 9.23.17.2.-A 9.29.5.2.(1)
ULC	CAN/ULC-S102.2-18	Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies	3.1.12.1.(2) 3.1.13.4.(1) 9.27.12.1.(4) 9.27.13.1.(2)
ULC	CAN/ULC-S102.3-2018	Standard Method of Fire Test of Light Diffusers and Lenses	3.1.13.4.(1)
ULC	CAN/ULC-S102.4-17	Standard Method of Test for Fire and Smoke Characteristics of Electrical Wiring, Cables and Non-Metallic Raceways	3.1.4.3.(2) 3.1.5.21.(2) 3.1.5.23.(2)
ULC	CAN/ULC-S104-15	Standard Method for Fire Tests of Door Assemblies	3.1.8.4.(1) 3.2.6.5.(3)
ULC	CAN/ULC-S105-16	Standard Specification for Fire Door Frames Meeting the Performance Required by CAN/ULC-S104	9.10.13.6.(1)
ULC	CAN/ULC-S106-15	Standard Methods for Fire Tests of Window and Glass Block Assemblies	3.1.8.4.(1)
ULC	CAN/ULC-S107-19	Standard Methods for Fire Tests of Roof Coverings	3.1.15.1.(1)
ULC	CAN/ULC-S109-14	Standard Method for Flame Tests of Flame-Resistant Fabrics and Films	2.2.1.14.(1) 3.1.16.1.(1) 3.6.5.2.(2) 3.6.5.3.(1) 3.14.1.6.(1) 3.14.2.5.(1) 3.17.2.5.(1) 9.33.6.3.(1)
ULC	CAN/ULC-S110-13	Standard Methods of Test for Air Ducts	3.6.5.1.(2)

			3.6.5.1.(5) 9.33.6.2.(2) 9.33.6.2.(4)
ULC	CAN/ULC-S111-13	Standard Method of Fire Tests for Air Filter Units	6.2.3.13.(1) 9.33.6.14.(1)
ULC	CAN/ULC-S112-10	Standard Method of Fire Test of Fire-Damper Assemblies	3.1.8.4.(1)
ULC	CAN/ULC-S112.1-10	Standard for Leakage Rated Dampers for Use in Smoke Control Systems	3.1.8.4.(3) 6.3.2.7.(3)
ULC	CAN/ULC-S112.2-07	Standard Method of Fire Test of Ceiling Firestop Flap Assemblies	3.1.9.4.(2) 3.6.4.3.(2) 9.10.13.14.(1)
ULC	CAN/ULC-S113:2016	Standard Specification for Wood Core Doors Meeting the Performance Required by CAN/ULC-S104 for Twenty Minute Fire Rated Closure Assemblies	9.10.13.2.(1)
ULC	CAN/ULC-S114 :2018	Standard Method of Test for Determination of Non-Combustibility in Building Materials	1.4.1.2.(1) of Division A
ULC	CAN/ULC-S115-11	Standard Method of Fire Tests of Firestop Systems	3.1.5.19.(3) 3.1.8.3.(3) 3.1.9.1.(1) 3.1.9.1.(2) 3.1.9.1.(3) 3.1.9.1.(6) 3.1.9.1.(7) 3.1.9.3.(1) 3.1.9.3.(2) 3.1.9.3.(4) 3.1.9.4.(4) 3.1.9.4.(7) 9.10.9.2.(3) 9.10.9.6.(1) 9.10.9.6.(2) 9.10.9.8.(1) 9.10.9.8.(6)
ULC	CAN/ULC-S124-06	Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic	3.1.5.15.(2)
ULC	CAN/ULC-S126-14	Standard Method of Test for Fire Spread Under Roof-Deck Assemblies	3.1.14.1.(1) 3.1.14.2.(1)
ULC	CAN/ULC-S134-13	Standard Method of Fire Test of Exterior Wall Assemblies	3.1.5.5.(1) 9.10.15.5.(2)
ULC	ULC-S135-04	Standard Test Method for the Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter (Cone Calorimeter)	3.1.5.1.(2)
ULC	CAN/ULC-S136:2021	Standard Method for Fire Test of Sprinkler Protected Window Systems	3.1.8.20.(1)
ULC	CAN/ULC-S138-06	Standard Method of Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration	3.1.5.7.(1) 3.1.5.7.(3)
ULC	CAN/ULC-S139:17	Standard for Fire Test for Evaluation of Integrity of Electrical Power, Data and Optical Fibre Cables	3.2.6.5.(6) 3.2.7.10.(2)

			3.2.7.10.(3)
ULC	CAN/ULC-S143-14	Standard Method of Fire Tests for Non-Metallic Electrical and Optical Fibre Cable Raceway Systems	3.1.5.23.(1)
ULC	CAN/ULC-S144-12	Standard Method of Fire Resistance Test - Grease Duct Assemblies	3.6.3.5.(2)
ULC	CAN/ULC-S146-19	Standard Method of Test for the Evaluation of Encapsulation Materials and Assemblies of Materials for the Protection of Structural Timber Elements	3.1.6.5.(1)
ULC	S505-1974	Standard for Fusible Links for Fire Protection Service	3.1.8.10.(2)
ULC	CAN/ULC-S524:2019	Standard for Installation of Fire Alarm Systems	3.1.8.11.(3) 3.1.8.14.(3) 3.2.4.5.(1) 3.2.4.20.(10) 3.2.4.20.(15) 9.10.19.4.(3) 9.10.19.6.(2)
ULC	CAN/ULC-S531:2019	Standard for Smoke Alarms	3.2.4.20.(2) 9.10.19.1.(1)
ULC	CAN/ULC-S537:2019	Standard for Verification of Fire Alarm Systems	3.2.4.5.(2) 3.2.4.20.(10)
ULC	CAN/ULC-S540-13	Standard for Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance	3.2.4.21.(1) 9.10.19.8.(1)
ULC	CAN/ULC-S553-14	Standard for the Installation of Smoke Alarms	3.2.4.20.(13) 9.10.19.3.(2)
ULC	CAN/ULC-S561-13	Standard for Installation and Services for Fire Signal Receiving Centres and Systems	3.2.4.7.(4) 3.13.5.4.(1)
ULC	CAN/ULC-S572:2017	Standard for Photoluminescent and Self-Luminous Exit Signs and Path Marking Systems	3.4.5.1.(4.1) 9.9.11.3.(3)
ULC	CAN/ULC-S610:2018	Standard for Factory-Built Fireplace Systems	9.22.8.1.(1)
ULC	ULC-S628-93	Standard for Fireplace Inserts	9.22.10.1.(1)
ULC	CAN/ULC-S629:2016	Standard for 650ºC Factory-Built Chimneys	9.21.1.3.(1)
ULC	CAN/ULC-S639-M87	Standard for Steel Liner Assemblies for Solid Fuel-Burning Masonry Fireplaces	9.22.2.3.(1)
ULC	CAN/ULC-S701.1:2017	Standard for Thermal Insulation, Polystyrene Boards	Table 5.9.1.1. Table 9.23.17.1.-A 9.25.2.2.(1) 9.25.2.2.(4)
ULC	CAN/ULC-S702.1-14	Standard for Mineral Fibre Thermal Insulation for Buildings, Part 1: Material Specification	3.1.6.3.(4) Table 5.9.1.1. 9.10.9.8.(3) Table 9.23.17.2.-A 9.25.2.2.(1)
ULC	CAN/ULC-S703-09	Standard for Cellulose Fibre Insulation (CFI) for Buildings	Table 5.9.1.1. 9.25.2.2.(1)

ULC	CAN/ULC-S704.1:2017	Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced	Table 5.9.1.1. Table 9.23.17.2.A. 9.25.2.2.(1)
ULC	CAN/ULC-S705.1:2018	Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density - Material – Specification	Table 5.9.1.1. 9.25.2.2.(1)
ULC	CAN/ULC-S705.2-05	Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Application	Table 5.9.1.1. 9.25.2.5.(1)
ULC	CAN/ULC-S706.1:2016	Standard for Wood Fibre Insulating Boards for Buildings	Table 5.9.1.1. 9.23.16.7.(3) Table 9.23.17.2.-A 9.25.2.2.(1) 9.29.8.1.(1)
ULC	CAN/ULC-S710.1:2019	Standard for Bead-Applied One Component Polyurethane Air Sealant Foam, Part 1: Material Specification	Table 5.9.1.1.
ULC	CAN/ULC-S711.1:2019	Standard for Bead-Applied Two Component Polyurethane Air Sealant Foam, Part 1: Material Specification	Table 5.9.1.1.
ULC	CAN/ULC-S716.1-12	Standard for Exterior Insulation and Finish Systems (EIFS) – Materials and Systems	5.9.4.1.(1) 9.27.14.1.(1) 9.27.14.2.(1)
ULC	CAN/ULC-S716.2-12	Standard for Exterior Insulation and Finish Systems (EIFS) – Installation of EIFS Components and Water Resistive Barrier	9.27.14.3.(2)
ULC	CAN/ULC-S716.3-12	Standard for Exterior Insulation and Finish Systems (EIFS) – Design Application	9.27.14.3.(1)
ULC	CAN/ULC-S717.1:2017	Standard for Flat Wall Insulating Concrete Form (ICF) Units – Material Properties	Table 5.9.1.1. 9.15.4.1.(1)
ULC	CAN/ULC-S741-08	Standard for Air Barrier Materials – Specification	5.4.1.2.(2)
ULC	CAN/ULC-S742-11	Standard for Air Barrier Assemblies – Specification	5.4.1.2.(1) 5.4.1.2.(2)
ULC	CAN/ULC-S1001-11	Standard for Integrated Systems Testing of Fire Protection and Life Safety Systems	3.2.9.1.(1) 9.10.1.2.(1)
ULC	ULC/ORD-C199P-02	Combustible Piping for Sprinkler Systems	3.2.5.13.(2) 3.2.5.13.(5)
ULC	ULC/ORD-C1254.6-95	Fire Testing of Restaurant Cooking Area Fire Extinguishing System Units	6.9.1.3.(1)
USDA	October 1993	Soil Survey Manual	8.2.1.2.(2)
WT	October 20, 2016	Port Lands Flood Protection and Enabling Infrastructure Due Diligence Report	1.3.3.6.(4) of Division C

1.3.2. Abbreviations

1.3.2.1. Abbreviations of Proper Names (See Note A-1.3.2.1.(1))

(1) The abbreviations of proper names in this Code shall have the meaning assigned to them in Table 1.3.2.1.

Table 1.3.2.1.

Abbreviations of Proper Names

Forming Part of Sentence 1.3.2.1.(1)

Abbreviation	Meaning
ACGIH	American Conference of Governmental Industrial Hygienists
ACI	American Concrete Institute
AHRI	Air-Conditioning, Heating and Refrigeration Institute
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APA	The Engineered Wood Association
APHA	American Public Health Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	The American Society of Mechanical Engineers
ASPE	American Society of Plumbing Engineers
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
BCMOH	British Columbia Ministry of Health
BNQ	Bureau de Normalisation du Québec
CAN	National Standard of Canada designation The number or name following the CAN designation represents the agency under whose auspices the standard is issued. CAN1 designates CGA, CAN2 designates CGSB, CAN3 designates CSA, and CAN4 designates ULC.
CCBFC	Canadian Commission on Building and Fire Codes
CGSB	Canadian General Standards Board
CHC	Canadian Hydronics Council
CSA	CSA Group, formerly called Canadian Standards Association
CWC	Canadian Wood Council
DBR	Division of Building Research, known as the Institute for Research in Construction since 1985
DOE	U.S. Department of Energy
EPA	Environmental Protection Agency
FINA	Fédération Internationale de Natation

GRHC	Green Roofs for Healthy Cities
HC	Health Canada
HI	Hydronics Institute
HPVA	Hardwood Plywood & Veneer Association
HRAI	Heating, Refrigerating and Air-Conditioning Institute of Canada
HUD	U.S. Department of Housing and Urban Development
HVI	Home Ventilating Institute
IAPMO	International Association of Plumbing and Mechanical Officials
ICC	International Code Council
ISO	International Organization for Standardization
MMA	Ontario Ministry of Municipal Affairs
MMAH	Ontario Ministry of Municipal Affairs and Housing
MOE	Ontario Ministry of the Environment
NFPA	National Fire Protection Association
NLGA	National Lumber Grades Authority
NRCan	Natural Resources Canada
NSF	National Sanitation Foundation International, formerly called National Sanitation Federation
SEI	Structural Engineering Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association Inc.
SPRI	Single Ply Roofing Industry
TC	Transport Canada
TPIC	Truss Plate Institute of Canada
UL	Underwriters Laboratories Inc.
ULC	Underwriters' Laboratories of Canada
USDA	United States Department of Agriculture
WEF	World Environment Federation
WT	Waterfront Toronto

Part 2

14. Article 2.1.2.1. of Division B is revoked and the following substituted:

2.1.2.1. Application

(1) Except as provided in Sentences (2) and (3), this Part applies to all *farm buildings*

(a) that are

(i) more than 600 m^2 in *building area* or more than 3 *storeys* in *building height* used for *major occupancies* classified as Group G, Division 1, 2 or 3 *agricultural occupancies*, or

(ii) used for *major occupancies* classified as Group G, Division 4 *agricultural occupancies with no human occupants*, and

(b) described in Sentence 2.1.2.2.(1).

(2) Subsections 2.2.6. and 2.2.7. do not apply to Group G, Division 4 *major occupancies*.

(3) *Farm buildings* not described in Sentence (1) shall conform to the requirements of Article 2.1.2.3.

15. Subsection 2.1.2. of Division B is amended by adding the following Articles:

2.1.2.2. Classification of Buildings Containing Agricultural Occupancies

(1) *Buildings* or parts of *buildings* containing an *agricultural occupancy* that has an *occupant load* of not more than one person per 40 m^2 shall be classified according to their *major occupancy* as belonging to Group G, Division 1, 2, 3 or 4.

(2) *Buildings* or parts of *buildings* containing an *agricultural occupancy* that has an *occupant load* of more than one person per 40 m^2 shall be classified according to their *major occupancy* as belonging to one of the Groups and Divisions listed in Table 3.1.2.1. of Division B.

(3) For the purposes of Sentences (1) and (2), the *occupant load* shall be determined based on the *floor area* or the part of the floor area that contains the *agricultural occupancy*.

(4) A *building* intended for use by more than one *major occupancy* shall be classified according to all the *major occupancies* for which it is used or intended to be used.

2.1.2.3. Small Farm Buildings

(1) Except as provided in Sentences (2) to (6), *farm buildings* not more than 3 *storeys* in *building height* and not more than 600 m^2 in *building area* used for *major occupancies*

classified as Group G, Division 1, 2, or 3 *agricultural occupancies* shall conform to the requirements in the CCBFC NRCC 38732 "National Farm Building Code of Canada".

(2) Articles 1.1.1.2. and 3.1.8.1. and Subsections 3.1.4. and 4.1.4. in the CCBFC NRCC 38732 "National Farm Building Code of Canada" do not apply to *farm buildings*.

(3) Except as provided in Sentence (4), in the CCBFC NRCC 38732 National Farm Building Code of Canada, references in Articles 1.1.1.3., 2.2.2.1., 2.2.2.2., 2.3.1.1., 2.3.2.1., 3.1.1.1., 3.1.1.2., 3.1.2.1. and 3.1.6.1. to the CCBFC NRCC 38726 "National Building Code of Canada", are deemed to be references to Ontario Regulation 403/97 (Building Code), as it read on December 30, 2006.

(4) The climatic values required for the design of *farm buildings* shall be in conformance with the climatic values provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(5) A *farm building* of *low human occupancy* having a *building area* not exceeding 600 m^2 and not more than 3 *storeys* in *building height* is deemed to comply with the structural requirements of CCBFC NRCC 38732 "National Building Code of Canada", if it is designed and constructed in conformance with MMAH Supplementary Standard SB-11, "Construction of Farm Buildings".

(6) Where a *floor area* or portion of a *floor area* within a *farm building* is intended to contain a *hazardous extraction* operation involving cannabis, the *floor area* or portion of the *floor area* shall conform to the requirements of Article 2.2.8.9.

16. Table 2.1.4.1. of Division B is revoked and the following substituted:

Table 2.1.4.1.
Classification of Agricultural Major Occupancies

Forming Part of Sentence 2.1.4.1.(1)

Group	Division	Description of *Agricultural Occupancies*
G	1	*High-hazard agricultural occupancies*
G	2	*Agricultural occupancies* not elsewhere classified in Group G
G	3	*Greenhouse agricultural occupancies*
G	4	*Agricultural occupancies with no human occupants*

17. Sentence 2.2.1.10.(2) of Division B is revoked and the following substituted:

(2) A material, assembly of materials, or structural member is permitted to be assigned a *fire-resistance rating* on the basis of MMAH Supplementary Standard SB-2, "Fire Performance Ratings."

18. Article 2.2.1.15. of Division B is revoked and the following substituted:

2.2.1.15. Electrical Wiring and Equipment (See Note A-2.2.1.15.)

(1) Reserved.

(2) Electrical wiring installed in a concealed space shall be enclosed in rigid conduit or otherwise protected against damage. (See Note A-2.2.1.15.(2))

19. Article 2.2.1.17. of Division B is revoked and the following substituted:

(1) If a *floor area* or part of a *floor area* has been designed for an *occupant load* other than that prescribed in Sentence 2.1.2.2.(1) or this Part, a permanent sign indicating that *occupant load* shall be posted in a conspicuous location.

20. Article 2.2.4.3. of Division B is revoked and the following substituted:

(1) Portable extinguishers shall be provided and installed in accordance with the provisions of Part 6 of Division B of the Fire Code made under the *Fire Protection and Prevention Act, 1997.*

21. Sentence 2.2.6.11.(1) of Division B is revoked and the following substituted:

(1) Warning signs shall be installed in accordance with Subsection 2.14.2. of Division B of the NRCC-CONST-56437E 2020, "National Fire Code of Canada."

22. (1) Sentence 2.2.8.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2) to (4), the storage, handling and use of hazardous substances shall be in conformance with

(a) the Fire Code made under the *Fire Protection and Prevention Act, 1997,* or

(b) the NRCC-CONST-56437E 2020, "National Fire Code of Canada", in the absence of regulations referred to in Clause (a).(See Note A-3.3.1.2.(1))

(2) Sentences 2.2.8.1.(3) and (4) of Division B are revoked and the following substituted:

(3) Reserved.

(4) Where Article 3.2.9.1. of Division B of the NRCC-CONST-56437E 2020, "National Fire Code of Canada" applies due to the quantity and nature of the stored product, *farm buildings* used for the storage of ammonium nitrate shall

(a) be classified as Group G, Division 2 *major occupancies*, and

(b) comply with Sentence 3.3.6.6.(1).

23. Sentence 2.2.8.7.(1) of Division B is revoked and the following substituted:

(1) The storage of *dangerous goods* in packages or containers in *farm buildings* or parts of *farm buildings* shall comply with Parts 3 and 4 of Division B of NRCC-CONST-56437E 2020, "National Fire Code of Canada."

24. Subsection 2.2.8. of Division B is amended by adding the following Article:

2.2.8.9. Hazardous Extraction Operation Involving Cannabis

(1) Where a *floor area* or portion of a *floor area* within a *farm building* is intended to contain a *hazardous extraction* operation involving cannabis, the *floor area* or portion of the *floor area* shall be designed and constructed to comply with

(a) the requirements for locking, latching and other fastening devices for doors set out in Article 2.7.2.2. of Division B of the Fire Code made under the *Fire Protection and Prevention Act, 1997*,

(b) the ventilation requirements set out in Articles 4.1.7.2. to 4.1.7.6. of Division B of the Fire Code, where the *hazardous extraction* operation is intended to involve the use of *flammable liquids* or *combustible liquids*, and

(c) the ventilation requirements set out in Clauses 5.1.4.2.(1)(a) to (d) and (g) of Division B of the Fire Code, where the *hazardous extraction* operation is intended to involve the use of flammable gases.

25. Article 2.3.2.5. of Division B is revoked and the following substituted:

2.3.2.5. Liquid Manure Storage Tanks

(0.1) *Liquid manure* storage tanks shall be constructed of steel, reinforced concrete or prestressed concrete.

(1) Tops of *liquid manure* storage tanks that are accessible to vehicular traffic or used as a floor in a *farm building* shall be designed for the loads due to their intended use and *occupancy*.

(2) Tops of *liquid manure* storage tanks that are located outdoors but not exposed to vehicular traffic shall be designed for the *dead load* plus the snow and rain loads prescribed in Subsection 4.1.6. or for the *dead load* plus 2 kPa, whichever produces the most critical effect.

(3) Walls and partitions of *liquid manure* storage tanks shall be designed for

(a) an internal lateral pressure based on an equivalent fluid density of 10 kN/m^3 for liquid manure, and

(b) the anticipated internal lateral ice pressure. (See Note A-2.3.2.5.(3))

(4) Vertical external walls of *liquid manure* storage tanks located below ground level shall be designed for

(a) the anticipated lateral earth pressure, which shall not be used to reduce the effects of the internal lateral pressures specified in Sentence (3) (see Note A-2.3.2.5.(4)(a)), and

(b) a lateral surcharge load of 5 kPa, applied uniformly below ground level, where earth within 1.5 m of the walls is subject to vehicular loads.

(5) Concrete for *liquid manure* storage tanks shall

(a) be made from HS or HSb cement,

(b) have a 28-day strength of at least 32 MPa, and

(c) have a water/cement materials ratio of not more than 0.45.

(6) *Liquid manure* storage tank walls, bases and appurtenances, including piping for the conveyance of *liquid manure* and associated connections and joints, shall be designed and constructed to minimize leakage of *liquid manure*. (See Note A-2.3.2.5.(6))

(7) *Liquid manure* storage tanks shall be placed on undisturbed soil free of any organic, deleterious and extraneous materials and capable of supporting the superimposed *design loads* from the tanks.

(8) Where granular *fills* are used between the bases of *liquid manure* storage tanks and the undisturbed *soil*, the granular *fills* shall be compacted to a Standard Proctor density of not less than 95%.

26. Sentence 2.4.2.2.(2) of Division B is revoked and the following substituted:

(2) Sentence (1) need not apply where the fuel-fired *appliance* is specifically designed as a generator of carbon dioxide for enrichment of the atmosphere in the *farm building*. (See Note A-2.4.2.2.(2))

27. Sentence 2.4.2.3.(4) of Division B is revoked and the following substituted:

(4) A warning sign shall be provided at each entrance to a controlled-atmosphere storage area in accordance with Sentence 2.14.2.1.(5) of Division B of the NRCC-CONST-56437E 2020, "National Fire Code of Canada."

28. Sentence 2.4.2.5.(1) of Division B is revoked and the following substituted:

(1) *Farm buildings* housing livestock with below-floor storage of *liquid manure* shall be provided with a ventilation system that supplies outdoor air at a rate that is

(a) sufficient to limit the concentrations of *dangerous goods* classified as flammable gases to not more than 25% of their lower explosive limit,

(b) sufficient to limit the concentrations of *dangerous goods* classified as toxic gases to those permitted in the ACGIH's "Industrial Ventilation: A Manual of Recommended Practice for Design," and

(c) not less than 2 air changes per hour. (See Note A-2.4.2.5.(1))

29. Section 2.5. of Division B is revoked.

Part 3

30. Articles 3.1.1.3. and 3.1.1.4. of Division B are revoked and the following substituted:

3.1.1.3. Reserved

3.1.1.4. Reserved

3.1.1.5. Radon

(1) In addition to all other requirements, a *building* in the following designated areas shall be designed and constructed so that the annual average concentration of radon 222 does not exceed 200 Bq/m^3 of air and the annual average concentration of the short lived daughters of radon 222 does not exceed 0.02 working levels inside the *building*:

(a) the City of Elliot Lake in the Territorial District of Algoma,

(b) the Township of Faraday in the County of Hastings, and

(c) the geographic Township of Hyman in the Territorial District of Sudbury.

3.1.1.6. Building in Flood Plains

(1) *Buildings* constructed on flood plains shall,

(a) be designed and constructed in accordance with good engineering practice to withstand anticipated vertical and horizontal hydrostatic pressures acting on the structure, and

(b) incorporate floodproofing measures that will preserve the integrity of *exits* and *means of egress* during times of flooding.

31. Sentence 3.1.2.1. of Division B is revoked and the following substituted:

(1) Except as permitted by Articles 3.1.2.3. to 3.1.2.7., every *building* or part thereof shall be classified according to its *major occupancy* as belonging to one of the Groups or Divisions described in Table 3.1.2.1. (See Note A-3.1.2.1.(1).)

32. Table 3.1.2.1. of Division B is revoked and the following substituted:

Table 3.1.2.1.
Major Occupancy Classification

Forming Part of Sentences 3.1.2.1.(1), 3.1.2.2.(1) and 3.11.2.1.(3)

Group	Division	Description of *Major Occupancies*
A	1	*Assembly occupancies* intended for the production and viewing of the performing arts
A	2	*Assembly occupancies* not elsewhere classified in Group A

A	3	*Assembly occupancies* of the arena type
A	4	*Assembly occupancies* in which occupants are gathered in the open air
B	1	*Detention occupancies*
B	2	*Care and treatment occupancies*
B	3	*Care occupancies*
C	—	*Residential occupancies*
D	—	*Business and personal services occupancies*
E	—	*Mercantile occupancies*
F	1	*High-hazard industrial occupancies*
F	2	*Medium-hazard industrial occupancies*
F	3	*Low-hazard industrial occupancies*

33. Article 3.1.2.3. of Division B is revoked and the following substituted:

3.1.2.3. Arena-Type Buildings

(1) An arena-type *building* intended for occasional use for trade shows and similar exhibition purposes shall be classified as Group A, Division 3 *occupancy*.

34. Article 3.1.2.5. of Division B is revoked and the following substituted:

3.1.2.5. Group B, Division 3 Occupancies

(1) Group B, Division 3 *occupancies* are permitted to be classified as Group C *major occupancies* within the application of Part 3 provided

(a) the occupants live as a single housekeeping unit in a *suite* with sleeping accommodation for not more than 10 persons, and

(b) not more than two occupants require assistance in evacuation in case of an emergency.

35. Subsection 3.1.2. of Division B is amended by adding the following Article:

3.1.2.7. Restaurants

(1) A restaurant is permitted to be classified as a Group E *major occupancy* within the application of Part 3 provided the restaurant is designed to accommodate not more than 30 persons consuming food or drink.

36. Table 3.1.3.1. of Division B is revoked and the following substituted:

Table 3.1.3.1.
Major Occupancy Fire Separations[1]
Forming Part of Sentence 3.1.3.1.(1)

Major Occupancy	Minimum *Fire-Resistance Rating* of *Fire Separation*, h												
	Adjoining *Major Occupancy*												
	A-1	A-2	A-3	A-4	B-1	B-2	B-3	C	D	E	F-1	F-2	F-3
A-1	—	1	1	1	2	2	2	1	1	2	[2]	2	1
A-2	1	—	1	1	2	2	2	1[3]	1[4]	2	[2]	2	1
A-3	1	1	—	1	2	2	2	1	1	2	[2]	2	1
A-4	1	1	1	—	2	2	2	1	1	2	[2]	2	1
B-1	2	2	2	2	—	2	2	2	2	2	[2]	2	2
B-2	2	2	2	2	2	—	1	2	2	2	[2]	2	2
B-3	2	2	2	2	2	1	—	2	2	2	[2]	2	2
C	1	1[3]	1	1	2	2	2	—	1	2[5]	[2]	2[6]	1
D	1	1[4]	1	1	2	2	2	1	—	—	3	—	—
E	2	2	2	2	2	2	2	2[5]	—	—	3	—	—
F-1	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	3	3	—	2	2
F-2	2	2	2	2	2	2	2	2[6]	—	—	2	—	—
F-3	1	1	1	1	2	2	2	1	—	—	2	—	—

Notes to Table 3.1.3.1.:

[1] Section 3.3. contains requirements for the separation of *occupancies* and tenancies that are in addition to the requirements for the separation of *major occupancies*.

[2] See Sentence 3.1.3.2.(1).

[3] Where the *building* or part thereof is constructed in accordance with Article 3.2.2.51., a *fire separation* with a 2 h *fire-resistance rating* is required between the Group C and Group A, Division 2 *major occupancies*.

[4] Where the *building* or part thereof is constructed in accordance with Article 3.2.2.60., a *fire separation* with a 2 h *fire-resistance rating* is required between the Group D and Group A, Division 2 *major occupancies*.

[5] See Sentence 3.1.3.1.(2).

[6] See Sentence 3.1.3.2.(2).

37. Article 3.1.3.2. is revoked and the following substituted:

3.1.3.2. Prohibition of Occupancy Combinations

(1) No *major occupancy* of Group F, Division 1 shall be contained within a *building* with any *occupancy* classified as Group A, B or C.

(2) Except as provided in Sentence (4) and Sentence 3.10.2.4.(9), not more than one *suite* of *residential occupancy* shall be contained within a *building* classified as a Group F, Division 2 *major occupancy*.

(3) A sleeping room or sleeping area shall not open directly into a room or area where food is intended to be stored, prepared, processed, distributed, served, sold or offered for sale.

(4) A Group F, Division 2 *major occupancy* is permitted in a *building* containing only *live/work units* if the *occupancy* is for the exclusive use of the occupants of the *live/work units*.

(5) A *building* within the scope of Article 3.2.2.51. or 3.2.2.60. shall not contain a *retirement home*.

38. Article 3.1.4.1. of Division B is revoked and the following substituted:

3.1.4.1. Combustible Materials Permitted

(1) A *building* permitted to be of *combustible construction* is permitted to be constructed of *combustible* materials, with or without *noncombustible* components.

39. Sentence 3.1.4.2.(2) of Division B is revoked and the following substituted:

(1.1) The *flame-spread rating* on any exposed surface of *combustible* insulation, or any surface that would be exposed by cutting through it in any direction, shall be not more than 500.

(2) A walk-in cooler or freezer consisting of factory-assembled wall, floor or ceiling panels containing foamed plastics is permitted to be used in a *building* permitted to be of *combustible construction*, provided the panels

(a) are protected on both sides by sheet metal not less than 0.38 mm thick having a melting point not less than 650°C,

(b) do not contain an air space, and

(c) when a sample panel with an assembled joint typical of field installation is subjected to the applicable test described in Subsection 3.1.12., have a *flame-spread rating* not more than that permitted for the space in which they are located, the space that they bound, as applicable. (See Note A-3.1.4.2.(2) and 3.1.5.7.(3))

40. Sentence 3.1.4.8.(4) of Division B is revoked and the following substituted:

(4) An exterior wall assembly constructed in conformance with Section 6 of MMAH Supplementary Standard SB-2, "Fire Performance Ratings" is deemed to satisfy the criteria of Clause (1)(b) and (2)(b).

41. Sentence 3.1.5.1.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentences (2) to (4) and Articles 3.1.5.2. to 3.1.5.29., 3.1.13.4. and 3.2.2.16., a *building* or part of a *building* required to be of *noncombustible construction*, shall be constructed with *noncombustible* materials. (See also Subsection 3.1.13. for the requirements regarding the *flame-spread rating* of interior finishes.)

42. Sentence 3.1.5.5.(4) of Division B is revoked and the following substituted:

(4) Exterior wall assemblies constructed in accordance with Section 6 of MMAH Supplementary Standard SB-2, "Fire Performance Ratings" are deemed to comply with Clause (1)(b).

43. Sentence 3.1.5.6.(2) of Division B is revoked and the following substituted:

(2) Exterior wall assemblies constructed in accordance with Section 6 of MMAH Supplementary Standard SB-2, "Fire Performance Ratings" are deemed to comply with Subclause (1)(b)(i).

44. Article 3.1.5.16. of Division B is revoked and the following substituted:

3.1.5.16. Combustible Elements in Partitions

(1) Except as permitted by Sentence (2), solid lumber *partitions* not less than 38 mm thick and wood framing in *partitions* located in a *fire compartment* not more than 600 m^2 in area are permitted to be used in a *building* required to be of *noncombustible construction* in a *floor area* that is not *sprinklered* throughout provided the *partitions*

(a) are not required *fire separations*, and

(b) are not located in a *care*, *care and treatment* or *detention occupancy* or in a *retirement home*.

(2) *Partitions* installed in a *building* required to be of *noncombustible construction* are permitted to contain wood framing provided

(a) the *building* is not more than 3 *storeys* in *building height*,

(b) the *partitions* are not located in a *care*, *care and treatment* or *detention occupancy* or in a *retirement home*, and

(c) the *partitions* are not installed as enclosures for *exits* or *vertical service spaces*.

(3) Solid lumber *partitions* not less than 38 mm thick and *partitions* that contain wood framing are permitted to be used in a *building* required to be of *noncombustible construction* provided

(a) the *floor area* containing the *partitions* is *sprinklered* throughout and

(b) the *partitions* are not

(i) located in a *care*, *care and treatment* or *detention occupancy* or in a *retirement home*,

(ii) installed as enclosures for *exits* or *vertical service spaces*, or

(iii) used to satisfy the requirements of Clause 3.2.8.1.(1)(a).

45. Sentence 3.1.5.17.(1) of Division B is revoked and the following substituted:

(1) Except in a *retirement home*, storage lockers in storage rooms are permitted to be constructed of wood in a *building* of *residential occupancy* required to be of *noncombustible construction*.

46. Sentence 3.1.5.19.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Clause 3.1.5.2.(1)(d), Article 3.1.5.25. and Sentences (2) and (3), *combustible* piping and tubing and associated adhesives are permitted to be used in a *building* required to be of *noncombustible construction* provided that, except when concealed in a wall or concrete floor slab, they

(a) have a *flame-spread rating* not more than 25, and

(b) if used in a *building* described in Subsection 3.2.6., have a smoke developed classification not more than 50.

47. Sentence 3.1.5.21.(1) of Division B is revoked and the following substituted:

(1) Except as required by Sentence (2) and Articles 3.1.5.22. and 3.1.5.25., optical fibre cables and electrical wires and cables with *combustible* insulation, jackets or

sheathes are permitted in a *building* required to be of *noncombustible construction*, provided

(a) the wires and cables exhibit a vertical char of not more than 1.5 m when tested in conformance with the Vertical Flame Test – Cables in Cable Trays (FT4 rating) in CSA C22.2 No. 0.3, "Test methods for electrical wires and cables,"

(b) the wires and cables are located in

(i) totally enclosed *noncombustible* raceways (see Note A-3.1.4.3.(1)(b)(i)),

(ii) masonry walls,

(iii) concrete slabs,

(iv) a *service room* separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h, or

(v) totally enclosed non-metallic raceways conforming to Clause 3.1.5.23.(1)(b), or

(c) the wires and cables are communication cables used at the service entry to a *building* and are not more than 3 m long. (See Note A-3.1.5.21.(1).)

48. Subsection 3.1.5. of Division B is amended by adding the following Articles:

3.1.5.25. Wires in Computer Room Floors

(1) Optical fibre cables and electrical wires and cables with *combustible* insulation, jackets or sheathes, located in the space below a raised floor in a computer room, are permitted in a *building* required to be of *noncombustible construction* provided they do not convey flame or continue to burn for more than 1 min when tested in conformance with the Vertical Flame Test in Clause 4.11.1. of CSA C22.2 No. 0.3, "Test methods for electrical wires and cables", (FT1 Rating).

(2) The requirement in Sentence (1) is considered to be met where the wires and cables

(a) exhibit a vertical char of not more than 1.5 m when tested in conformance with the Vertical Flame Test – Cables in Cabletrough in Clause 4.11.4. of CSA C22.2 No. 0.3, "Test methods for electrical wires and cables", (FT4 Rating), or

(b) exhibit a flame-spread of not more than 1.5 m, a smoke density of not more than 0.5 at peak optical density and a smoke density not more than 0.15 at average optical density when tested in conformance with the Flame and

Smoke Test in the Appendix to CSA C22.2 No. 0.3, “Test methods for electrical wires and cables”, (FT6 Rating).

3.1.5.26. Combustible Components in Public Pools and Public Spas

(1) *Combustible* fittings and components in a *public pool* or *public spa*, including main drains, piping, skimmers, return inlets, steps, ladder rungs and liners, are permitted in a *building* required to be of *noncombustible construction*.

3.1.5.27. Combustible Mezzanines

(1) In a *building* required to be of *noncombustible construction*, a *mezzanine* located within a *live/work unit* is permitted to be of *combustible construction*, provided the area of the *mezzanine* is not more than 25% of the *floor area* of the *live/work unit* or 20 m^2, whichever is less, and has no obstructions more than 1 070 mm above the floor.

3.1.5.28. Combustible Solar Collector Systems

(1) A *combustible* solar collector system is permitted to be installed above the roof of a *building* required to be of *noncombustible construction*.

3.1.5.29. Marquees Having Combustible Elements

(1) Except as permitted in Sentence (2), exterior *marquees*, not greater than 7.5 m from ground level to the top of the *marquee,* having *combustible* elements, other than fabrics or films conforming to Sentence 3.1.16.1.(1), are permitted on a *building* required to be of *noncombustible construction*, provided every opening in the exposed wall of the *building* above the *marquee* is protected with wired glass in accordance with MMAH Supplementary Standard SB-2, “Fire Performance Ratings” where these openings are within

(a) 4.5 m horizontally of the *marquee*, and

(b) 9 m vertically above the *marquee*.

(2) The protection required by Sentence (1) is permitted to be waived if the *building* is *sprinklered*.

49. Article 3.1.6.4. of Division B is revoked and the following substituted:

3.1.6.4. Encapsulation of Mass Timber Elements (See Note A-3.1.6.3.)

(1) Except as provided in Sentences (3) to (9), 3.1.6.3.(4), 3.1.6.16.(2) and 3.1.6.17.(2), and Articles 3.1.6.7. and 3.1.6.12., the exposed surfaces of structural mass timber elements conforming to Article 3.1.6.3. shall be protected from adjacent spaces in the *building*, including adjacent concealed spaces within wall, floor and roof assemblies, by a material or assembly of materials conforming to Sentence (2) that provides an *encapsulation rating* that

(a) is not less than 50 min in a *building* or part thereof constructed in conformance with Article 3.2.2.48. or 3.2.2.57., or

(b) conforms to the minimum values stated in Table 3.2.2.93. for the applicable *major occupancy* and *building height*. (See Note A-3.1.6.4.(1))

(2) Except as provided in Sentence 3.1.6.11.(1), the material or assembly of materials referred to Sentence (1) shall consist of

(a) gypsum board,

(b) gypsum concrete,

(c) *noncombustible* materials,

(d) materials that conform to Sentences 3.1.5.1.(2) to (4), or

(e) any combination of materials listed in Clauses (a) to (d).

(3) Except as provided in Sentences (5) and (7), the exposed surfaces of mass timber beams, columns and arches within a *suite* or *fire compartment* in a *building* or part thereof constructed in conformance with Article 3.2.2.48. or 3.2.2.57. or permitted by Article 3.2.2.93. to have a 50 min *encapsulation rating* need not be protected in accordance with Sentence (1), provided

(a) their aggregate exposed surface area does not exceed 35% of the total wall area of the perimeter of the *suite* or *fire compartment* in which they are located, and

(b) the *flame-spread rating* on any exposed surface is not more than 150. (See Note A-3.1.6.4.(3) to (8))

(4) Except as provided in Sentences (5) to (7), the exposed surfaces of mass timber walls within a *suite* in a *building* or part thereof constructed in conformance with Article 3.2.2.48. or 3.2.2.57. or permitted by Article 3.2.2.93. to have a 50 min *encapsulation rating* need not be protected in accordance with Sentence (1), provided

(a) all portions of the exposed surfaces,

(i) face the same direction, or

(ii) are separated by a horizonal distance of not less than 4.5 m, and

(b) the *flame-spread rating* on any exposed surface is not more than 150. (See Notes A-3.1.6.4.(4) and A-3.1.6.4.(3) to (8))

(5) Except as provided in Sentence (7), the aggregate exposed surface area of mass timber elements within a *suite* permitted in Sentences (3) and (4) shall not exceed 35% of the total wall area of the perimeter of the *suite*. (See Note A-3.1.6.4.(3) to (8))

(6) Except as provided in Sentence (7), the exposed surfaces of mass timber ceilings within a *suite* or *fire compartment*, other than an *exit* and *public corridor*, in a *building* or

part thereof constructed in conformance with Article 3.2.2.48. or 3.2.2.57. or permitted by Article 3.2.2.93. to have a 50 min *encapsulation rating* need not be protected in accordance with Sentence (1), provided the aggregate surface area does not exceed

(a) 10% of the total ceiling area of the *suite* or *fire compartment*, where the *flame-spread rating* on any exposed surface is not more than 150, or

(b) 25% of the total ceiling area of the *suite* or *fire compartment*, where the *flame-spread rating* on any exposed surface of a mass timber wall or ceiling is not more than 75. (See Note A-3.1.6.4.(3) to (8))

(7) The exposed surfaces of mass timber ceilings within a *suite* in a *building* or part thereof constructed in conformance with Article 3.2.2.48. or 3.2.2.57. or permitted by Article 3.2.2.93. to have a 50 min *encapsulation rating* need not be protected in accordance with Sentence (1) or (6), provided

(a) the aggregate surface area of any exposed mass timber beams, columns and arches does not exceed 20% of the total wall area of the perimeter of the *suite* in which they are located,

(b) all surface of the mass timber walls are,

(i) protected in accordance with Sentence (1), or

(ii) mass timber walls that are not otherwise permitted to be exposed in accordance with Sentence (5) are protected by a material or assembly of materials conforming to Sentence (2) that provides an *encapsulation rating* of not less than 80 min, and

(c) the *flame spread rating* on any exposed mass timber wall or ceiling is not more than 75. (See Note A-3.1.6.4.(3) to (8))

(8) Structural mass timber elements in a *building* or part thereof permitted by Article 3.2.2.93. to have a 0 min *encapsulation rating* need not be protected in accordance with Sentence (1), provided

(a) mass timber walls and ceilings within *vertical service spaces*, *public corridors*, and *exits* are protected on the interior side with a material or assembly of materials conforming to Sentence (2) that provides an *encapsulation rating* of not less than 25 min, and

(b) concealed spaces are protected in conformance with Sentence 3.1.6.3.(4). (See Note A-3.1.6.4.(3) to (8))

(9) In a *building* or part thereof required by Clause 3.1.6.4.(1)(b) to have a minimum *encapsulation rating* of 70 min, the upper side of a mass timber floor or roof assembly is permitted to be encapsulated by a material or assembly of materials conforming to Sentence 3.1.6.4.(2) that provides an *encapsulation rating* of 50 min.

50. Article 3.1.6.6. of Division B is revoked and the following substituted:

3.1.6.6. Encapsulation Materials (See Note A-3.1.6.6.)

(1) Gypsum-concrete topping and concrete not less than 38 mm thick are deemed to have an *encapsulation rating* of 50 min when installed on the upper side of a mass timber floor or roof assembly.

(2) One layer of Type X gypsum board conforming to ASTM C1396/C1396M, "Standard Specification for Gypsum Board," or CAN/CSA-A82.27-M, "Gypsum Board," not less than 12.7 mm thick, are deemed to have an *encapsulation rating* of 25 min when installed on a mass timber element in accordance with Sentence (6).

(3) Two layers of Type X gypsum board conforming to ASTM C1396/C1396M, "Standard Specification for Gypsum Board," or CAN/CSA-A82.27-M, "Gypsum Board," each not less than 12.7 mm thick, are deemed to have an *encapsulation rating* of 50 min when installed on a mass timber element in accordance with Sentence (6).

(4) Two layers of Type X gypsum board conforming to ASTM C1396/C1396M, "Standard Specification for Gypsum Board," or CAN/CSA-A82.27-M, "Gypsum Board," each not less than 15.9 mm thick, are deemed to have an *encapsulation rating* of 70 min when installed on a mass timber element in accordance with Sentence (6).

(5) Three layers of Type X gypsum board conforming to ASTM C1396/C1396M, "Standard Specification for Gypsum Board," or CAN/CSA-A82.27-M, "Gypsum Board," each not less than 12.7 mm thick, are deemed to have an *encapsulation rating* of 80 min when installed on a mass timber element in accordance with Sentence (6).

(6) The gypsum board described in Sentences (2) to (5) shall be

(a) fastened with a minimum of two rows of screws in each layer

(i) directly to the mass timber element with screws of sufficient length to penetrate not less than 20 mm into the mass timber element that are spaced not more than 400 mm o.c. and 20 mm to 38 mm from the boards' edges, or

(ii) to wood furring or resilient metal or steel furring channels not more than 25 mm thick spaced not more than 400 mm o.c. on the mass timber element,

(b) for multiple layer systems, installed with the joints in each layer staggered from those in the adjacent layer, and

(c) installed in conformance with ASTM C840, "Standard Specification for Application and Finishing of Gypsum Board," except that, for multiple layer systems, their joints need not be taped and finished. (See Note A-3.1.6.6.(6))

51. Article 3.1.6.9. of Division B is revoked and the following substituted:

3.1.6.9. Exterior Cladding

(1) Except as provided in Sentences (2) to (5) and (8), cladding on an exterior wall assembly of a *building* or part thereof permitted to be of *encapsulated mass timber construction* shall be

(a) *noncombustible*,

(b) a material or combination of materials that satisfy the criteria of Sentence 3.1.5.1.(2),

(c) except as provided in Sentence (6), a wall assembly that satisfies the criteria of Clause 3.1.5.5.(1)(b), or

(d) a combination of the cladding described in Clauses (a) to (c). (See Note A-3.1.6.9.(1), (2), (4) and (5))

(2) Except as provided in Sentences (3) to (5) and (7), cladding on an exterior wall assembly of a *building* or part thereof permitted to be of *encapsulated mass timber construction* that is not more than 12 *storeys* in *building height* is permitted to consist of

(a) *combustible* cladding that

(i) is not contiguous over more than 4 *storeys*,

(ii) represents not more than 10% of the cladding on each exterior wall of each *storey*,

(iii) is not more than 1.2 m in width,

(iv) has a *flame-spread rating* not more than 75 on any exposed surface, or any surface that would by exposed by cutting through the material in any direction,

(v) is separated from other portions of *combustible* cladding on adjacent *storeys* by a horizontal distance of not less than 2.4 m, and

(vi) is separated from other portions of *combustible* cladding by a horizontal distance of not less than 1.2 m,

(b) *combustible* cladding that

(i) is not contiguous across adjacent *storeys*,

(ii) represents not more than 10% of the cladding on each exterior wall of each *storey*,

(iii) has a *flame-spread rating* not more than 75 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, and

(iv) is separated from other portions of *combustible* cladding on adjacent *storeys* by a horizontal distance of not less than 2.4 m,

(c) *combustible* cladding representing up to 100% of the cladding on exterior walls of the *first storey*, provided all portions of the cladding can be directly accessed and are located not more than 15 m from a *street* or access route conforming to Article 3.2.5.6., measured horizontally from the face of the *building*, or

(d) a combination of cladding described in Sentence (1) and the cladding described in Clauses (a) to (c). (See Note A-3.1.6.9.(1), (2), (4) and (5))

(3) The permitted area of *combustible* cladding referred to in Clause (2)(a) or (b) shall not exceed 5% of the cladding on each exterior wall of each *storey* where firefighting facilities cannot reach the *building* within 10 min of the alarm being received.

(4) Except as provided in Sentences (5) and (7), cladding on an exterior wall assembly of a *building* or part thereof permitted to be of *encapsulated mass timber construction* that is not more than 6 *storeys* in *building height* is permitted to consist of

(a) *combustible* cladding that

(i) represents not more than 10% of the cladding on each exterior wall of each *storey*, and

(ii) has a *flame-spread rating* not more than 75 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, or

(b) a combination of the cladding described in Clause (a) and the cladding described in Sentence (1) and Clause (2)(c). (See Note A-3.1.6.9.(1), (2), (4) and (5))

(5) Except as provided in Sentence (7), cladding on an exterior wall assembly of a *building* or part thereof permitted to be of *encapsulated mass timber construction* and not more than 4 *storeys* in *building heig*ht is permitted to consist of *combustible* material with a *flame-spread rating* not more than 75 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction. (See Note A-3.1.6.9.(1), (2), (4) and (5).)

(6) An exterior wall assembly constructed in conformance with Section 6 of MMAH Supplementary Standard SB-2, “Fire Performance Ratings” is deemed to satisfy the criteria of Clause (1)(c).

(7) Except as provided in Article 3.2.3.10., where the *limiting distance* in Table 3.2.3.1.-D or Table 3.2.3.1.-E permits an area of *unprotected openings* of not more than 10% of the *exposing building face*, the construction requirements of Table 3.2.3.7. shall be met.

(8) A wall assembly conforming to Clause (1)(c) that includes *combustible* cladding made of *fire-retardant-treated wood* shall be tested for fire exposure after the cladding has been subjected to the accelerated weathering test specified in ASTM D2898, "Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing,"

(9) Where *combustible* cladding conforming to Clauses (2)(a), (b) or (4)(a) on an exterior wall of a *fire compartment* is exposed to *combustible* cladding conforming to Clause (2)(a), (b) or (4)(a) on an exterior wall of the same *fire compartment* or of another *fire compartment*, and the planes of the two walls are parallel or at an angle less than 135° measured from the exterior of the *building*, the different portions of *combustible* cladding shall

(a) be separated by a horizontal distance of not less than 3 m, and

(b) not be contiguous over more than 2 *storeys*.

52. Sentences 3.1.6.10.(1) and (2) of Division B are revoked and the following substituted:

(1) Except as provided in Sentence (2), *combustible* components, other than those permitted by Article 3.1.6.9., are permitted to be used in an exterior wall assembly of a *building* or part thereof permitted to be of *encapsulated mass timber construction* provided the wall assembly satisfies the criteria described in Clause 3.1.5.5.(1)(b).

(2) An exterior wall assembly constructed in conformance with Section 6 of MMAH Supplementary Standard SB-2, "Fire Performance Ratings" is deemed to satisfy the criteria of Sentence (1).

53. Sentences 3.1.6.14.(2) and (3) of Division B are revoked and the following substituted:

(2) Except as provided in Sentences 3.1.6.4.(3), (4), (7) and (8), *combustible* interior wall finishes, other than foamed plastics, that are not more than 25 mm thick are permitted in a *building* or part thereof permitted to be of *encapsulated mass timber construction*, provided they have a *flame-spread rating* not more than 150 on any exposed surface or any surface that would be exposed by cutting through the material in any direction.

(3) Except as provided in Sentences (4) and 3.1.6.4.(3), (6), (7) and (8), *combustible* interior ceiling finishes, other than foamed plastics, that are not more than 25 mm thick are permitted in a *building* or part thereof permitted to be of *encapsulated mass timber construction*, provided they have a *flame-spread rating* not more than 25 on any exposed surface, or any surface that would be exposed by cutting through the material in any

direction, except that not more than 10% of the ceiling area within each *fire compartment* is permitted to have a *flame-spread rating* not more than 150. (See Note A-3.1.11.3.(3))

54. Sentence 3.1.7.1.(2) of Division B is revoked and the following substituted:

(2) A material, assembly of materials or a structural member is permitted to be assigned a *fire-resistance rating* on the basis of MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

55. Sentence 3.1.7.5.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentence (2) and by Articles 3.2.2.20. to 3.2.2.93. for mixed types of construction, all *loadbearing* walls, columns and arches in the *storey* immediately below a floor or roof assembly required to have a *fire-resistance rating* shall have a *fire-resistance rating* not less than that required for the supported floor or roof assembly.

56. Sentence 3.1.8.1.(2) of Division B is revoked and the following substituted:

(2) Openings in a *fire separation* shall be protected with *closures*, shafts or other means in conformance with Articles 3.1.8.4. to 3.1.8.20. and Subsections 3.1.9. and 3.2.8. (See Note A-3.1.8.1.(2))

57. Table 3.1.8.4. of Division B is revoked and the following substituted:

Table 3.1.8.4.
Fire-Protection Rating of Closures

Forming Part of Sentence 3.1.8.4.(2)

Fire-Resistance Rating of *Fire Separation*	Minimum *Fire-Protection Rating* of *Closure*
30 min	20 min
45 min	45 min
1 h	45 min
1.5 h	1 h
2 h	1.5 h
3 h	2 h
4 h	3 h

58. Sentences 3.1.8.5.(5) and (6) of Division B are revoked and the following substituted:

(5) Reserved.

(6) A leakage-rated door assembly complying with Sentence 3.1.8.4.(4) shall be installed in

(a) *fire separations* in protected *floor areas* referred to in Clause 3.3.1.7.(1)(b),

(b) *fire separations* in *care* or *care and treatment occupancies* referred to in Sentence 3.3.3.5.(4) and installed in *fire separations* in *retirement homes* referred to in Sentence 3.3.4.11.(4),

(c) except as provided in Sentence (8), *fire separations* of *public corridors* serving *dwelling units* in *storeys* that are not *sprinklered*, and

(d) *firewalls* that are a *horizontal exit* referred to in Sentence 3.3.3.5.(3).

59. Sentence 3.1.8.7.(2) of Division B is revoked and the following substituted:

(2) Except as provided in Article 3.1.8.9., a smoke damper or a combination smoke/*fire damper* shall be installed in conformance with Article 3.1.8.11. in ducts or air-transfer openings that penetrate an assembly required to be a *fire separation*, where the *fire separation*

(a) separates a *public corridor*,

(b) contains an egress door referred to in Sentence 3.4.2.4.(2),

(c) serves an assembly, *care, care and treatment, detention* or *residential occupancy*, or

(d) is installed to meet the requirements of Clause 3.3.1.7.(1)(b) or Sentence 3.3.3.5.(4) or 3.3.4.11.(4).

60. Article 3.1.8.8. of Division B is revoked and the following substituted:

3.1.8.8. Fire Dampers Waived

(1) Except as provided in Sentences (2) to (4), the requirement for *fire dampers* stated in Sentence 3.1.8.7.(1) is permitted to be waived for

(a) ducts that serve commercial cooking equipment,

(b) continuous *noncombustible* ducts having a melting point above 760°C that penetrate a vertical *fire separation* required by Sentence 3.3.1.1.(1) between *suites* of *assembly, mercantile, low-hazard industrial, medium-hazard industrial or high-hazard industrial occupancy*,

(c) ducts or air-transfer openings that penetrate a vertical *fire separation* not required to have a *fire-resistance rating*, and

(d) *noncombustible* ducts or air-transfer openings that penetrate a horizontal *fire separation* not required to *have a fire-resistance rating*.

(2) The requirement for *fire dampers* stated in Sentence 3.1.8.7.(1) is permitted to be waived for *noncombustible* branch ducts having a melting point above 760°C that penetrate a *fire separation*

(a) provided the ducts

(i) have a cross-sectional area not more than 0.013 m^2 and serve only *air-conditioning* units or combined *air-conditioning* and heating units discharging air not more than 1.2 m above the floor, or

(ii) extend not less than 500 mm inside *exhaust duct* risers that are under negative pressure and in which the airflow is upward as required by Article 3.6.3.4., or

(b) where the *fire separation* separates a *vertical service space* from the remainder of the *building* provided each individual duct exhausts directly to the outdoors at the top of the *vertical service space*.

(3) In elementary and secondary schools, a continuous *noncombustible* duct having a melting point above 760°C that pierces a *fire separation* having a *fire-resistance rating* of 30 min need not be equipped with a *fire damper* at the *fire separation*.

(4) In a Group B, Division 3 *occupancy* which contains sleeping accommodation for not more than 10 persons, which has not more than six occupants who require assistance in evacuation in case of an emergency and which is equipped with a fire alarm system, a duct need not be equipped with a *fire damper* at a *fire separation*, provided duct-type *smoke detectors* have been installed to control smoke circulation as described in Article 3.2.4.12.

61. Article 3.1.8.9. of Division B is revoked and the following substituted:

3.1.8.9. Smoke Dampers Waived

(1) Except as provided in Sentence (2), the requirement for smoke dampers or combination smoke/*fire dampers* stated in Sentence 3.1.8.7.(2) is permitted to be waived for ducts

(a) that serve commercial cooking equipment,

(b) in which all inlet and outlet openings serve not more than one *fire compartment*,

(c) that penetrate a vertical *fire separation* referred to in Clause 3.3.1.7.(1)(b) or in Sentence 3.3.3.5.(4) or 3.3.4.11.(4), provided

(i) the movement of air is continuous, and

(ii) the configuration of the air-handling system prevents the recirculation of exhaust or return air under fire emergency conditions, or

(d) that penetrate a vertical *fire separation* not required to have a *fire-resistance rating* and located within the *fire compartment* required in Sentence 3.3.3.5.(2).

(2) The requirement for smoke dampers or combination smoke/*fire dampers* stated in Sentence 3.1.8.7.(2) is permitted to be waived for *noncombustible* branch ducts having a melting point above 760°C that penetrate a *fire separation*

(a) provided the ducts

(i) have a cross-sectional area not more than 0.013m^2 and serve only *air-conditioning* units or combined *air-conditioning* and heating units discharging air not more than 1.2 m above the floor,

(ii) extend not less than 500 mm inside *exhaust duct* risers that are under negative pressure and in which the airflow is upward as required by Article 3.6.3.4., or

(iii) are required to function as part of an air handling system used to provide make-up air in accordance with Sentence 3.2.6.2.(6), or any other system used to limit smoke movement, or

(b) where the *fire separation* separates a *vertical service space* from the remainder of the *building,* provided each individual duct exhausts directly to the outdoors at the top of the *vertical service space*.

62. Article 3.1.8.12. of Division B is amended by adding the following Sentence:

(4) In elementary and secondary schools, a door assembly conforming to Articles 9.10.13.2. and 9.10.13.3. is permitted to be used as a *closure* in a *fire separation* having a *fire-resistance rating* of 30 min.

63. Article 3.1.8.13. of Division B is revoked and the following substituted:

3.1.8.13. Self-closing Devices

(1) Except as permitted by Sentences (3) to (5) and 3.3.3.2.(5), every door in a *fire separation*, other than doors to freight elevators and dumbwaiters, shall be equipped with a self-closing device designed to return the door to the closed position after each use.

(2) Reserved.

(3) In a *building* that is not more than 3 *storeys* in *building height*, a self-closing device is not required on a door that is located between a classroom and a corridor providing *access to exit* from the classroom, except that a self-closing device is required on a door between a *hazardous classroom* and the corridor in an elementary or secondary school.

(4) In a *building* that is not more than 3 *storeys* in *building height*, a self-closing device is not required on a door between a public corridor and an adjacent room or *suite* of *business and personal services occupancy* if the door is not located in

(a) a dead-end portion of the corridor, or

(b) a corridor that serves a *hotel*.

(5) Within a *fire compartment* in a hospital or long-term care home that complies with the requirements of Article 3.3.3.5., a self-closing device is not required on a door that is located between

(a) a patient's or resident's sleeping room and a corridor serving the patient's or resident's sleeping room, or

(b) a patient's or resident's sleeping room and an adjacent room that serves the patient's or resident's sleeping room.

64. (1) Sentence 3.1.8.14.(3) of Division B is revoked and the following substituted:

(3) Where the *building* is provided with a fire alarm system, a hold-open device permitted by Sentence (1) shall release upon a signal from a *smoke detector* connected to the fire alarm system and located as described in CAN/ULC-S524, "Standard for Installation of Fire Alarm Systems," where the hold-open device is used on

(a) an *exit* door,

(b) a door opening into a *public corridor*,

(c) an egress door referred to in Sentence 3.4.2.4.(2),

(d) a *closure* serving an *assembly, care, care and treatment, detention*, or *residential occupancy*,

(e) a door in a *fire separation* referred to in Clause 3.3.1.7.(1)(b) or Sentence 3.3.3.5.(4) or 3.3.4.11.(4), or

(f) a door required to function as part of a smoke control system.

(2) Sentence 3.1.8.14.(6) of Division B is revoked and the following substituted:

(6) A hold-open device used on a door located between a corridor used by the public and an adjacent sleeping room in a *care and treatment occupancy* need not release automatically as stated in Sentence (2).

65. Sentence 3.1.8.15.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentence 3.3.3.2.(5) and Article 3.3.3.5., a swing-type door in a *fire separation* shall be equipped with a positive latching mechanism designed to hold the door in the closed position after each use.

66. Sentence 3.1.8.16.(2) of Division B is revoked and the following substituted:

(2) Wired glass assemblies permitted by Sentence (1) and described in MMAH Supplementary Standard SB-2, "Fire Performance Ratings", are permitted to be used as closures in vertical *fire separations* without being tested in accordance with Sentence 3.1.8.4.(1).

67. Subsection 3.1.8. of Division B is amended by adding the following Article:

3.1.8.20. Sprinkler Protected Glazed Wall Assembly

(1) A sprinkler protected glazed wall assembly shall be constructed in accordance with the requirements of CAN/ULC-S136, "Standard Method of Fire Test of Sprinkler Protected Window Systems".

(2) A sprinkler protected glazed wall assembly shall not be installed in

(a) *fire separations* requiring a *fire-resistance rating* of more than 2 h,

(b) a *firewall*,

(c) a *high-hazard industrial occupancy*, or

(d) any part of an *exit* serving

(i) a *floor area* subject to the requirements of Subsection 3.2.6.,

(ii) a *care occupancy*,

(iii) a *care and treatment occupancy*,

(iv) a *detention occupancy*, or

(v) a *residential occupancy*.

(3) Where a sprinkler protected glazed wall assembly is installed in an *exit fire separation* permitted in Sentence (2)

(a) the *building* shall be *sprinklered* throughout, and

(b) the *exits* protected with the sprinkler protected glazed wall assemblies shall not comprise more than one-half of the required number of *exits* from any *floor area*.

68. (1) Sentence 3.1.9.4.(3) is revoked and the following substituted:

(3) Except as permitted by Sentences (4), (5), (7), (8) and (9), *combustible* piping shall not be used in a drain, waste and vent piping system if any part of that system penetrates

(a) a *fire separation* required to have a *fire-resistance rating*, or

(b) a membrane that forms part of an assembly required to have a *fire-resistance rating*.

(2) Article 3.1.9.4. of Division B is amended by adding the following Sentence:

(9) *Combustible* piping not more than 25 mm in diameter containing chlorine gas is permitted to penetrate a *fire separation* between a chlorine gas *service room* built in conjunction with a *public pool* or *public spa* and the remainder of the *building*, provided the piping is sealed at the penetration by a *fire stop* in conformance with Clause 3.1.9.1.(1)(a).

69. Article 3.1.9.5. of Division B is revoked and the following substituted:

3.1.9.5. Openings through a Membrane Ceiling

(1) A membrane ceiling forming part of an assembly assigned a *fire-resistance rating* on the basis of MMAH Supplementary Standard SB-2, “Fire Performance Ratings”, is permitted to be penetrated by openings leading into ducts within the ceiling space, provided

(a) the ducts are sheet steel, and

(b) the number of openings and their protection conform to the requirements of MMAH Supplementary Standard SB-2, “Fire-Performance Ratings".

(2) *Fire stop flaps* in ceiling membranes required in Sentence (1) shall conform to CAN/ULC-S112.2, “Standard Method of Fire Test of Ceiling Firestop Flap Assemblies”.

70. Sentence 3.1.10.2.(4) of Division B is revoked and the following substituted:

(4) A *firewall* permitted to have a *fire-resistance rating* not more than 2 h need not be constructed of masonry or concrete, provided

(a) the assembly providing the *fire-resistance rating* is protected against damage that would compromise the integrity of the assembly,

(b) the design conforms to Article 4.1.5.17.,

(c) the level of performance of the *firewall* is not less than of masonry or concrete in the areas of

(i) performance during fire conditions,

(ii) mechanical damage during the normal use of the *building*, and

(iii) resistance to damage from moisture,

(d) the *firewall* separates *buildings* or *buildings* with *floor areas* that do not contain

(i) a Group B, Division 1 *major occupancy*, or

(ii) a Group B, Division 2 *major occupancy*, and

(e) the *firewall* does not separate a *building* regulated by the provisions of Subsection 3.2.6. or a *building* within the scope of Article 3.2.2.51. or 3.2.2.60. from another *building* unless the *buildings* on both sides of the *firewall* are *sprinklered*. (See Note A-3.1.10.2.(4).)

71. Sentence 3.1.11.5.(4) of Division B is revoked and the following substituted:

(4) Except for crawl spaces conforming to Sentence 3.1.11.6.(1) and except as provided in Sentence (5), in *buildings* or parts thereof conforming to Article 3.2.2.48., 3.2.2.57. or 3.2.2.93., horizontal concealed spaces within a floor assembly or roof assembly of *encapsulated mass timber construction* shall be separated by construction conforming to Article 3.1.11.7. into compartments that are

(a) not more than 600m^2 in area with no dimension more than 60 m, if the exposed construction materials within the space have a flame-spread rating not more than 25, and

(b) not more than 300 m^2 in area with no dimension more than 20 m, if the exposed construction materials within the space have a *flame-spread rating* more than 25. (See Note A-3.1.11.5.(3) and (4))

72. Sentence 3.1.12.1.(3) of Division B is revoked and the following substituted:

(3) A material, assembly, or structural member is permitted to be assigned a *flame-spread rating* and smoke developed classification on the basis of MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

73. Sentence 3.1.13.1.(1) of Division B is revoked and the following substituted:

(1) Except as otherwise provided in this Subsection, interior finishes, furnishings and decorative materials shall conform to

(a) the Fire Code made under the *Fire Protection and Prevention Act, 1997*, or

(b) Section 2.3. of Division B of the CCBFC NRC-CONST-56437E, "National Fire Code of Canada", in the absence of regulations referred to in Clause (a).

74. Article 3.1.13.3. of Division B is amended by adding the following Sentence:

(2) *Plumbing fixtures* shall have a *flame-spread rating* not more than 200.

75. Sentence 3.1.13.6.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentences (2) and (3), the *flame-spread rating* shall be not more than 75 for the interior wall finish of

(a) a *public corridor*,

(b) a corridor used by the public in

(i) an *assembly occupancy*, or

(ii) a *care*, *care and treatment* or *detention occupancy*,

(c) a corridor serving classrooms, or

(d) a corridor serving sleeping rooms in a *care*, *care and treatment* or *detention occupancy*.

76. (1) Sentence 3.1.13.7.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentences (2) to (4), the interior wall, ceiling and floor finishes in a *building* regulated by the provisions of Subsection 3.2.6. shall conform to the *flame-spread rating* requirements in Articles 3.1.13.2. to 3.1.13.6. and 3.1.13.11. and to the *flame-spread rating* and smoke developed classification values in Table 3.1.13.7.

(2) Article 3.1.13.7. of Division B is amended by adding the following Sentences:

(5) Except as permitted in Sentences (6) to (8), *plumbing fixtures* in a *building* regulated by the provisions of Subsection 3.2.6. shall have a smoke developed classification not more than 300.

(6) A *plumbing fixture* that is not located in a Group B *occupancy* need not comply with Sentence (5) if the *building* is *sprinklered* throughout.

(7) A *plumbing fixture* may have a smoke developed classification more than 300 but not more than 500 if

(a) it is in a room where the wall surfaces have a smoke developed classification not more than 200, and

(b) it is located in

(i) a Group C *occupancy*, or

(ii) a Group B *occupancy* and the *building* is *sprinklered* throughout.

(8) A therapeutic bathing system in a Group B *occupancy* need not comply with Sentence (5) if the room in which it is located

(a) does not open directly into patients' or residents' sleeping rooms, and

(b) is *sprinklered*.

77. Sentence 3.1.15.2.(5) of Division is revoked and the following substituted:

(5) Where *buildings* or parts thereof conforming to Article 3.2.2.48., 3.2.2.51., 3.2.2.57., 3.2.2.60. or 3.2.2.93. include non-contiguous roof assemblies at different elevations, the roof coverings referred to in Sentences (3) and (4) are permitted to be evaluated separately to determine the roof covering classification required.

78. Table 3.1.17.1. of Division B is revoked and the following substituted:

Table 3.1.17.1.
Occupant Load

Forming Part of Article 3.1.17.1.

Type of Use of *Floor Area* or Part Thereof	Area per person, m^2
Assembly uses	
space with fixed seats	(1)
space with non-fixed seats	0.75
stages for theatrical performances	0.75
space with non-fixed seats and tables	0.95
standing space	0.40
stadia and grandstands	0.60
bowling alleys, pool and billiard rooms	9.30
classrooms	1.85
school shops and vocational rooms	9.30
reading or writing rooms or lounges	1.85
dining, beverage and cafeteria space	1.20
laboratories in schools	4.60
Care, Care and treatment or detention uses	
B-1: detention quarters	11.60
B-2: treatment and sleeping areas	10.00
B-3: sleeping room areas	10.00
(See also Article 3.7.1.3.)	
Residential uses	
dwelling units	(2)
dormitories	4.60
Business and personal services uses	
personal services shops	4.60
offices	9.30
Mercantile uses	3.70
basements and *first storeys*	
second *storeys* having a principal entrance from a pedestrian thoroughfare or a parking area	3.70
other *storeys*	5.60
Industrial uses	
manufacturing or process rooms	4.60
storage garages	46.00
storage spaces (warehouse)	28.00
aircraft hangars	46.00
Other uses	
cleaning and repair goods	4.60
kitchens	9.30
storage	46.00
public corridors intended for *occupancies* in addition to pedestrian travel	3.70(3)

Notes to Table 3.1.17.1.:

(1) See Clause 3.1.17.1.(1)(a).

(2) See Clause 3.1.17.1.(1)(b).

(3) See Note A-3.3.

79. Subsection 3.1.17. of Division B is amended by adding the following Article:

3.1.17.2. Public Pools

(1) The *occupant load* of a *public pool*, except a *wave action pool*, shall be determined by the following formula:

$$\textbf{\textit{occupant load}} = \frac{\mathbf{D}}{\mathbf{2.5}} + \frac{\mathbf{S}}{\mathbf{1.4}}$$

where,

D = the water surface area in square metres of the part of the pool that is deeper than 1 350 mm; and

S = the water surface area in square metres of the part of the pool that is 1 350 mm in depth or less.

(2) The *occupant load* of a wave action pool shall be determined by the following formula:

$$\textbf{\textit{occupant load}} = \frac{\mathbf{D}}{\mathbf{2.5}} + \frac{\mathbf{S}}{\mathbf{1.1}}$$

where,

D = the water surface area in square metres of the part of the pool where the still water depth is greater than 1 000 mm; and

S = the water surface area in square metres of the part of the pool where the still water depth is 1 000 mm or less.

80. Subsection 3.1.18. is revoked and the following substituted:

3.1.18. Reserved

3.1.19. Drainage and Grades

3.1.19.1. Drainage

(1) The *building* shall be located and the *building* site graded so that water will not accumulate at or near the *building* and will not adversely affect any adjacent properties.

3.1.20. Above Ground Electrical Conductors

3.1.20.1. Clearance to Buildings

(1) A *building* shall not be located beneath existing above ground electrical conductors.

(2) The horizontal clearance measured from the maximum conductor swing to the *building*, including balconies, fire escapes, flat roofs or other accessible projections beyond the face of the *building*, shall

(a) be not less than 1 m, for electrical conductors carrying voltages 750 V or less, except where necessary to connect to the electrical wiring of the *building*,

(b) be not less than 3 m, for electrical conductors carrying voltages greater than 750 V but not exceeding 46 kV,

(c) be not less than 3.7 m, for electrical conductors carrying voltages greater than 46 kV but not exceeding 69 kV, or

(d) conform to the requirements of CAN/CSA-C22.3 No.1, "Overhead Systems", for electrical conductors carrying voltages greater than 69 kV.

(3) Where the swing of an above ground electrical conductor not owned or operated by an electrical supply authority is not known, a swing of not less than 1.8 m shall be used.

(4) Sentences (1) to (3) do not apply to a *building* containing electrical equipment and electrical installations used exclusively in the generation, transformation or transmission of electrical power or energy intended for sale or distribution to the public.

3.1.21. Glass in Guards

3.1.21.1. Glass

(1) Except as provided in Sentence 3.3.4.7.(2), glass in guards shall conform to MMAH Supplementary Standard SB-13, "Glass in Guards".

81. Sentence 3.2.1.4.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentence 3.2.2.47.(3), 3.2.2.49.(3), 3.2.2.50.(3), 3.2.2.52.(3), 3.2.2.53.(3), 3.2.2.54.(3), 3.2.2.55.(3) or 3.2.2.93.(3), a floor assembly immediately above a *basement* shall be constructed as a *fire separation* having a *fire-resistance rating* conforming to the requirements of Articles 3.2.2.20. to 3.2.2.93. for a floor assembly, but not less than 45 min

82. Article 3.2.1.6. of Division B is revoked and the following substituted:

3.2.1.6. Mezzanines

(1) The floor assembly of a *mezzanine* that is required to be considered as a *storey* in calculating the *building height* shall be constructed in conformance with the *fire separation* requirements for floor assemblies in Articles 3.2.2.20. to 3.2.2.93.

83. Article 3.2.2.2. of Division B is revoked and the following substituted:

3.2.2.2. Special and Unusual Structures

(1) A structure that cannot be identified with the characteristics of a *building* in Articles 3.2.2.20. to 3.2.2.93. shall be protected against fire spread and collapse in conformance with good fire protection engineering practice. (See Note A-3.2.2.2.(1)) (See also Notes A-3 and A-3.2.5.12.(1))

84. Article 3.2.2.4. of Division B is amended by adding the following Sentence:

(3) For the purposes of Sentences (1) and (2), a *retirement home* is deemed to be a separate *major occupancy.*

85. Article 3.2.2.5. of Division B is amended by adding the following Sentence:

(2) For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy.*

86. Articles 3.2.2.6. and 3.2.2.7. of Division B are revoked and the following substituted:

3.2.2.6. Multiple Major Occupancies

(1) Except as permitted by Articles 3.2.2.7. and 3.2.2.8., and Sentences 3.2.2.48.(4), 3.2.2.51.(5), 3.2.2.57.(3) and 3.2.2.60.(4) and 3.2.2.93.(5) to (7), in a *building* containing more than one *major occupancy*, the requirements of this Subsection for the most restricted *major occupancy* contained shall apply to the whole *building***.**

(2) For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy.*

(3) In a *building* or part thereof constructed in conformance with Article 3.2.2.48., 3.2.2.57. or 3.2.2.93. containing more than one *major occupancy*, the most restrictive encapsulation requirements of Article 3.1.6.4. and Table 3.2.2.93. for any *major occupancy* contained within a *storey* shall apply to the encapsulation required on the interior of a *public corridor* or *exit* within that *storey*.

3.2.2.7. Superimposed Major Occupancies

(1) Except as permitted in Article 3.2.2.8. and Sentences 3.2.2.18.(2), 3.2.2.48.(4), 3.2.2.51.(5), 3.2.2.57.(3), 3.2.2.60.(4) and 3.2.2.93.(5) to (7), in a *building* in which one *major occupancy* is located entirely above another *major occupancy*, the requirements in this Subsection for each portion of the *building* containing a *major occupancy* shall apply to that portion as if the entire *building* were of that *major occupancy*.

(2) If one *major occupancy* is located above another *major occupancy*, the *fire-resistance rating* of the floor assembly between the *major occupancies* shall be determined on the basis of the requirements of this Subsection for the lower *major occupancy*. (See also Article 3.1.3.1.)

(3) For the purposes of Sentences (1) and (2), a *retirement home* is deemed to be a separate *major occupancy.*

(4) In a *building* or part thereof constructed in conformance with Article 3.2.2.48., 3.2.2.57. or 3.2.2.93., if one *major occupancy* is located above another *major occupancy*

(a) the most restrictive encapsulation requirements of Article 3.1.6.4. and Table 3.2.2.93. for any *major occupancy* contained within the *building* shall apply to the encapsulation required on the interior of *vertical service spaces* and *exit* stairs, and

(b) the encapsulation requirements of Article 3.1.6.4. and Table 3.2.2.93. for a mass timber floor assembly between the *major occupancies* shall be determined on the basis of the requirements for

(i) the upper *major occupancy* for the encapsulation of the upper surface of the mass timber floor assembly, and

(ii) the lower *major occupancy* for the encapsulation of the underside of the mass timber floor assembly.

87. Article 3.2.2.8. of Division B is amended by adding the following Sentences:

(2) For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy*.

(3) A helicopter landing area on the roof of a *building* need not be considered a *major occupancy* for purposes of Subsection 3.2.2. where such landing area is not more than 10% of the area of the roof.

88. Articles 3.2.2.11. to 3.2.2.13. of Division B are revoked and the following substituted:

3.2.2.11. Exterior Balconies

(1) Except as provided in Sentence (2), an exterior balcony shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.93., as applicable to the *occupancy* classification of the *building*.

(2) The floor assembly of an exterior balcony in a *building* or part thereof conforming to Article 3.2.2.48., 3.2.2.57. or 3.2.2.93. shall

(a) be of *noncombustible construction*, or

(b) be constructed in accordance with Article 3.1.6.3., but need not comply with Sentence 3.1.6.4.(1).

3.2.2.12. Exterior Passageways

(1) An elevated exterior passageway used as part of a *means of egress* shall conform to the requirements of Articles 3.2.2.20. to 3.2.2.93. for *mezzanines.*

3.2.2.13. Occupancy on Roof

(1) A portion of a roof that supports an *occupancy* shall be constructed in conformance with the *fire separation* requirements of Articles 3.2.2.20. to 3.2.2.93. for floor assemblies.

89.(1) Sentence 3.2.2.14.(1) of Division B is revoked and the following substituted:

(1) A rooftop enclosure for elevator machinery or for a *service room* shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.93.

(2) Sentence 3.2.2.14.(3) of Division B is revoked and the following substituted:

(3) A rooftop enclosure for a stairway shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.93.

90.Sentence 3.2.2.16.(1) of Division B is revoked and the following substituted:

(1) Unless otherwise permitted by Articles 3.2.2.20. to 3.2.2.93., a roof assembly in a *building* up to 2 *storeys* in *building height* is permitted to be of *heavy timber construction* regardless of *building area* or type of construction required, provided the *building* is *sprinklered* throughout.

91. Articles 3.2.2.18. and 3.2.2.19. of Division B are revoked and the following substituted:

3.2.2.18. Automatic Sprinkler System Required

(1) Except as permitted by Sentence (2), an automatic sprinkler system conforming to the requirements of Articles 3.2.4.7., 3.2.4.8., 3.2.4.9. and 3.2.5.12. shall be installed throughout a *building* regulated by one or more of Articles 3.2.2.20., 3.2.2.21., 3.2.2.22., 3.2.2.23., 3.2.2.24., 3.2.2.26., 3.2.2.27., 3.2.2.29., 3.2.2.31., 3.2.2.33., 3.2.2.36., 3.2.2.37., 3.2.2.38., 3.2.2.39., 3.2.2.40., 3.2.2.41., 3.2.2.42., 3.2.2.43., 3.2.2.44., 3.2.2.45., 3.2.2.46., 3.2.2.47., 3.2.2.48., 3.2.2.49., 3.2.2.51., 3.2.2.52., 3.2.2.55., 3.2.2.55A., 3.2.2.55B., 3.2.2.55C., 3.2.2.55D., 3.2.2.55E., 3.2.2.56., 3.2.2.57., 3.2.2.59., 3.2.2.60., 3.2.2.61., 3.2.2.63., 3.2.2.65., 3.2.2.66., 3.2.2.67., 3.2.2.69., 3.2.2.71., 3.2.2.72., 3.2.2.73., 3.2.2.74., 3.2.2.76., 3.2.2.77., 3.2.2.79., 3.2.2.81., 3.2.2.82., 3.2.2.84., 3.2.2.86., 3.2.2.88., 3.2.2.90. and 3.2.2.93.

(2) If a *storey* in a *building* or a *floor area* is required to have an automatic sprinkler system installed throughout in accordance with one or more of Articles 3.2.2.20. to 3.2.2.93. or Section 3.3., the automatic sprinkler system shall also be installed throughout all lower *storeys* in the *building* notwithstanding permission in Articles 3.2.2.20. to 3.2.2.93. to construct one or more of those *storeys* without installing automatic sprinkler protection. (See Note A-3.2.2.18.(2))

3.2.2.19. Buildings Containing Impeded Egress Zones

(1) A *building* containing an *impeded egress zone* and conforming to the appropriate requirements of Articles 3.2.2.20. to 3.2.2.93. is not required to conform to the requirements of Articles 3.2.2.36. and 3.2.2.37. for a Group B, Division 1 *major occupancy* provided

(a) the *building* is *sprinklered* throughout,

(b) it is not more than 1 *storey* in *building height*,

(c) it does not include

(i) a *contained use area*,

(ii) sleeping accommodation,

(iii) a *high-hazard industrial occupancy*, or

(iv) a *mercantile occupancy*,

(d) the *building area* is not more than 6 400 m^2 if the *building* includes a *medium-hazard industrial occupancy*,

(e) the *impeded egress zone* does not extend beyond the boundaries of the *fire compartment* in which it is located, and

(f) the *occupant load* of the *impeded egress zone* is not more than 100.

92. Sentence 3.2.2.23.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Articles 3.2.2.24. to 3.2.2.28. and 3.2.2.93., a *building* classified as Group A, Division 2 shall conform to Sentence (2).

93. Sentence 3.2.2.42.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Articles 3.2.2.43. to 3.2.2.46. and 3.2.2.93., a *building* classified as Group B, Division 3 shall conform to Sentence (2).

94. Sentence 3.2.2.47.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Articles 3.2.2.48. to 3.2.2.55. and 3.2.2.93., a *building* classified as Group C, other than a *retirement home*, shall conform to Sentence (2).

95. Article 3.2.2.48. of Division B is revoked and the following substituted:

3.2.2.48. Group C, up to 12 Storeys, Sprinklered, Encapsulated Mass Timber Construction

(1) A *building* classified as Group C, other than a *retirement home*, is permitted to conform to Sentence (2), provided

(a) it is *sprinklered* throughout,

(b) it is not more than 12 *storeys* in *building height*,

(c) it has a height not more than 42 m measured between the floor of the *first storey* and the uppermost floor level that does not serve a rooftop enclosure for elevator machinery, a stairway or a *service room* used only for service to the *building*, and

(d) it has a *building area* not more than 6 000 m^2.

(2) Except as provided in Article 3.2.2.16., the *building* referred to in Sentence (1) is permitted to be of *encapsulated mass timber construction* or *noncombustible construction* used singly or in combination, and

(a) except as provided in Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

(b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

(c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, that are entirely contained within these *dwelling units* shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

(4) Group A, Division 2 *major occupancies*, Group E *major occupancies* and *storage garages* located in a *building* or part of a *building* within the scope of this Article are permitted to be constructed in accordance with this Article, provided

(a) the Group A, Division 2 *major occupancy* is located below the fourth *storey*,

(b) the Group E *major occupancy* is located below the third *storey*, and

(c) the *storage garage* is located below the fifth *storey.* (See also Article 4.4.2.1.) (See Note A-3.2.2.48.(4), 3.2.2.57.(3) and 3.2.2.93.(5) to (7))

96. Sentence 3.2.2.49.(1) of Division B is revoked and the following substituted:

(1) A *building* classified as Group C, other than a *retirement home*, is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

(b) it is not more than 6 *storeys* in *building height*, and

(c) it has a *building area*

(i) that is not limited if the *building* is not more than 2 *storeys* in *building height*,

(ii) not more than 12 000 m^2 if 3 *storeys* in *building height*,

(iii) not more than 9 000 m^2 if 4 *storeys* in *building height*,

(iv) not more than 7 200 m^2 if 5 *storeys* in *building height*, or

(v) not more than 6 000 m^2 if 6 *storeys* in *building height*.

97. Article 3.2.2.50. of Division B is revoked and the following substituted:

3.2.2.50. Group C, up to 4 Storeys, Noncombustible Construction

(1) A *building* classified as Group C, other than a *retirement home*, is permitted to conform to Sentence (2) provided

(a) it is not more than

(i) 3 *storeys* in *building height*, or

(ii) 4 *storeys* in *building height* provided there is not more than one *dwelling unit* above another *dwelling unit*, and vertical *fire separations* of adjacent *dwelling units* conform to Sentence (4), and

(b) it has a *building area* not more than the value in Table 3.2.2.50.

Table 3.2.2.50.
Maximum Building Area, Group C, up to 4 Storeys
Forming Part of Sentence 3.2.2.50.(1)

No. of *Storeys*	Maximum Area, m^2		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	not limited	not limited	not limited
2	6 000	not limited	not limited
3	4 000	5 000	6 000
4	3 000	3 750	4 500

(2) The *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

(a) except as permitted by Sentence (3), floor assemblies shall *be fire separations* with a *fire-resistance rating* not less than 1 h,

(b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

(c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and

(d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a *building* that contains *dwelling units* that have more than 1 *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

(4) The *dwelling units* described in Subclause (1)(a)(ii) shall be separated by continuous vertical *fire separations* that extend through all *storeys* and *service spaces* of the separated portions.

98.(1) The heading to Article 3.2.2.51. of Division B is revoked and the following substituted:

3.2.2.51. Group C, up to 6 Storeys, Sprinklered, Combustible Construction

(2) Sentence 3.2.2.51.(1) of Division B is revoked and the following substituted:

(1) A *building* classified as Group C, other than a *retirement home*, is permitted to conform to Sentence (2), provided

(a) it is *sprinklered* throughout,

(b) it is not more than 6 *storeys* in building *height*,

(c) it has a height not more than 18 m measured between the floor of the *first storey* and the uppermost floor level that does not serve a rooftop enclosure for elevator machinery, a stairway or a *service room* used only for service to the *building*, and

(d) it has a *building area* not more than

(i) 9 000 m^2 if 1 *storey* in *building height*,

(ii) 4 500 m^2 if 2 *storeys* in *building height*,

(iii) 3 000 m^2 if 3 *storeys* in *building height*,

(iv) 2 250 m^2 if 4 *storeys* in *building height*,

(v) 1 800 m^2 if 5 *storeys* in *building height*, or

(vi) 1 500 m^2 if 6 *storeys* in *building height*.

99. Sentence 3.2.2.52.(1) of Division B is revoked and the following substituted:

(1) A *building* classified as Group C, other than a *retirement home*, is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

(b) it is not more than 4 *storeys* in *building height*, and

(c) it has a *building area* not more than

(i) 7 200 m^2 if 1 *storey* in *building height*,

(ii) 3 600 m^2 if 2 *storeys* in *building height*,

(iii) 2 400 m^2 if 3 *storeys* in *building height*, or

(iv) 1 800 m^2 if 4 *storeys* in *building height*.

100. Sentence 3.2.2.53.(1), other than Table 3.2.2.53., of Division B is revoked and the following substituted:

(1) A *building* classified as Group C, other than a *retirement home*, is permitted to conform to Sentence (2) provided

(a) it is not more than 3 *storeys* in *building height*, and

(b) it has a *building area* not more than the value in Table 3.2.2.53.

101. Sentence 3.2.2.54.(1), other than Table 3.2.2.54., of Division B is revoked and the following substituted:

(1) A *building* classified as Group C, other than a *retirement home*, is permitted to conform to Sentence (2) provided

(a) it is not more than 3 *storeys* in *building height*, and

(b) it has a *building area* not more than the value in Table 3.2.2.54.

102. Sentence 3.2.2.55.(1) of Division B is revoked and the following substituted:

(1) A *building* classified as Group C, other than a *retirement home*, is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

(b) it is not more than 3 *storeys* in *building height*, and

(c) it has a *building area* not more than

(i) 5 400 m^2 if 1 *storey* in *building height*,

(ii) 2 700 m^2 if 2 *storeys* in *building height*, or

(iii) 1 800 m^2 if 3 *storeys* in *building height*.

103. Subsection 3.2.2. of Division B is amended by adding the following Articles:

3.2.2.55A. Group C, Retirement Home, Any Height, Any Area, Sprinklered

(1) Except as permitted by Articles 3.2.2.55B. to 3.2.2.55E., a *retirement home* shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be s*prinklered* throughout,

(b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

(c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

(d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.55B. Group C, Retirement Home, up to 4 Storeys, Sprinklered, Increased Area

(1) A *retirement home* is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

(b) it is not more than 4 *storeys* in *building height*, and

(c) it has a *building area* not more than

(i) 12 000 m^2 if 1 *storey* in *building height*,

(ii) 6 000 m^2 if 2 *storeys* in *building height*,

(iii) 4 000 m^2 if 3 *storeys* in *building height*, or

(iv) 3 000 m^2 if 4 *storeys* in *building height*.

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

(a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

(b) *mezzanines* shall have, if of *combustible construction*, *a fire-resistance rating* not less than 1 h, and

(c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.55C. Group C, Retirement Home, up to 4 Storeys, Sprinklered

(1) A *retirement home* is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

(b) it is not more than 4 *storeys* in *building height*, and

(c) it has a *building area* not more than

(i) 6 600 m^2 if 1 *storey* in *building height*,

(ii) 3 300 m^2 if 2 *storeys* in *building height*,

(iii) 2 200 m^2 if 3 *storeys* in *building height*, or

(iv) 1 650 m^2 if 4 *storeys* in *building height*.

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

(a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

(b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 1 h, and

(c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.55D. Group C, Retirement Home, up to 3 Storeys, Sprinklered, Noncombustible Construction

(1) A *retirement home* is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

(b) it is not more than 3 *storeys* in *building height*, and

(c) it has a *building area* that is

(i) not limited if the *building* is not more than 1 *storey in building height*,

(ii) not more than 12 000 m^2 if 2 *storeys* in *building height*, or

(iii) not more than 8 000 m^2 if 3 *storeys* in *building height*.

(2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) is required to be of *noncombustible construction*, and

(a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

(b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

(c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.55E. Group C, Retirement Home, up to 3 Storeys, Sprinklered, Combustible Construction

(1) A *retirement home* is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

(b) it is not more than 3 *storeys* in *building height*, and

(c) it has a *building area* not more than

(i) 4 800 m^2 if 1 *storey* in *building height*,

(ii) 2 400 m^2 if 2 *storeys* in *building height*, or

(iii) 1 600 m^2 if 3 *storeys* in *building height*.

(2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

(a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

(b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

(c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

104. Sentence 3.2.2.56.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Articles 3.2.2.57. to 3.2.2.65. and 3.2.2.93., a *building* classified as Group D shall conform to Sentence (2).

105. (1) The heading to Article 3.2.2.57. is revoked and the following substituted:

3.2.2.57. Group D, up to 12 Storeys, Sprinklered, Encapsulated Mass Timber Construction

(2) Sentence 3.2.2.57.(3) of Division B is revoked and the following substituted:

(3) Group A, Division 2 *major occupancies*, Group E *major occupancies*, Group F, Division 2 and 3 *major occupancies* and *storage garages* located in a *building* or part thereof within the scope of this Article are permitted to be constructed in accordance with this Article, provided

(a) the Group A, Division 2 *major occupancy* is located below the *fourth storey*,

(b) the Group E *major occupancy* and Group F, Division 2 or 3 *major occupancy* are located below the third *storey*, and

(c) the *storage garage* is located below the fifth *storey*. (See also Article 4.4.2.1. (See Note A-3.2.2.48.(4), 3.2.2.57.(3), and 3.2.2.93.(5) to (7))

106. Sentence 3.2.2.66.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Articles 3.2.2.67. to 3.2.2.71. and 3.2.2.93., a *building* classified as Group E shall conform to Sentence (2).

107. Sentence 3.2.2.76.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Articles 3.2.2.77. to 3.2.2.81. and 3.2.2.93., a *building* classified as Group F, Division 2 shall conform to Sentence (2).

108. Sentence 3.2.2.82.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Articles 3.2.2.83. to 3.2.2.93., a *building* classified as Group F, Division 3 shall conform to Sentence (2).

109. Subsection 3.2.2. of Division B is amended by adding the following Article:

3.2.2.93. Encapsulated Mass Timber Construction, Various Occupancies, Heights and Areas, Sprinklered

(1) A *building* that is classified as Group A, Division 2, Group B, Division 3, Group C other than a *retirement home*, Group D, Group E, or Group F, Division 2 or 3, is permitted to conform to Sentence (2) provided

(a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

(b) the *building* has a *building height* not exceeding the number of *storeys* shown in Table 3.2.2.93. for the applicable *major occupancy* and minimum *encapsulation rating*,

(c) the *building* has a maximum height that conforms to the value shown in Table 3.2.2.93. for the applicable *major occupancy* and minimum *encapsulation rating* that is measured between the floor of the *first storey* and the uppermost floor level that does not serve a rooftop enclosure for elevator machinery, a stairway or a *service room* used only for service to the *building*,

(d) the *building* has a maximum *building area* that conforms to the value shown in Table 3.2.2.93. for the applicable *major occupancy*, and

(e) except as provided in Sentences 3.1.6.3.(4) and 3.1.6.7.(1) and Article 3.1.6.4., the *encapsulation rating* conforms to the value shown in Table 3.2.2.93. for the applicable *major occupancy* and maximum *building height*. (See Note A-3.2.2.93.(1) and Table 3.2.2.93. See also Articles 3.2.2.48. and 3.2.2.57.)

(2) Except as provided in Article 3.2.2.16., the *building* referred to in Sentence (1) is permitted to be of *encapsulated mass timber construction* or *noncombustible construction* used singly or in combination, and

(a) except as provided in Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

(b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

(c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) In a *building* classified as a Group C *major occupancy* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, that are entirely contained within these *dwelling units* shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

(4) In *buildings* referred to in Sentence (1) where the roof assembly of an *exit* stairway or *vertical service space* used as an elevator hoistway has a height greater than 55 m measured from *grade* to the highest point of the roof assembly, the enclosure for the stairway or hoistway shall be of *encapsulated mass timber construction* or constructed of concrete.

(5) Group E *major occupancies* and *storage garages* located in a *building* or part thereof within the scope of this Article are permitted to be constructed in accordance with this Article and the corresponding Group A, Division 2, Group C, or Group D *major occupancy* requirements contained in Table 3.2.2.93., provided

(a) the Group E *major occupancy* is located below the third *storey*, and

(b) the *storage garage* is located below the fifth *storey.* (See also Article 4.4.2.1.) (See Note A-3.2.2.48.(4), 3.2.2.57.(3) and 3.2.2.93.(5) to (7))

(6) Group A, Division 2 *major occupancies* located in a *building* or part of a *building* within the scope of this Article are permitted to be constructed in accordance with this Article and the corresponding Group C, or Group D *major occupancy* requirements contained in Table 3.2.2.93., provided they are located below the fourth *storey*. (See Note A-3.2.2.48.(4), 3.2.2.57.(3) and 3.2.2.93.(5) to (7))

(7) Group F, Division 2 and 3 *major occupancies* located in a *building* or part thereof within the scope of this Article are permitted to be constructed in accordance with this Article and the corresponding Group D *major occupancy* requirements contained in Table 3.2.2.93., provided they are located below the third *storey*. (See Note A-3.2.2.48.(4), 3.2.2.57.(3) and 3.2.2.93.(5) to (7))

Table 3.2.2.93.
Encapsulated Mass Timber Construction, Various Occupancies, Heights and Areas, Sprinklered[(1)(2)]
Forming Part of Sentences 3.2.2.93.(1), (5), (6) and (7)

Major Occupancy	Maximum *Building Height*, *Storeys*	Maximum Height, m	Maximum *Building Area*, m^2	Minimum *Encapsulation Rating*, min
Group A, Division 2	18	76	7200	70
	12	51		50
	6	26		0
Group B, Division 3	10	42	8000	70
	6	26		50
	4	17		0
Group C	18	76	6000	70
	8	34		0
Group D	18	76	7200	70
	9	38		0
Group E	12	51	6000	70
	8	34		50
	6	26		0
Group F, Division 2	10	42	4500	70
	7	30		50

	5	21		0
Group F, Division 3	12	51	7200	70
	8	34		50
	5	21		0

Notes to Table 3.2.2.93.:

(1) See Sentences (5) to (7) and Articles 3.2.2.4. to 3.2.2.8. for information pertaining to multiple *major occupancies*.

(2) Linear interpolation is not permitted in using Table 3.2.2.93.

110. (1) Sentences 3.2.3.1.(7) and (8) of Division B are revoked and the following substituted:

(7) For the purpose of Sentence (6), "single room or space" means a room or space that

(a) is not divided by a wall,

(b) is divided by

(i) a wall that extends less than 1.5 m from the interior face of the exterior wall, or

(ii) a partial height wall, or

(c) consists of two or more stacked spaces that are on the same *storey*.

(8) If a *building* has any *storey* that is not *sprinklered* and firefighting facilities cannot reach it within 10 min of the alarm being received, the required *limiting distance* shall be doubled.

(2) Article 3.2.3.1. of Division B is amended by adding the following Sentences:

(11) The required *limiting distance* for an *exposing building face* is permitted to be measured to a point beyond the property line that is not the centre line of a *street*, lane or public thoroughfare if

(a) the owners of the properties on which the *limiting distance* is measured and the *municipality* enter into an agreement in which such owners agree that

(i) each owner covenants that, for the benefit of land owned by the other covenantors, the owner will not *construct* a *building* on his or her property unless the *limiting distance* for *exposing building faces*

in respect of the proposed *construction* is measured in accordance with the agreement,

(ii) the covenants contained in the agreement are intended to run with the lands, and the agreement shall be binding on the parties and their respective heirs, executors, administrators, successors and assigns,

(iii) the agreement shall not be amended or deleted from title without the consent of the *municipality*, and

(iv) they will comply with such other conditions as the *municipality* considers necessary, including indemnification of the *municipality* by the other parties, and

(b) the agreement referred to in Clause (a) is registered against the title of the properties to which it applies.

(12) Where an agreement referred to in Sentence (11) is registered against the title of a property, the *limiting distance* for *exposing building faces* shall be measured to the point referred to in the agreement.

111. Article 3.2.3.4. of Division B is revoked and the following substituted:

3.2.3.4. Reserved

112. Note (2) to Table 3.2.3.7. of Division B is revoked and the following substituted:

(2) The *cladding* on *buildings* or parts thereof conforming to Article 3.2.2.48., 3.2.2.57. or 3.2.2.93. shall conform to Article 3.1.6.9. or be *noncombustible.*

113. Sentence 3.2.3.9.(1) of Division B is revoked and the following substituted:

(1) Structural members, including beams, columns and arches, placed wholly or partly outside the exterior face of a *building* and are less than 3 m from the property line or the centre line of a public thoroughfare shall be protected from exterior fire exposure by fire protection having a *fire-resistance rating* not less than that required for their protection from interior fire exposure, as stated in Articles 3.2.2.20. to 3.2.2.93., but not less than 1 h.

114. Sentence 3.2.3.12.(1) of Division B is revoked and the following substituted:

(1) Except as required by Sentence 3.2.3.7.(5), the maximum area of *unprotected openings* in any *exposing building face* of a *building* that is not *sprinklered* is permitted to be doubled if the openings are glazed with

(a) glass block conforming to the requirements of Article 3.1.8.16., or

(b) wired glass assemblies conforming to MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

115. Sentence 3.2.3.13.(4) of Division B is revoked and the following substituted:

(4) The opening protection referred to in Sentences (1) to (3) shall consist of

(a) glass block conforming to the requirements of Article 3.1.8.16.,

(b) a wired glass assembly conforming to MMAH Supplementary Standard SB-2, "Fire Performance Ratings", or

(c) a closure conforming to the requirements of Subsection 3.1.8. and Articles 3.2.3.1. and 3.2.3.14.

116. Sentences 3.2.3.16.(1) and (2) of Division B are revoked and the following substituted:

(1) Except as permitted by Sentences (3) and (4), where there is a common *attic or roof* space above more than two *suites* of *residential occupancy* or above more than 2 patients' or residents' sleeping rooms in a Group B, Division 2 or 3 *occupancy*, and the common *attic or roof space* projects beyond the exterior wall of the *building*, the soffit, and any opening in the soffits or other surface of the projection located within 2500 mm of a window or door opening, shall be protected by

(a) *noncombustible* material

(i) not less than 0.38 mm thick, and

(ii) having a melting point not below 650°C,

(b) plywood not less than 11 mm thick,

(c) strandboard or waferboard not less than 12.5 mm thick, or

(d) lumber not less than 11 mm thick.

(2) The soffit protection required by Sentence (1) shall extend the full width of the opening and to not less than 1 200 mm on either side of it, and shall apply to all openings through the soffit within this limit.

117. Sentence 3.2.3.20.(1) of Division B is revoked and the following substituted:

(1) An underground *walkway* shall not be designed or used for any purpose other than pedestrian travel unless

(a) the purpose is permitted, and

(b) sprinklers are installed in any space in the *walkway* containing an *occupancy*.

118. Article 3.2.3.21. of Division B is revoked and the following substituted:

3.2.3.21. Reserved

119. Sentence 3.2.4.1.(4) of Division B is revoked and the following substituted:

(4) Except as permitted by Sentences (5), (6) and 3.2.4.2.(4), a fire alarm system shall be installed in a *building* that is not *sprinklered* throughout and that contains

(a) a *contained use area*,

(b) an *impeded egress zone*,

(c) more than 3 *storeys*, including the storeys below the *first storey*,

(d) a total *occupant load* more than 300, other than in open air seating areas,

(e) an *occupant load* more than 150 above or below the *first storey*, other than in open air seating areas

(f) a school, college, or child care facility, including a daycare facility, with an *occupant load* more than 40,

(g) a licensed beverage establishment or a licensed restaurant, with an *occupant load* more than 150,

(h) a *low-hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,

(i) a *medium-hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,

(j) a *residential occupancy* with sleeping accommodation for more than 10 persons,

(k) a *high-hazard industrial occupancy* with an *occupant load* more than 25,

(l) an occupant load more than 300 below an open air seating area,

(m) a *care and treatment occupancy* for more than 10 persons receiving care or treatment, or

(n) a *care occupancy* for more than 10 persons receiving care.

(4.1) A fire alarm system is not required in a *hotel* 3 *storeys* or less in *building height* provided each *suite* has direct access to an exterior *exit* facility leading to ground level.

120. Sentence 3.2.4.3.(1) of Division B is revoked and the following substituted:

(1) 1) A fire alarm system shall be

(a) a single-stage system in a Group F, Division 1 *occupancy*,

(b) except as permitted in Clause (c), a 2-stage system in a Group B *occupancy*,

(c) a single- or 2-stage system in a Group B, Division 3 *occupancy* where the *building* is 3 *storeys* or less in *building height*,

(d) a single stage system in elementary and secondary schools, except for a special needs facility, and

(e) a single- or 2-stage system in all other cases.

121. Sentence 3.2.4.4.(2) of Division B is revoked and the following substituted:

(2) A 2-stage fire alarm system shall

(a) cause an *alert signal* to sound upon the operation of any manual station, waterflow detecting device, or *fire detector*,

(b) except for a Group B, Division 2 *occupancy*, automatically cause an *alarm signal* to sound if the *alert signal* is not acknowledged within 5 min of its initiation,

(c) have manual stations, each of which is equipped so that the use of a key or other similar device causes an *alarm signal* to sound that continues to sound upon removal of the key or similar device from the manual station (see Note A-3.2.4.4.(2)(c)), and

(d) in a *building* containing a *hotel*

(i) cause an *alarm signal* to sound in the initiating fire zone in the *hotel*, and

(ii) cause an *alert signal* to sound throughout the *hotel* and such parts of the *building* as is necessary to alert *hotel* staff. (See Note A-3.2.4.4.(2).)

122. Article 3.2.4.6. of Division B is revoked and the following substituted:

3.2.4.6. Silencing of Alarm Signals

(1) Except as permitted by Sentence (3), a fire alarm system shall be designed so that when an *alarm signal* is actuated, it cannot be silenced automatically before a period of time has elapsed that is not less than

(a) 5 min for a *building* not required to be equipped with an annunciator, and

(b) 20 min for any other *building*.

(2) Except as permitted by Sentence 3.2.4.18.(8) and Sentences 3.2.4.22.(2) and (3), a fire alarm system shall not incorporate manual silencing switches other than those installed inside the fire alarm control unit. (See Note A-3.2.4.6.(2))

(3) Except as provided by Clause 3.2.4.22.(3)(a), in a *care and treatment occupancy* an *alert signal* is permitted to be silenced automatically after 1 min.

123. Sentence 3.2.4.7.(1) of Division B is revoked and the following substituted:

(1) A single stage fire alarm system shall be designed to notify the fire department in conformance with Sentence (4) that an *alarm signal* has been initiated in

(a) a *building* of a Group A *occupancy* having an occupant load more than 300, or

(b) a *retirement home*.

124. Sentence 3.2.4.8.(2) of Division B is revoked and the following substituted:

(2) Except as permitted by Sentence (6), the annunciator required by Sentence (1) shall have separate zone indication of the actuation of the alarm initiating devices in each

(a) *floor area* so that the area of coverage for each zone in a *building* that is not *sprinklered* is not more than 2 000 m^2,

(b) *floor area* so that the area of coverage for each zone is neither

(i) more than one *storey*, nor

(ii) more than the system area limits specified in NFPA 13, "Standard for the Installation of Sprinkler Systems,"

(c) shaft required to be equipped with *smoke detectors*,

(d) air-handling system required to be equipped with *smoke detectors*,

(e) fire extinguishing system required by NFPA 96, "Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations,"

(f) *contained use area*,

(g) *impeded egress zone*, and

(h) *fire compartment* required by Sentence 3.3.4.11.(2).

(2) Article 3.2.4.8. of Division B is amended by adding the following Sentences:

(8) In a *building* containing a *hotel* in which a trouble signal sounding device has a silencing switch, a trouble light shall be installed in

(a) the main reception area serving the *hotel*, or

(b) another continually-supervised location.

(9) In a long-term care home, a remote audiovisual fire alarm trouble signal shall be located at the main nursing station.

125. Sentence 3.2.4.9.(5) of Division B is revoked and the following substituted:

(5) Electrical supervision shall be provided to indicate, on the fire alarm system annunciator, a loss of power to a heat tracing cable that is installed to heat

(a) a standpipe riser,

(b) a sprinkler line as part of a fire suppression system, or

(c) an *exit* or *means of egress* to keep it free of ice and snow.

126. Sentence 3.2.4.10.(2) of Division B is revoked and the following substituted:

(2) Except as permitted by Sentence (3), if a fire alarm system is required in a *building* that is not *sprinklered*, *fire detectors* shall be installed in the following spaces:

(a) storage rooms not within *dwelling units*,

(b) *service rooms* not within *dwelling units*,

(c) janitors' rooms,

(d) rooms in which hazardous substances are to be used or stored (see Note A-3.3.1.2.(1)),

(e) elevator hoistways and dumbwaiter shafts,

(f) laundry rooms in *buildings* of *residential occupancy*, but not those within *dwelling units*, and

(g) *hazardous classrooms* and change room in an elementary or secondary schools.

127. The heading to Article 3.2.4.11. and Sentences 3.2.4.11.(1) to (3) are revoked and the following substituted:

3.2.4.11. Smoke and Heat Detectors

(1) If a fire alarm system is installed, smoke detectors shall be installed in

(a) each sleeping room and each corridor serving as part of a *means of egress* from sleeping rooms in portions of a *building* classified as a Group B major *occupancy*,

(b) each room in a *contained use area* and corridors serving those rooms,

(c) each corridor in portions of a *building* classified as a Group A, Division 1 *major occupancy*,

(d) each *public corridor* in portions of a *building* classified as a Group C *major occupancy*,

(e) each *exit* stair shaft other than those serving only a Group A, Division 4 *major occupancy* or an open *storage garage*,

(f) the vicinity of draft stops required by Article 3.2.8.6.,

(g) each elevator machine room, and

(h) each corridor serving classrooms in elementary and secondary schools. (See Note A-3.2.4.11.(1))

(2) In a *floor area* containing *hotel*, where a fire alarm system is installed and the *floor area* is not *sprinklered*, *heat detectors* shall be installed in every room in a *suite* and in every room not located in a *suite* other than washrooms within a *suite*, saunas, refrigerated areas and swimming pools.

(3) *Smoke detectors* required in the sleeping rooms of a *care*, *care and treatment* or *detention occupancy* shall, upon actuation, provide an audible and visible signal to staff serving those rooms so that the room or location containing the *smoke detector* can be easily identified. (See Note A-3.2.4.11.(3))

128. Sentence 3.2.4.12.(1) of Division B is revoked and the following substituted:

(1) If a fire alarm system is installed, an air-handling system shall be designed to prevent the circulation of smoke upon a signal from a duct-type *smoke detector* if the air-handling system

(a) serves more than one *storey*,

(b) serves more than one *suite* in a *storey*,

(c) serves more than one *fire compartment* required by Sentence 3.3.3.5.(2) or Sentence 3.3.4.11.(2), or

(d) is not provided with *fire dampers* as permitted by Sentence 3.1.8.8.(4).

129. Sentence 3.2.4.13.(1) of Division B is revoked and the following substituted:

(1) A central vacuum cleaning system serving more than one *suite* or *storey* in a *building* equipped with a fire alarm system shall be designed to shut down upon actuation of the fire alarm system.

130. (1) Sentence 3.2.4.16.(2) of Division B is revoked and the following substituted:

(2) In a *building* that is *sprinklered* throughout, a manual station is not required at an exterior egress doorway from a *suite* that does not lead to an interior shared *means of egress* in a *hotel* not more than 3 *storeys* in *building height*, provided each *suite* is served by an exterior *exit* facility leading directly to ground level.

(2) Article 3.2.4.16. of Division B is amended by adding the following Sentences:

(6) In a *building* containing a *hotel*, a manual station shall be installed in the main reception area serving the *hotel*.

(7) Except as permitted by Sentence (3), in Group C apartment *buildings* other than *retirement homes*, if a manual station is not installed on a *floor area* in accordance with Sentence (1) or (4)

(a) a manual station shall be installed in every *dwelling unit* in the *floor area* near each egress door leading from the *dwelling unit*,

(b) *smoke detectors* shall be installed in the *floor area* in *public corridors* and stairwells, and

(c) *fire detectors* shall be installed in the *floor area* in all common public areas and in rooms not located within *dwelling units*.

(8) In *floor areas* where the manual stations are located in *dwelling units*, a legible sign stating **FIRE ALARM MANUAL STATIONS LOCATED IN APARTMENT UNITS** shall be posted near every *exit* in a *public corridor*.

(9) Key switch activated manual stations are permitted in an *impeded egress zone* and a *contained use area* in Group B, Division 1 and 2 *occupancies*.

131. Articles 3.2.4.18. to 3.2.4.21. of Division B is revoked and the following substituted:

3.2.4.18. Audibility of Alarm Systems (See Note A-3.2.4.18.)

(1) Except as permitted by Sentence 3.2.4.19.(2) and except as required by Clause 3.2.4.4.(2)(d), audible signal devices forming part of a fire alarm system shall be installed in a *building* so that

(a) *alarm signals* are clearly audible throughout the *floor area*, and

(b) *alert signals* are clearly audible in continuously staffed locations, and where there are no continuously staffed locations, throughout the *floor area*. (See Note A-3.2.4.8.(1))

(2) The sound pattern of an *alarm signal* shall conform to the temporal pattern defined in Clause 4.2 of ISO 8201, "Acoustics – Audible emergency evacuation signal." (See Note A-3.2.4.18.(2))

(3) The sound patterns of *alert signals* shall be significantly different from the temporal patterns of *alarm signals*. (See Note A-3.2.4.18.(3).

(4) In all normally occupied spaces, the fire alarm signal sound pressure level

(a) shall be not more than 110 dBA when measured from a distance of 3 m from the device, or

(b) is permitted to be more than 100 dBA provided the sound pressure level measured 2 000 mm above floor level is not more than 100 dBA.

(5) The sound pressure level in a sleeping room from a fire alarm audible signal device shall be not less than 75 dBA in a *building* of *residential occupancy* when any intervening doors between the device and the sleeping room are closed. (See Note A-3.2.4.18.(5))

(6) Audible signal devices in sleeping rooms in a *building* of *residential occupancy* shall emit a low frequency signal. (See Note A-3.2.4.18.(6))

(7) Except as required by Sentence (5), the sound pressure level from a fire alarm system's audible signal device within a *floor area* shall be not less than 10 dBA above the ambient noise level and not less than 65 dBA when any intervening doors between the device and the rest of the *floor area* are closed.

(8) Except as permitted by Sentence (12), audible signal devices located within a *dwelling unit* shall include a means for them to be manually silenced for a period of not more than 10 min, after which time the devices shall restore themselves to normal operation. (See Note A-3.2.4.18.(8))

(9) Audible signal devices within a *dwelling unit* or a *suite* of *residential occupancy* shall be connected to the fire alarm system

(a) in a manner such that a single open circuit at one device will not impair the operation of other audible signal devices on that same circuit that serve the other *dwelling units* or *suites* of *residential occupancy*, or

(b) on separate signal circuits that are not connected to the devices in any other *dwelling unit*, *public corridor* or *suite* of *residential occupancy*. (See Note A-3.2.4.18.(9) and (10))

(10) In a *building* or part thereof classified as a *residential occupancy*

(a) separate circuits shall be provided for audible signal devices on each *floor area*, and

(b) audible signal devices within *dwelling units* or *suites* of *residential occupancy* shall be wired on separate signal circuits from those not within *dwelling units* or *suites* of *residential occupancy*. (See Note A-3.2.4.18.(9) and (10))

(11) Audible signal devices shall be installed in a *service space* referred to in Sentence 3.2.1.1.(8) and shall be connected to the fire alarm system.

(12) Audible signal devices within *dwelling units* that are wired on separate signal circuits in accordance with Clause (10)(b) need not include a means for manual signal silencing as required by Sentence (8), provided the fire alarm system includes a provision for an automatic signal silence within *dwelling units*, where

(a) the automatic signal silence cannot occur within the first 60 s of operation or within the zone of initiation,

(b) a subsequent alarm elsewhere in the *building* will reactuate the silenced audible signal devices within *dwelling units*,

(c) after a period of not more than 10 min, the silenced audible signal devices will be restored to continuous audible signal if the alarm is not acknowledged, and

(d) the voice communication systems referred to in Articles 3.2.4.22. and 3.2.4.23. have a provision to override the automatic signal silence to allow the transmission of voice messages through silenced audible signal device circuits that serve the *dwelling units*. (See Note A-3.2.4.18.(8))

(13) If a 2-stage fire alarm system has been installed with an automatic signal silence as described in Sentence (12), the system shall be designed so that any silenced audible signal devices serving *dwelling units* are reactuated whenever an *alarm signal* is required to be transmitted as part of the second stage. (See Note A-3.2.4.18.(8))

3.2.4.19. Visible Signals

(1) Except as permitted by Sentence (4), where a fire alarm system is installed, visible signal devices shall be installed in addition to audible signal devices

(a) in a *building* or portions thereof intended for use primarily by persons with hearing impairment,

(b) in *assembly occupancies* in which music and other sounds associated with performances could exceed 100 dBA,

(c) in any *floor area* in which the ambient noise level is more than 87 dBA,

(d) in any *floor area* in which the occupants

(i) use ear protection devices,

(ii) are located in an audiometric booth, or

(iii) are located in sound-insulating enclosures,

(e) in a *public corridor* serving a Group A, B, C, D or E *occupancy*,

(f) in a corridor used by the public and in a *floor area* or part of a *floor area* where the public may congregate in a Group A *occupancy*,

(g) in not less than 10% of the *suites* of a *hotel* or motel (See Note A-3.2.4.9.(1)(g)),

(h) in a washroom for *public use* described in Sentence 3.8.2.3.(2), (3), (4) or (6), and

(i) in the living space in a *suite* of *residential occupancy* in a Group *C major occupancy* apartment *building*.

(2) Visible signal devices are permitted to be installed in lieu of audible signal devices in the compartments referred to in Article 3.3.3.6.

(3) Visible signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible throughout the *floor area* or portion thereof in which they are installed. (See Note A-3.2.4.9.(3))

(4) Visible signal devices required by Clauses (1)(e) and (f) are not required in

(a) a classroom, and

(b) a Group B, Division 3 *occupancy* that contains sleeping accommodation for not more than 10 persons and not more than six occupants require assistance in evacuation in case of an emergency.

3.2.4.20. Smoke Alarms

(1) Except as provided in Article 3.2.4.21., *smoke alarms* shall be installed in accordance with this Article.

(2) Except as permitted by Sentence (10), *smoke alarms* conforming to CAN/ULC-S531, "Standard for Smoke Alarms," shall be installed in each *dwelling unit* and, except for *care*, *care and treatment* or *detention occupancies* required to have a fire alarm system, in each sleeping room not within a *dwelling unit*.

(3) At least one *smoke alarm* shall be installed on each *storey* and *mezzanine* of a *dwelling unit*.

(4) On any *storey* of a *dwelling unit* containing sleeping rooms, a *smoke alarm* shall be installed

(a) in each sleeping room, and

(b) 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.

(5) Reserved.

(6) A *smoke alarm* shall be installed on or near the ceiling.

(7) Reserved.

(8) Reserved.

(9) Except as permitted in Sentence (10), *smoke alarms* referred in Sentence (2) shall

(a) be installed with permanent connections to an electrical circuit,

(b) have no disconnect switch between the overcurrent device and the *smoke alarm*, and

(c) in case the regular power supply to the *smoke alarm* is interrupted, be provided with a battery as an alternative power source that can continue to provide power to the *smoke alarm* for a period of no less than 7 days in the

normal condition, followed by 4 minutes of alarm. (See Note A-3.2.4.20.(9).)

(10) *Suites* of *residential occupancy* are permitted to be equipped with *smoke detectors* in lieu of *smoke alarms*, provided the *smoke detectors*

(a) are capable of independently sounding audible signals with a sound pressure level between 75 dBA and 110 dBA within the individual *suites*, (See Note A-3.2.4.18.(4)

(b) except as permitted in Sentence (11), are installed in conformance with CAN/ULC-S524, "Standard for the Installation of Fire Alarm Systems," and verified in conformance with CAN/ULC-S537, "Standard for the Verification of Fire Alarm Systems",

(c) form part of the fire alarm system, or

(d) are equipped with visual signalling components that meet the requirements of Sentences (17) to (19). (See Note A-3.2.4.20.(10).)

(11) *Smoke detectors* permitted to be installed in lieu of *smoke alarms* as stated in Sentence (10) are permitted to sound localized alarms within individual *suites*, and need not sound an alarm throughout the rest of the *building*.

(12) If more than one *smoke alarm* is required in a *dwelling unit*, the *smoke alarms* shall be interconnected so that the actuation of one *smoke alarm* will cause all *smoke alarms* within the *dwelling unit* to sound.

(13) A *smoke alarm* required by Sentence (2) shall be installed in conformance with CAN/ULC-S553, "Standard for the Installation of Smoke Alarms."

(14) Except as permitted in Sentence (15), a manually operated silencing device shall be incorporated within the circuitry of a *smoke alarm* installed in a *dwelling unit* so that it will silence the signal emitted by the *smoke alarm* for a period of not more than 10 min, after which the *smoke alarm* will reset and again sound the alarm if the level of smoke in the vicinity is sufficient to reactuate the *smoke alarm*.

(15) *Suites* of *residential occupancy* equipped with *smoke detectors* installed in conformance with CAN/ULC-S524, "Standard for Installation of Fire Alarm Systems," as part of the fire alarm system in lieu of *smoke alarms* as permitted by Sentence (10), need not incorporate the manually operated device required in Sentence (14). (See Note A-3.2.4.20.(10))

(16) The sound patterns of smoke alarms shall

(a) meet the temporal patterns of alarm signals, (See Note A-3.2.4.18.(2)) or

(b) be a combination temporal pattern and voice relay.

(17) *Smoke alarms* required by Sentence (2) shall have a visual signalling component conforming to the requirements in 18.5.3. (Light, Color and Pulse Characteristics) of NFPA 72, "National Fire Alarm and Signaling Code". (See Note A-3.2.4.20.(17))

(18) The visual signalling component required by Sentence (17) need not

(a) be integrated with the *smoke alarm* provided it is interconnected to it,

(b) be on battery backup, or

(c) have synchronized flash rates, when installed in a *dwelling unit*.

(19) The luminous intensity for visual signalling components required by Sentence (17) that are installed in sleeping rooms shall be a minimum of 175 cd.

(20) *Smoke alarms* required in *suites* in a *retirement home* or *smoke detectors* permitted to be installed in lieu of *smoke alarms* as provided in Sentence (10) shall upon actuation provide an audible and visual signal to staff serving those *suites*, so that the *suite* containing the actuated *smoke alarm* or *smoke detector* can be easily identified.

3.2.4.21. Residential Fire Warning System

(1) Except where a fire alarm system is installed or required in a *building*, *smoke detectors* forming part of a residential fire warning system installed in conformance with CAN/ULC-S540, "Standard for Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance," are permitted to be installed in lieu of all *smoke alarms* required by Article 3.2.4.20., provided that the system is

(a) capable of sounding audible signals in accordance with Sentences 3.2.4.20.(12) and (16),

(b) provided with a visible signalling component in accordance with Sentences 3.2.4.20.(17) to (19),

(c) powered in accordance with Sentence 3.2.4.20.(9) and

(d) provided with a silencing device in accordance with Sentences 3.3.4.20.(14) and (15).

132. The heading to Article 3.2.4.22. and Sentence 3.2.4.22.(1) of Division B are revoked and the following substituted:

3.2.4.22. Two-Way Voice Communication Systems

(1) A voice communication system required by Subsection 3.2.6., Clause 3.3.2.4.(14)(f) or Sentence 3.3.4.11.(12) shall

(a) consist of a two-way means of communication with the central alarm and control facility and to the mechanical control centre from each *floor area*, and

(b) be capable of broadcasting pre-recorded, synthesized, or live messages from the central alarm and control facility that are audible and intelligible in all parts of the *building*, except elevator cars (see Note A-3.2.4.22.(1)(b)).

133. Article 3.2.5.3. of Division B is amended by adding the following Sentence:

(2) Clearance and access around roof signs or other obstructions shall provide

(a) a passage not less than 900 mm wide by 1 800 mm high, clear of all obstructions except for necessary horizontal supports not more than 600 mm above the roof surface

(i) around every roof sign, and

(ii) through every roof sign at locations not more than 15 m apart, and

(b) a clearance of not less than 1 200 mm between any portion of a roof sign and any opening in the exterior wall face or roof of the *building* in which it is erected.

134. Article 3.2.5.8. of Division B is amended by adding the following Sentence:

(3) A standpipe system is not required to be installed in a *building* classified as Group C *major occupancy*

(a) that is not more than 4 *storeys* above *grade*,

(b) that does not contain a *public corridor* or other common areas,

(c) where each *dwelling unit*

(i) is completely cut off from the remainder of the *building* so that there is no access to the remainder of the *building*,

(ii) has direct access to its interior by means of an exterior doorway located not more than 1 500 mm above or below adjacent finished ground level, and

(d) that conforms to the requirements of Article 3.2.2.50. or Article 3.2.2.52.

135. Article 3.2.5.12. of Division B is revoked and the following substituted:

3.2.5.12. Automatic Sprinkler Systems

(1) Except as permitted by Sentences (2) to (4) and (9), an automatic sprinkler system shall be designed, constructed, installed and tested in conformance with NFPA 13, "Standard for the Installation of Sprinkler Systems." (See Note A-3.2.5.12.(1))

(2) Instead of the requirements of Sentence (1), NFPA 13R, "Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies", is permitted to be used for the design, construction, installation and testing of an automatic sprinkler system installed

(a) in a *building* of residential *occupancy* throughout that is not more than 4 *storeys* in *building height* and conforms to Article 3.2.2.47., 3.2.2.49., 3.2.2.51., 3.2.2.52. or 3.2.2.55.,

(b) in a *building* of Group B, Division 3 *occupancy* that contains sleeping accommodation for not more than 10 persons and not more than six occupants require assistance in evacuation in case of an emergency,

(c) in a *building* that contains a *retirement home* and conforms to Article 3.2.2.55D., or

(d) in a *building* that contains a *retirement home* constructed in accordance with Article 3.2.2.55E., where the *fire separation* required by Sentence 3.3.4.11.(2) on the *storey* immediately below the roof assembly is continuous to the underside of the roof deck. (See Note A-3.2.5.12.(2))

(3) Instead of the requirements of Sentence (1), NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes," is permitted to be used for the design, construction and installation of an automatic sprinkler system installed

(a) in a *building* of residential *occupancy* throughout that contains not more than two *dwelling units*,

(b) Reserved, and

(c) in a *building* of residential *occupancy* throughout that contains more than two *dwelling units*, provided

(i) except for a *secondary suite*, no *dwelling unit* is located above another *dwelling unit*,

(ii) all *suites* are separated by a vertical *fire separation* having a *fire-resistance rating* of not less than 1 h that provides continuous protection from the top of the footing to the underside of the roof deck, with any space between the top of the wall and the roof deck tightly filled with mineral wool or *noncombustible* material,

(iii) each *dwelling unit* has its own sprinkler water supply provided in accordance with NFPA 13D, "Standard for the Installation of

Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes,"

(iv) a passive purge sprinkler system design is used as described in NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes," and

(v) where the sprinkler system is taken into consideration for the reduction of *limiting distance*, all rooms, including closets, bathrooms and attached garages, that adjoin an *exposing building face* are *sprinklered*, notwithstanding any exemption stated in NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes." (See Note A-3.2.5.12.(2).)

(4) If a *building* contains fewer than 9 sprinklers, the water supply for these sprinklers is permitted to be supplied from the domestic water system for the *building* provided the required flow for the sprinklers can be met by the domestic system.

(5) If a water supply serves both an automatic sprinkler system and a system serving other equipment, control valves shall be provided so that either system can be shut off independently.

(6) Notwithstanding the requirements of the standards referenced in Sentences (1) and (2) regarding the installation of automatic sprinkler systems, sprinklers shall not be omitted in any room or closet in the *storey* immediately below a roof assembly. (See Note A-3.2.5.12.(6))

(7) Notwithstanding the requirements of the standards referenced in Sentences (1) and (2) regarding the installation of automatic sprinkler systems, in *buildings* conforming to Article 3.2.2.48., 3.2.2.51., 3.2.2.57., 3.2.2.60. or 3.2.2.93., sprinklers shall be provided for all balconies and decks, other than,

(a) balconies or decks that are not more than 610 mm in depth measured perpendicular to the exterior wall of the *building*, or

(b) decks on the uppermost roof of the *building*. (See Note A-3.2.5.12.(7))

(8) Sprinklers in elevator machine rooms shall have a temperature rating not less than that required for an intermediate temperature classification and shall be protected against physical damage. (See Note A-3.2.5.12.(8))

(9) Except as provided in Subsection 3.2.8., closely spaced sprinklers and associated draft stops need not be installed around floor openings in conformance with NFPA 13, "Standard for the Installation of Sprinkler Systems."

(10) The sprinkler system described in Sentence (3) shall be provided with a minimum 20 min water supply when installed in a *retirement home*.

136. Article 3.2.5.14. of Division B is amended by adding the following Sentence:

(4) If a *building* is *sprinklered*, sprinkler protection need not be provided in the space below a raised floor in a *computer room*

(a) if the optical fibre cables and electrical wires and cables in this space conform to the test requirements in Article 3.1.5.25.,

(b) if the *building* is of *noncombustible construction* and other *combustible* components are limited to those permitted in Subsection 3.1.5.,

(c) if this space is used to circulate conditioned air and the air handling system is designed to prevent the circulation of smoke upon a signal from a *smoke detector*,

(d) if all of this space is easily accessible by providing access sections or panels in the raised floor, and

(e) if the computer room is more than 2 000 m^2 and the annunciator has separate zone indicators of the actuation of *smoke detectors* located in this space so that the coverage for each zone is not more than 2 000 m^2.

137. Sentence 3.2.5.16.(1) of Division B is revoked and the following substituted:

(1) Portable extinguishers shall be provided and installed in all *buildings*, except within *dwelling units*, in conformance with the provisions of Division B of the Fire Code made under the *Fire Protection and Prevention Act, 1997*.

138. Article 3.2.6.1. of Division B is revoked and the following substituted:

3.2.6.1. Application

(1) Except as provided in Sentence (2), this Subsection applies to a *building*

(a) of Group A, D, E or F *major occupancy* classification that is more than

(i) 36 m high, measured between *grade* and the floor level of the top *storey*, or

(ii) 18 m high, measured between *grade* and the floor level of the top *storey*, and in which the cumulative or total *occupant load* on or above any *storey* above *grade*, other than the *first storey*, divided by 1.8 times the width in metres of all *exit* stairs at that *storey*, exceeds 300,

(b) containing a Group B *major occupancy* in which the floor level of the highest *storey* of that *major occupancy* is more than 18 m above *grade*,

(c) containing a *floor area* or part of a *floor area* located above the third *storey* designed or intended as a Group B, Division 2 or 3 *occupancy*,

(d) containing a Group C *major occupancy* in which the floor level of the highest storey of that *major occupancy* is more than 18 m above *grade*, or

(e) containing a *retirement home*, where the floor level of the highest *storey* of the *retirement home* is more than 18 m above *grade*.

(2) Except as required by Clause 3.2.6.1.(1)(c), this Subsection applies to a *building* or part thereof constructed in conformance with Article 3.2.2.57. or 3.2.2.93. in which the floor level of the highest *storey* is more than 18 m above *grade*.

139. (1) Sentences 3.2.6.2.(1) and (2) of Division B are revoked and the following substituted:

(1) A *sprinklered building* shall be designed in accordance with Sentences (2) to (6) and MMAH Supplementary Standard SB-4, "Measures for Fire Safety in High Buildings", to limit the danger to occupants and firefighters from exposure to smoke in a *building* fire.

(2) A *building* referred to in Sentence (1) shall be designed so that, during a period of 2 h after the start of a fire, each *exit* stair serving *storeys* below the lowest *exit level* will not contain more than 1% by volume of contaminated air from the fire floor, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in conformance with MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(2) Article 3.2.6.2. of Division B is amended by adding the following Sentence:

(7) A *building* that is not *sprinklered* shall be designed in accordance with MMAH Supplementary Standard SB-4, "Measures for Fire Safety in High Buildings", to limit the danger to occupants and firefighters from exposure to smoke in a *building* fire.

140. Article 3.2.6.4. of Division B is amended by adding the following Sentences:

(5) In a *building* that is not *sprinklered*, automatic emergency recall operation shall be provided for all elevators serving *storeys* above the *first storey*.

(6) The automatic emergency recall feature in Sentence (5) shall be actuated by

(a) *smoke detectors* installed in each elevator lobby on each *storey*, (See Note A-3.2.6.4.(6)(a)) or

(b) the *building* fire alarm system.

(7) *Smoke detectors* in Sentence (6) shall be designed as part of the *building* fire alarm system.

141. Sentence 3.2.6.5.(3) of Division B is revoked and the following substituted:

(3) Except where Measure K of MMAH Supplementary Standard SB-4, "Measures for Fire Safety in High Buildings", is used, each elevator for use by firefighters shall

(a) be provided with a *closure* at each shaft opening so that the interlock mechanism remains mechanically engaged and electrical continuity is maintained in the interlock circuits and associated wiring for a period of not less than 1 h when the assembly is subjected to the standard fire exposure described in CAN/ULC-S104, "Standard Method for Fire Tests of Door Assemblies,"

(b) be protected with a vestibule containing no *occupancy* and separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* not less than 45 min, or

(c) be protected with a corridor containing no *occupancy* and separated from the remainder of the *building* by a *fire separation* having *a fire-resistance rating* not less than 1 h.

142. (1) Sentence 3.2.6.6.(1) of Division B is revoked and the following substituted:

(1) Means of venting each *floor area* to the outdoors shall be provided by windows, wall panels, smoke shafts, or, except as provided by Sentence (5), the *building* exhaust system.

(2) Article 3.2.6.6. of Division B is amended by adding the following Sentence:

(5) In a *building* that is not *sprinklered*, venting of *floor areas* required in Sentence (1) shall not be provided by the *building* exhaust system.

143. Sentence 3.2.6.7.(2) of Division B is revoked and the following substituted:

(2) The central alarm and control facility required by Sentence (1) shall include

(a) means to control the voice communication system required by Article 3.2.6.8., so that messages can be sent to

(i) all loudspeakers simultaneously,

(ii) individual *floor areas*, and

(iii) *exit* stairwells,

(b) means to indicate audibly and visually *alert signals* and *alarm signals* and a switch to

(i) silence the audible portion of these signals, and

(ii) indicate visually that the audible portion has been silenced,

(c) means to indicate visually that elevators are on emergency recall,

(d) an annunciator conforming to Article 3.2.4.8.,

(e) means to transmit *alert signals* and *alarm signals* to the fire department in conformance with Article 3.2.4.7.,

(f) means to release hold-open devices on doors to vestibules,

(g) means to manually actuate alarm signals in the *building* selectively to any zone or zones,

(h) means to silence the *alarm signals* referred to in Clause (g) in conformance with Sentences 3.2.4.22.(2) and (3),

(i) means, as appropriate to the measure for fire safety provided in the *building*, to

(i) actuate auxiliary equipment identified in Articles 3.2.6.2., 3.2.6.3. and 3.2.6.6., or

(ii) communicate with a continually staffed auxiliary equipment control centre,

(j) means for two-way communication with every elevator car,

(k) means to indicate visually, individual sprinkler system waterflow signals,

(l) means to indicate audibly and visually, sprinkler and standpipe system supervisory signals and trouble signals,

(m) a switch to silence the audible portion of a supervisory signal or a trouble signal, and

(n) visual indication that the audible portion of a supervisory signal or a trouble signal has been silenced. (See Note A-3.2.6.7.(2))

144. Sentence 3.2.6.8.(1) of Division B is revoked and the following substituted:

(1) A voice communication system conforming to Article 3.2.4.22. shall be provided in a *building* if

(a) the floor of the top *storey* is more than 36 m above *grade*,

(b) a *floor area* or part of a *floor area* located above the third *storey* is designed or intended for use as a Group B, Division 2 or 3 *occupancy*, or

(c) a *floor area* or part of a *floor area* located more than 18 m above *grade* is designed or intended for use as a *retirement home* regulated under the *Retirement Homes Act, 2010* that is a Group C *occupancy*.

145. Sentence 3.2.6.9.(1) of Division B is revoked and the following substituted:

(1) The systems for control of smoke movement and mechanical venting required by Articles 3.2.6.2. and 3.2.6.6. shall be tested to ensure satisfactory operation in accordance with the procedures described in MMAH Supplementary Standard SB-4, “Measures for Fire Safety in High Buildings”.

146. Article 3.2.7.1. of Division B is revoked and the following substituted:

3.2.7.1. Minimum Lighting Requirements

(1) An *exit*, a *public corridor*, or a corridor providing *access to exit* for the public, a corridor serving patients or residents in a Group B, Division 2 or 3 *occupancy*, a corridor serving classrooms, an electrical equipment room, a transformer vault and a hoistway pit shall be equipped to provide illumination to an average level not less than 50 lx at floor or tread level and at all points such as angles and intersections at changes of level where there are stairs or *ramps*.

(2) The level of the illumination required by Sentence (1) shall be 10 lx.

(3) Rooms and spaces used by the public shall be equipped to provide illumination as described in Sentence (4) to (7), and Article 9.34.2.7.

(4) The minimum level of illumination over the entire length of escalators and moving walks shall be not less than 100 lx at the level of the treads and walking surfaces.

(5) Except as provided in Sentence (6) and except for light switches and internally illuminated controls, the minimum level of illumination at controls required by Article 3.8.1.5. shall be not less than 100 lx.

(6) Where visual information is provided at controls referred to in Sentence (5), the minimum level of illumination at the controls shall be not less than 200 lx, except where the visual information is internally illuminated.

(7) Except for internally illuminated signs, the minimum level of illumination at signs displaying visual information required by Clauses 3.4.6.10.(5)(b) and 3.4.6.16.(5)(g), Sentence 3.4.6.18.(3), Clause 3.4.6.18.(4)(a) and Articles 3.4.6.19. and 3.8.3.1. shall be not less than 200 lx.

(8) Lighting outlets in a *building* of *residential occupancy* shall be provided in conformance with Subsection 9.34.2.

(9) Elevator machine rooms shall be equipped to provide illumination to an average level of not less than 100 lx at floor level.

(10) Every place of assembly intended for the viewing of motion pictures or the performing arts, shall be equipped to provide an average level of illumination at floor level in the aisles of not less than 2 lx during the viewing.

(11) Every area where food is intended to be processed, prepared or manufactured and where equipment or utensils are intended to be cleaned shall be equipped to provide illumination to a level of not less than 500 lx measured at the floor level.

(12) Every storage room, dressing room, sanitary facility, service area and corridor serving the areas in Sentence (11) shall be equipped to provide illumination to a level of not less than 300 lx measured at the floor level.

147. Articles 3.2.7.3. to 3.2.7.6. of Division B are revoked and the following substituted:

3.2.7.3. Emergency Lighting

(1) Emergency lighting shall be provided to an average level of illumination not less than 10 lx at floor or tread level in

(a) *exits*,

(b) principal routes providing *access to exit* in open *floor areas* and in *service rooms*,

(c) corridors used by the public,

(d) corridors serving patients' or residents' sleeping rooms in a Group B, Division 2 or 3 *occupancy*,

(e) reserved,

(f) corridors serving classrooms,

(g) underground walkways,

(h) *public corridors*,

(i) *floor areas* or parts thereof where the public may congregate

(i) in Group A, Division 1 *occupancies*, or

(ii) in Group A, Division 2 and 3 *occupancies* having an *occupant load* of 60 or more,

(j) *floor areas* or parts thereof day care centres where persons are cared for,

(k) food preparation areas in commercial kitchens,

(l) washrooms with *fixtures* for *public use*,

(m) locations where doors are equipped with an electromagnetic lock as described in Clauses 3.4.6.16.(5)(k),

(n) universal washrooms required by Article 3.8.3.12 and universal shower rooms required by Article 3.8.3.13.,

(o) principal routes providing *access to exit* in a *floor area* that is not subdivided into rooms or *suites* of rooms served by corridors in a *business and personal services occupancy,* a *mercantile occupancy* or *an industrial occupancy*, and

(p) internal corridors or aisles serving as principal routes to *exits* in a *business and personal services occupancy*, a *mercantile occupancy* or an *industrial occupancy* that is subdivided into rooms or *suites* of rooms, and is not served by a public *corridor*.

(2) Emergency lighting to provide an average level of illumination of not less than 10 lx at floor or catwalk level shall be included

(a) in a *service space* referred to in Sentence 3.2.1.1.(8), and

(b) on a *shelf and rack storage system*, in locations described in Sentence 3.16.1.5.(2).

(3) The minimum value of the illumination required by Sentences (1) and (2) shall be not less than 1 lx.

(4) In addition to the requirements of Sentences (1) to (3), the installation of battery-operated emergency lighting in health care facilities shall conform to the appropriate requirements of CSA Z32, “Electrical safety and essential electrical systems in health care facilities.”

3.2.7.4. Emergency Power for Lighting

(1) An emergency power supply shall be

(a) provided to maintain the emergency lighting required by this Subsection from a power source such as batteries or generators that will continue to supply power in the event that the regular power supply to the *building* is interrupted, and

(b) so designed and installed that upon failure of the regular power it will assume the electrical load automatically for a period of

(i) 2 h for a *building* within the scope of Subsection 3.2.6.,

(ii) 1 h for a *building* of Group B *major occupancy* classification that is not within the scope of Subsection 3.2.6.,

(ii.1) 1 h for a *building* that contains a Group C *major occupancy retirement home* and that is not within the scope of Subsection 3.2.6.,

(iii) 1 h for a *building* within the scope of Article 3.2.2.51. or 3.2.2.60., and

(iv) 30 min for a *building* of any other *occupancy*. (See Note A-3.2.7.4.(1).)

(2) If self-contained emergency lighting units are used, they shall conform to CSA C22.2 No. 141, "Emergency lighting equipment."

3.2.7.5. Emergency Power Supply

(1) Except as required by Articles 3.2.7.6. and 3.2.7.7., an emergency electrical power supply system shall be installed in conformance with CSA C282, "Emergency electrical power supply for buildings."

(2) Every emergency power supply shall be equipped with an emergency audible and visual trouble indication.

3.2.7.6. Emergency Power for Hospitals

(1) Except as required by Article 3.2.7.7., an emergency electrical power supply system for emergency equipment required by this Part for health care facilities shall be installed in conformance with CSA Z32, "Electrical safety and essential electrical systems in health care facilities." (See Note A-3.2.7.6.(1))

148. Article 3.2.7.7. of Division B is amended by adding the following Sentence:

(2) Where pipes for exhaust gases from emergency power systems penetrate required *fire separations*, they shall be enclosed in a separate *service space* having *a fire-resistance rating* equal to that of the penetrated floor assembly, but not less than 45 min.

149. Sentence 3.2.7.8.(3) of Division B is revoked and the following substituted:

(3) The emergency power supply required by Sentence (1) shall be capable of providing

(a) supervisory power for not less than 24 h, and

(b) immediately following that period, emergency power under full load for not less than

(i) 2 h for a *building* within the scope of Subsection 3.2.6.,

(ii) 1 h for a *building* classified as a Group B *major occupancy* that is not within the scope of Subsection 3.2.6.,

(ii.1) 1 h for a *building* that contains a Group C *major occupancy retirement home* and that is not within the scope of Subsection 3.2.6.,

(iii) 1 h for a *building* constructed in accordance with Article 3.2.2.51. or 3.2.2.60.,

(iv) 5 min for a *building* not required to be equipped with an annunciator, and

(v) 30 min for any other *building*. (See Note A-3.2.7.8.(3).)

150. Sentence 3.2.8.4.(1) of Division B is revoked and the following substituted:

(1) An *exit* opening into an interconnected floor space shall be protected at each opening into the *interconnected floor space* by a vestibule

(a) with doorways that are not less than 1.8 m apart,

(b) that is separated from the remainder of the *floor area* by a *fire separation* that is not required to have a *fire-resistance rating*, and (See Note A-3.1.8.1.(1)(b))

(c) that is designed to limit the passage of smoke so that the *exit* stair shaft does not contain more than 1% by volume of contaminated air from the fire floor, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in accordance with MMAH

Supplementary Standard SB-1, "Climatic and Seismic Data." (See Note A-3.2.8.4.(1)(c))

151. Sentence 3.3.1.2.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Subsections 3.3.5. and 3.3.6., the storage, handling and use of hazardous substances shall be in conformance with

(c) the Fire Code made under the *Fire Protection and Prevention Act, 1997*, or

(d) the CCBFC NRC-CONST-56437E, "National Fire Code of Canada", in the absence of regulations referred to in Clause (a).

152. (1) Sentence 3.3.1.3.(8) of Division B is revoked and the following substituted:

(8) Except as required by Sentence 3.3.4.4.(8) and permitted by Sentences 3.3.4.4.(5) and (6), each suite in a *floor area* that contains more than one *suite* shall have

(a) an exterior *exit* doorway, or

(b) a doorway

(i) into a *public corridor*, or

(ii) to an exterior passageway.

(2) Article 3.3.1.3. of Division B is amended by adding the following Sentence:

(10) *Means of egress* from a roof for personnel servicing rooftop equipment or for a below ground *service room* that is not normally occupied, is permitted to be provided by stairways or fixed ladders.

153. Sentences 3.3.1.4.(3) and (4) of Division B are revoked and the following substituted:

(3) If a *storey* is *sprinklered* throughout, no *fire-resistance rating* is required for a *fire separation* between a *public corridor* and the remainder of the *storey* provided the corridor does not serve a *care*, *care and treatment*, *detention* or *residential occupancy*. (See Note A-3.1.8.1.(1)(b).)

(4) No *fire separation* is required in a *sprinklered floor area* between a *public corridor* and

(a) except as required by Sentences 3.3.3.5.(9) and 3.3.4.2.(1), and notwithstanding Sentence 3.4.2.4.(2), the remainder of a *storey*, provided the travel distance from any part of the *floor area* to an *exit* is not more than 45 m.,

(b) a room or a *suite*, provided the *public corridor* complies with Sentence 3.3.1.9.(4) and Clause 3.4.2.5.(1)(d), or

(c) a space containing *plumbing fixtures* required by Subsection 3.7.4. provided the space and the *public corridor* are separated from the remainder of the *storey* by a *fire separation* having a *fire-resistance rating* not less than that required between the *public corridor* and the remainder of the *storey*.

154. Sentence 3.3.1.5.(1) of Division B is revoked and the following substituted:

(1) Except for *dwelling units*, a minimum of 2 egress doorways located so that one doorway could provide egress from the room or *suite* as required by Article 3.3.1.3. if the other doorway becomes inaccessible to the occupants due to a fire which originates in the room or *suite*, shall be provided for every room and every *suite*

(a) whose area is more than 15 m^2, and is used for

(i) a *high-hazard industrial occupancy*, or

(ii) a *hazardous room*,

(b) intended for an *occupant load* more than 60,

(c) in a *floor area* that is not *sprinklered* throughout, and

(i) the area of a room or *suite* is more than the value in Table 3.3.1.5.-A, or

(ii) the travel distance within the room or suite to the nearest egress doorway is more than the value in Table 3.3.1.5.-A, or

(d) in a *floor area* that is *sprinklered* throughout and does not contain a *high-hazard industrial occupancy* and

(i) the travel distance to an egress doorway is more than 25 m, or

(ii) the area of the room or *suite* is more than the value in Table 3.3.1.5.-B, or

(e) where the area of the room is more than 100 m^2 and it is a *hazardous classroom* in elementary or secondary school.

Table 3.3.1.5.-A
Egress in Floor Area not Sprinklered Throughout

Forming Part of Sentence 3.3.1.5.(1)

Column 1 *Occupancy* of Room or *Suite*	Column 2 Maximum Area of Room or *Suite*, m^2	Column 3 Maximum Distance to Egress Doorway, m
Group A	150	15
Group C	100(1)	15(1)
Group D	200	25
Group E	150	15
Group F, Division 2	150	10
Group F, Division 3	200	15

Notes to Table 3.3.1.5.-A:

(1) See Article 3.3.4.4. for *dwelling units*.

Table 3.3.1.5.-B
Egress in Floor Area Sprinklered Throughout

Forming Part of Sentence 3.3.1.5.(1)

Column 1 *Occupancy* of Room or *Suite*	Column 2 Maximum Area of Room or *Suite*, m^2
Group A	200
Group B, Division 1	100
Group B, Division 2 or 3	
sleeping rooms	100
other than sleeping rooms	200
Group C	150(1)
Group D	300
Group E	200
Group F, Division 2	200
Group F, Division 3	300

Notes to Table 3.3.1.5.-B.:

(1) See Article 3.3.4.4. for *dwelling units*.

(3) Article 3.3.1.5. of Division B is amended by adding the following Sentences:

(3) Every room containing an *assembly occupancy* serving a *hotel*, and located in the *building* containing the *hotel*, shall be provided with no fewer than

(a) three separate egress doorways from the room where the *occupant load* is more than 600 persons, and

(b) four separate egress doorways from the room where the *occupant load* is more than 1 000 persons.

(4) Each egress doorway in Sentence (3) shall be considered as contributing not more than

(a) one-third of the required width where three egress doorways are required, and

(b) one-fourth of the required width where four egress doorways are required.

155. Article 3.3.1.7. of Division B is revoked and the following substituted:

3.3.1.7. Protection on Floor Areas within a Barrier-Free Path of Travel

(1) Except as provided in Sentences (1.1) and (1.2), every *floor area* above or below the *first storey* that has a *barrier-free* path of travel shall

(a) be served by an elevator

(i) conforming to Sentences 3.2.6.5.(4) to (6),

(ii) protected against fire in conformance with Clause 3.2.6.5.(3)(b) or (c), and

(iii) in a *building* over 3 *storeys* in *building height*, protected against smoke movement so that the hoistway will not contain more than 1% by volume of contaminated air from a fire floor during a period of 2 h after the start of a fire, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in conformance with MMAH Supplementary Standard SB-1, “Climatic and Seismic Data”, or

(b) be divided into at least two zones by *fire separations* conforming to Sentences (2) and (3) and 3.1.8.5.(6) so that

(i) persons with physical disabilities can be accommodated in each zone,

(ii) the travel distance from any point in one zone to a doorway leading to another zone shall be not more than the value for travel distance permitted by Sentence 3.4.2.5.(1) for the occupancy classification of the zone, and

(iii) a *barrier-free* path of travel is provided to an *exit*.

(1.1) In *residential occupancies*, the requirements of Sentence (1) are waived if a balcony conforming to Sentence (4) is provided for each *suite*, except for *suites* on the *storey* containing the *barrier-free* entrance described in Article 3.8.1.2.

(1.2) The requirements of Sentences (1) and (1.1) are waived when the *building* is *sprinklered* throughout.

(2) Except as permitted by Sentence (3), the *fire separations* referred to in Clause (1)(b) shall have a *fire-resistance rating* not less than 1 h.

(3) The *fire-resistance rating* of the *fire separations* referred to in Clause (1)(b) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

(a) the floor assembly above the *floor area*, or

(b) the floor assembly below the *floor area*, if there is no floor assembly above.

(4) A balcony required by Sentence (1.1) shall

(a) be provided with a doorway having a clear width of not less than 800 mm when the door is in the open position,

(b) have no projection above the walking surface more than 13 mm,

(c) be not less than 1.5 m deep from the outside face of the exterior wall to the inside edge of the balcony, and

(d) provide not less than 0.5 m2 for each occupant of the *suite*.

156. Article 3.3.1.9. to 3.3.1.11. of Division B are revoked and the following substituted:

3.3.1.9. Corridors

(1) The minimum width of a *public corridor* shall be 1 100 mm.

(2) Except as required by Sentences 3.3.3.3.(2) and (3), the minimum unobstructed width shall be 1 100 mm for every

(a) corridor used by the public,

(b) corridor serving classrooms, and

(c) corridor in a Group B, Division 2 or 3 *occupancy* where the corridor

(i) serves a *service room*,

(ii) serves an administrative area,

(iii) will not be used by non-ambulatory outpatients, or

(iv) will not be used by non-ambulatory residents.

(3) If a corridor contains an *occupancy*, the *occupancy* shall not reduce the unobstructed width of the corridor to less than its required width.

(4) If a *public corridor* conforming to Clause 3.4.2.5.(1)(d) contains an *occupancy*

(a) the *occupancy* shall be located so that for pedestrian travel there is an unobstructed width not less than 3 m at all times adjacent and parallel to all rooms and *suites* that front onto the *public corridor*, and

(b) the combined area of all *occupancies* in the *public corridor* shall be not more than 15% of the area of the *public corridor*.

(5) Except as provided in Sentences 3.3.3.3.(1), a dead-end corridor shall conform to Sentences (6) to (12).

(6) A dead-end corridor is permitted in an *assembly occupancy* where there is a second and separate egress doorway from each room or *suite* not leading into a dead-end corridor.

(7) Except as provided in Sentence 3.3.4.11.(10) and except for corridors served by a single *exit* as described in Sentence 3.3.4.4.(6), a dead-end *public corridor* is permitted in a *residential occupancy* provided it is not more than 6 m long.

(8) Dead-end corridors in Sentence (7) shall contain no door openings to *service rooms* containing fuel-fired *appliances* or rooms that may be considered a hazard.

(9) A dead-end *public corridor* is permitted in a *business and personal services occupancy* where

(a) the dead-end corridor

(i) serves an *occupant load* of not more than 30 persons,

(ii) is not more than 9 m long, and

(iii) is provided with doors having self-closing devices, or

(b) there is a second and separate egress doorway from each room or *suite* not leading into a dead-end corridor.

(10) A dead-end corridor is permitted in a *mercantile occupancy* where

(a) the dead-end corridor

(i) services an *occupant load* of not more than 30 persons,

(ii) is not more than 9 m long, and

(iii) is provided with doors having self-closing devices, or

(b) there is a second and separate egress doorway from each room or *suite* not leading into a dead-end corridor.

(11) A dead-end corridor is permitted in a *low- or medium-hazard industrial occupancy* where

(a) the dead-end corridor

(i) serves an *occupant load* of not more than 30 persons,

(ii) is not more than 9 m long, and

(iii) is provided with doors having self-closing devices, or

(b) there is a second and separate egress doorway from each room or *suite* not leading into a dead-end corridor.

(12) A dead-end corridor is permitted in a *high-hazard industrial occupancy* where there is a second and separate egress doorway from each room or *suite* not leading into a dead-end corridor.

3.3.1.10. Aisles

(1) Except as otherwise required by this Section, aisles shall be provided in conformance with the Fire Code made under the *Fire Protection and Prevention Act, 1997.*

3.3.1.11. Door Swing

(1) Except as permitted by Sentence (5) and Article 3.3.1.12., a door that opens into a corridor or other facility providing *access to exit* from a *suite*, or room not located within a *suite*, shall swing on a vertical axis.

(2) Except as permitted by Article 3.3.1.12, a door that opens into a corridor or other facility providing *access to exit* from a room or *suite* shall swing in the direction of travel to the *exit* if the room or *suite* is used or intended for

(a) an *occupant load* more than 60,

(b) a *high-hazard industrial occupancy*, or

(c) a *hazardous classroom* in an elementary or secondary school.

(3) Every door that divides a corridor that is not wholly contained within a *suite* shall swing on a vertical axis in the direction of travel to the *exit* where the corridor provides *access to exit* for

(a) an *occupant load* more than 60,

(b) a *high-hazard industrial occupancy*,

(c) a *hazard classroom* in an elementary or secondary school,

(d) a Group B, Division 2 or 3 *occupancy*, or

(e) a *retirement home*.

(4) If a pair of doors is installed in a corridor that provides *access to exit* in both directions, the doors shall swing in opposite directions, with the door on the right hand side swinging in the direction of travel to the *exit*.

(5) Doors that serve individual storage spaces not more than 28 m^2 in area in *self-service storage buildings* need not conform to Sentence (1).

157. Article 3.3.1.13. of Division B is revoked and the following substituted:

3.3.1.13. Doors and Door Hardware

(1) Except as required by Article 3.3.3.4. and Sentences 3.3.4.11.(11), 3.8.3.3.(1) and (2), a door that opens into or is located within a *public corridor* or other facility that provides *access to exit* from a *suite* shall

(a) provide a clear opening of not less than 850 mm, if there is only one door leaf,

(b) in a doorway with multiple leaves, have the active leaf providing a clear opening of not less than 850 mm,

(c) not open onto a step, and

(d) have a threshold not more than 13 mm higher than the floor surface except where

(i) the threshold is used to contain spillage, or

(ii) the doorway provides access to an exterior balcony, other than a balcony required by Sentence 3.3.1.7.(2).

(2) Except as provided in Sentences (6) and (7), a door in an *access to exit* shall be readily openable in travelling to an *exit* without requiring keys, special devices or specialized knowledge of the door opening mechanism.

(3) Except as permitted by Sentence (4), door release hardware shall be operable by one hand and the door shall be openable with not more than one releasing operation.

(4) Except in a *retirement home*, an egress door from an individual *dwelling unit* or from a *suite* of *residential occupancy* is permitted to be provided with additional devices that require a releasing operation additional to the main door release hardware, provided the devices are readily operable from the inside without the use of keys, special devices or specialized knowledge.

(5) Door release hardware shall be installed between 900 mm and 1 100 mm above the finished floor.

(6) An egress door in an *access to exit* serving a *contained use area* or an *impeded egress zone* is permitted to be equipped with locking devices, provided they can be released either locally or remotely in conformance with Sentence (8) or (9).

(7) A door in an *access to exit* is permitted to be equipped with an electromagnetic locking device conforming to Sentence 3.4.6.16.(5), except that this permission does not apply to a door

(a) in an elementary or secondary school,

(b) a door leading from a Group F, Division 1 *occupancy*, or

(c) except as provided in Sentence (11), requiring a latch release device by Article 3.3.2.6.

(8) Local locking devices permitted by Sentence (6) shall be operable by a key from both sides of the door.

(9) Controls for the remote release of door locking devices permitted by Sentence (6) shall be located in an area readily available to security personnel.

(10) Locking devices permitted by Sentence (6) that are electrically operated shall be

(a) designed to operate on emergency power, and

(b) capable of manual release by security personnel.

(11) A door in an *access to exit* in a *gaming premise* is permitted to be equipped with an electromagnetic locking device conforming to Sentences 3.4.6.16.(5) and (8).

158. Sentence 3.3.1.17.(4) of Division B is revoked and the following substituted:

(4) In an *access to exit* from a *floor area* used or intended to be used for patients or residents in a Group B, Division 2 or Division 3 *occupancy*, the required width of corridors, doorways, and *ramps* shall be based on not less than 18.4 mm per person.

159. Article 3.3.1.18. of Division B is revoked and the following substituted:

3.3.1.18. Guards

(1) Except as provided in Sentences (5) and (6) and Articles 3.3.2.9. and 3.3.4.7., a *guard* not less than 1 070 mm high shall be provided

(a) around any roof to which access is provided for purposes other than maintenance,

(b) at openings into smoke shafts referred to in Subsection 3.2.6. that are less than 1 070 mm above the floor,

(c) at each raised floor, *mezzanine*, balcony, gallery, interior or exterior vehicular *ramp*, and at other locations where

(i) the difference in level is more than 600 mm between the walking surface and the adjacent surface, or

(ii) the adjacent surface within 1.2 m of the walking surface has a slope of more than 1 in 2, and

(d) except as provided in Sentence (6), around each skylight located in a portion of a roof that is intended to be occupied.

(2) Except as provided in Sentences (3) and Sentence 3.3.2.9.(4), openings through any *guard* that is required by Sentence (1) shall be of a size that will prevent the passage of a sphere having a diameter more than 100 mm unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard.

(2.1) Except as permitted by Sentence 3.3.5.10.(1), openings through any *guard* that is required by Sentence (1) and that is installed in a *building* of *industrial occupancy* shall be of a size which will prevent the passage of a sphere having a diameter more than 200 mm unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard.

(3) Openings through any *guard* that is not required by Sentence (1) and that serves a *building* of other than *industrial occupancy*, shall be of a size that

(a) will prevent the passage of a sphere having a diameter more than 100 mm, or

(b) will permit the passage of a sphere having a diameter more than 200 mm unless it can be shown that the location and size of openings that exceed these limits do not represent a hazard.

(4) Unless it can be shown that the location and size of openings do not present a hazard, a *guard* shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above the level protected by the *guard* will facilitate climbing.

(5) Sentence (1) does not apply

(a) to the front edges of *stages*,

(b) to loading docks,

(c) to floor pits in repair *garages*, or

(d) where access is provided for maintenance purposes only.

(6) Clause (1)(d) does not apply to a skylight that

(a) is designed to support the loads specified in Part 4, or

(b) is provided with a skylight screen that

(i) has openings not more than 100 mm wide, and

(ii) can resist a concentrated load of 1.3 kN applied perpendicular at any point on the screen, without the deflection from this loading resulting in the breakage of the skylight glazing.

160. Sentence 3.3.1.19.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (2), tactile attention indicators conforming to Article 3.8.3.18., shall be installed

(a) at the top of *flights* that are unenclosed, and

(b) at drop-off edges with a change in elevation greater than 300 mm that are unprotected by a *guard*.

161. (1) Sentences 3.3.1.20.(1) and (2) of Division B are revoked and the following substituted:

(1) Except for *dwelling units* and as permitted by Sentence (5), a glass or transparent door shall be designed and constructed so that the existence and position of the door is readily apparent, by attaching visually contrasting hardware, bars or other permanent fixtures to it.

(2) Fully glazed transparent doors, and fully glazed transparent sidelights and panels with widths greater than 300 mm, shall be marked in conformance with Sentence 3.8.3.3.(15).

(2) Sentence 3.3.1.20.(6) of Division B is revoked and the following substituted:

(6) Glass in a vision panel in a door or in a transparent sidelight shall conform to Sentence 3.8.3.3.(14).

162. Sentences 3.3.2.1.(2) and (3) of Division B are revoked.

163. Article 3.3.2.2. of Division B is amended by adding the following Sentences:

(4) Except as required in Sentences (5) to (7), in an elementary or secondary school, a *hazardous classroom* shall be separated from the remainder of the *building* by a *fire-separation* having a *fire-resistance rating* not less than

(a) 1 h where the *building* is not *sprinklered*, or

(b) 30 min where the *building* is *sprinklered* throughout.

(5) Except as provided in Sentence (6), in an elementary or secondary school, a *hazardous classroom* containing an auto repair shop shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

(a) 2 h where the *building* is not *sprinklered*, or

(b) 1 h where the *building* is *sprinklered* throughout.

(6) In an elementary or secondary school, if there is a group of *hazardous classrooms* or a group of *hazardous classrooms* and ancillary rooms of a complementary use, the *fire separation* required by Sentence (4) or (5) need not be provided within the group but the *fire separation* is required between the group and the remainder of the *building*.

(7) In an elementary or secondary school, a *hazardous classroom* containing a spray painting operation shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

(a) 2 h, or

(b) 1 h where the spray painting operation is separated from the classroom by a *fire-separation* having a *fire-resistance rating* not less than 1 h.

(8) Except as required in Sentence (9), in an elementary or secondary school, where the *occupant load* of a room exceeds 200 persons, the room and any ancillary rooms of a complementary use shall be separated from the remainder of the *building* by *a fire separation* having a *fire-resistance rating* not less than

(a) 1 h where the *building* is not *sprinklered*, or

(b) 30 min where the *building* is *sprinklered* throughout.

(9) A kitchen shall not be located within the *fire compartment* required in Sentence (8).

164. Article 3.3.2.3. of Division B is revoked and the following substituted:

3.3.2.3. Reserved

165. (1) Sentence 3.3.2.4.(3) of Division B is revoked and the following substituted:

(3) Except as permitted by Sentences (4) and (5), aisles shall be located so that there are not more than 7 seats with backs or 20 seats without backs between any seat and the nearest aisle.

(2) Article 3.3.2.4. of Division B is amended by adding the following Sentences:

(5) The requirements of Sentences (3) do not apply if

(a) there are not more than 7 seats between any seat and the nearest aisle, where the seats are served by a single aisle,

(b) there are not more than 20 seats between any seat and the nearest aisle, where the seats are served by two aisles,

(c) each row has an unobstructed passage with minimum width of 400 mm plus 6.1 mm for each additional seat above 16 seats in the row, and

(d) the travel distance is not more than 45 m measured along the path of travel from any seat to an *exit* or to an egress doorway.

(6) Seating arrangements that do not conform to the requirements of Sentences (3) to (5) are permitted provided the standard of safety is not reduced and the time required for egress is not increased.

166. Article 3.3.2.5. of Division B is revoked and the following substituted:

3.3.2.5. Aisles

(1) Except as required by Articles, 3.3.2.11. and 3.3.2.12., aisles leading to egress doors or *exits* shall be provided in conformance with Sentences (2) to (27) in places of assembly that contain fixed seats.

(2) In this Subsection, a converging aisle is an aisle into which the occupants of two or more aisles converge in travelling to an *exit*.

(3) An aisle shall terminate at

(a) a converging aisle,

(b) an egress doorway from the seating area, or

(c) an *exit* from the seating area.

(4) A converging aisle shall terminate at

(a) an egress doorway from the seating area, or

(b) an *exit* from the seating area.

(5) The minimum clear width of aisles shall be not less than 1 100 mm, except that the width is permitted to be reduced to not less than

(a) 750 mm if serving not more than 60 seats, and

(b) 900 mm if serving seats on one side only.

(6) The minimum clear width of each aisle shall be measured at the point in the aisle furthest from

(a) an egress doorway referred to in Clause (15)(a),

(b) an *exit* referred to in Clause (15)(b), or

(c) an *exit* referred to in Sentence (16).

(7) Except for an aisle serving bleacher seats, where rows of seats discharge into an aisle, the minimum clear width required by Sentence (5) shall be increased by 25 mm for each metre of length of the aisle measured in the direction towards an *exit.*

(8) The width of a converging aisle shall be not less than the required width of the widest aisle plus 50% of the total required width of the remaining aisles that it serves.

(9) If rows of seats discharge directly into the converging aisle, the width required by Sentence (8) shall be increased by 25 mm for each meter of length of the aisle where the rows of seats discharge into the aisle.

(10) The width of an egress doorway or an *exit* leading directly from the seating area shall be not less than the required width of the widest aisle or converging aisle plus 50% of the total required width of the remaining aisles and converging aisles that it serves.

(11) The requirements in Sentences (5) to (10) and (17) do not apply if

(a) the minimum clear width of an aisle is in accordance with Articles 3.3.1.17., but is not less than 900 mm if serving seats on one side only,

(b) the minimum clear width of an aisle in accordance with Article 3.3.1.17., but is not less than 1 200 mm if serving seats on both sides,

(c) the minimum clear width of a converging aisle is in accordance with Article 3.3.1.17., but not less than the width of the widest aisle leading to the converging aisle,

(d) the minimum clear width of an *exit* leading directly from the seating area is in accordance with Article 3.4.3.2.,

(e) except as provided in Clause (f), the minimum clear width of an egress doorway leading directly from the seating area is in accordance with Article 3.3.1.17., but not less than the required width of the aisle or the converging aisle leading to the doorway, and

(f) if more than one vomitory is provided

(i) the minimum total clear width of the egress doorways leading from one vomitory is not less than the required width of the aisle or the converging aisle leading to the doorways, and

(ii) the minimum clear width of egress doorways from additional vomitories is in accordance with Article 3.3.1.17.

(12) Except as provided in Sentences (13) and (14), dead-end aisles shall not be more than 6 m long.

(13) Dead-end aisles are permitted to be more than 6 m long, but not more than 10 m long if

(a) the seating area is separated from other seating areas and adjacent *occupancies*, including a corridor serving any seating area, by a *fire separation* in accordance with Sentences 3.3.2.2.(1) and (2),

(b) the travel distance is not more than 25 m measured along the path of travel from any seat to an *exit*, to an egress doorway or to an opening into a vomitory,

(c) at least one *means of egress*, comprising not less than 30 percent of the required *exit* capacity, is through an exterior *exit*, an *exit* stairway or a corridor not containing an *occupancy*,

(d) each row served by the dead-end aisle has a minimum unobstructed width of 400 mm plus 6.1 mm for each additional seat above seven seats in a row, but not more than 550 mm,

(e) the minimum ceiling height above the seating area is 3 m,

(f) the activation of a *fire detector* or a sprinkler head in the seating area will

(i) cause the shutdown of the projection system serving the seating area, and

(ii) turn on the normal lighting in the seating area, and

(g) the *floor area* is *sprinklered*.

(14) Dead-end aisles are permitted to be more than 10 m long, but not more than 13 m long if

(a) the seating area is separated from other seating areas and adjacent *occupancies*, include a corridor serving any seating area, by a fire separation in accordance with Sentences 3.3.2.2.(1) and (2),

(b) the travel distance is not more than 25 m measured along the path of travel from any seat to an *exit*, to an egress doorway or to an opening into a vomitory,

(c) at least one *means of egress*, comprising not less than 30 percent of the required *exit* capacity, is through an exterior exit, an *exit* stairway or a corridor not containing an *occupancy*,

(d) each row served by a dead-end aisle has a minimum unobstructed width of 400 mm plus 6.1 mm for each additional seat above seven seats in a row, but not more than 550 mm,

(e) the activation of a *fire detector* or a sprinkler head in the seating area will

(i) cause the shutdown of the projection system serving the seating area, and

(ii) turn on the normal lighting in the seating area,

(f) a voice communication system is installed in conformance with Article 3.2.4.22.,

(g) a smoke control system is installed to control movement of smoke in the seating area or a smoke exhaust system is provided so that, in the event of detection of smoke by a *smoke detector* in the seating area, air handling equipment is activated to extract air directly from the seating area at the rate of at least six air changes per hour, and

(h) the *floor area* is *sprinklered*.

(15) Where a seating area is separated as required by Sentences 3.3.2.2.(1) and (2) or 3.3.2.2.(8), the length of travel by any aisle shall be not more than 45 m measured from the most remote point of the aisle to

(a) an egress doorway in the required separation, or

(b) an *exit* leading directly from the seating area.

(16) Where a seating area is not required to be separated by Sentences 3.3.2.2.(1) and (2) or 3.3.2.2.(8), the travel distance shall be not more than 45 m measured from the most remote point of the aisle to an *exit*.

(17) Side aisles shall be not less than 1 100 mm wide if seating is provided in conformance with Sentence 3.3.2.3.(4).

(18) An aisle that has a slope not more than 1 in 8 shall not be stepped.

(19) An aisle that slopes more than 1 in 8 shall be stepped.

(20) The passageway between rows of seats served by a stepped aisle shall be level at right angles to the line of travel.

(21) The riser of a step in an aisle shall be

(a) not less than 110 mm high, and

(b) not more than 200 mm high.

(22) Variations are permitted in riser height provided

(a) the height of adjacent risers does not vary by more than 6 mm, and

(b) the depth of a tread or a platform in the direction of travel is not less than 430 mm.

(23) Steps in an aisle shall

(a) have a *run* not less than 230 mm exclusive of nosings,

(b) have a tread depth not less than 250 mm,

(c) extend to the adjacent rows of seats in a manner that will not create a hazard from tripping, and

(d) have a finish on the treads conforming to Sentence 3.4.6.1.(1).

(24) The location of every riser in an aisle shall be made apparent from both directions of travel by strategically placed lighting or contrasting marking stripes.

(25) A platform in an aisle shall be level, except that a slope not more than 1 in 50 is permitted for a platform that is not less than 430 mm deep in the direction of *exit* travel.

(26) If a step is used at the entry to a row of seats from a stepped aisle, an unobstructed platform not less than 800 mm square shall be provided adjacent to the aisle.

(27) The finish of the surface of a platform in or adjacent to stepped aisle shall conform to Sentence 3.4.6.1.(1).

167. (1) Sentence 3.3.2.14.(4) of Division B is revoked and the following substituted:

(4) A fire curtain required by Sentence (3) shall be of a type acceptable to the *principal authority* and designed to close

(a) automatically upon the actuation of the sprinkler system,

(b) automatically upon actuation of the fire alarm system, and

(c) manually by remote control devices located at the curtain control panel and at each side of the *stage*.

(2) Sentence 3.3.2.14.(6) of Division B is revoked and the following substituted:

(6) The *fire separation* referred to in Sentence (3) is not required between a *stage* and a seating area in a *floor area* that is *sprinklered*, provided a sprinkler deluge system is installed at the boundary between the *stage* and the seating area.

168. Sentence 3.3.2.16.(1) of Division B is revoked and the following substituted:

(1) A room intended for the storage of *flammable liquids* or *combustible liquids* required by the Fire Code made under the *Fire Protection and Prevention Act, 1997* shall not be located above or below the *first storey* of the *building*.

169. Subsection 3.3.3. of Division B is revoked and the following substituted:

3.3.3. Care, Care and Treatment or Detention Occupancy

3.3.3.1. Scope

(1) This Subsection applies to *care occupancies, care and treatment occupancies* and *detention occupancies*.

3.3.3.2. Fire Separations

(1) The *fire separation* required by Sentence 3.3.5.5.(1) between a *care, care* and *treatment* or *detention occupancy* and a *repair garage* shall have no openings.

(2) Except as permitted by Sentence (4), in a Group B, Division 3 *occupancy*, walls between sleeping rooms and adjacent rooms shall be constructed as *fire separations* having a *fire-resistance rating* not less than 1 h, except that the *fire-resistance rating* need not be more than 45 min where the floor assembly is not required to be more than 45 min.

(3) Except as permitted by Sentence (4), in a Group B, Division 3 *occupancy*, walls separating corridors serving sleeping rooms from adjacent rooms shall be constructed as *fire separations* having a *fire-resistance rating* not less than 1 h, except that the *fire-resistance rating* need not be more than 45 min where the floor assembly is not required to be more than 45 min.

(4) The walls separating sleeping rooms from adjacent rooms and corridors in those parts of a *floor area* classified as a Group B, Division 3 *occupancy* shall be constructed as *fire separations* but are not required to have a *fire-resistance rating* if

(a) those parts of the *floor area* contain sleeping accommodation for not more than 10 persons, and

(b) not more than six occupants require assistance in evacuation in case of an emergency.

(5) The door in the *fire separation* required in Sentence (4) is permitted to be equipped with a roller latch and need not be provided with a self-closing device.

3.3.3.3. Corridors

(1) A corridor used by the public or serving patients or residents shall have no dead-end portion unless the area served by the dead-end portion has a second and separate *means of egress*.

(2) A corridor serving patients in a hospital shall be not less than 2 400 mm wide.

(3) Except as permitted in Sentence (5), a corridor serving residents who are not ambulatory in a Group B, Division 2 or 3 *occupancy* shall be not less than 1 650 mm wide.

(4) Paired doors in a corridor serving patients or residents shall

(a) swing in opposite directions, the righthand door swinging in the direction of travel, and

(b) be not less than 1 100 mm wide.

(5) A corridor in a Group B, Division 3 *occupancy* that contains sleeping accommodation for not more than 10 persons and not more than six occupants require assistance in evacuation in case of an emergency need not comply with Sentence (3).

3.3.3.4. Doorway Width

(1) In a Group B, Division 2 or 3 *occupancy*, the minimum clear width of doorways through which it is necessary to move a patient or resident in a bed shall be 1 050 mm.

3.3.3.5. Hospitals and Long-Term Care Homes

(1) *Floor areas* containing patients' or residents' sleeping rooms in a hospital or long-term care home shall conform to Sentences (2) to (12).

(2) Except as permitted by Sentence (3), a *floor area* containing patients' or residents' sleeping rooms in a hospital or long-term care home shall be divided into no fewer than two *fire compartments*, each not more than 1 000 m^2 in area.

(3) The *floor area* on either side of a *horizontal exit* conforming to Article 3.4.6.10. is permitted to be considered as a *fire compartment* in applying the requirements of this Article.

(4) Except as permitted by Sentence (5), *fire separations separating fire compartments* required by Sentence (2) shall have a *fire-resistance rating* not less than 1 h.

(5) The *fire-resistance rating* of a *fire separation* referred to in Sentence (4) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

(a) the floor assembly above the *floor area*, or

(b) the floor assembly below the *floor area*, if there is no floor assembly above.

(6) Reserved.

(7) The travel distance from any point within each *fire compartment* referred to in Sentence (2) to a door to an adjoining *fire compartment* shall be not more than 45 m.

(8) Each *fire compartment* referred to in Sentence (2) shall be capable of accommodating, in addition to its own occupants, the occupants of the largest adjacent

fire compartment based on a clear floor space of 2.5 m^2 per patient or resident in the adjacent *fire compartment*.

(9) Except as permitted by Sentences (10) and (11), walls between patients' or residents' sleeping rooms and the remainder of the *floor area* shall be constructed as *fire separations* but are not required to have a *fire-resistance rating* unless a *fire-resistance rating* is required by other provisions in this Part.

(10) The *fire separation* requirements of Sentence (9) do not apply to walls within a group of intercommunicating patients' or residents' rooms, provided the group of rooms does not

(a) contain more than five patients or residents, or

(b) include storage, bathing or toilet facilities serving persons not occupying the groups of rooms.

(11) A door in a *fire separation* required by Sentence (9) is permitted to be equipped with a roller latch.

(12) A *fire separation* required by Sentence (9) shall not contain any grilles, louvres or other openings**.**

3.3.3.6. Protection for Special Care and Treatment

(1) Compartments containing rooms such as operating rooms, recovery rooms, delivery rooms and intensive care units and critical care units, from which it is impracticable to move patients in an emergency, shall be

(a) separated from adjacent spaces by *fire separations* having a *fire-resistance rating* not less than 1 h, and

(b) provided with a mechanical air supply so that during a period of 2 h after the start of a fire in another space, the compartments will not contain more than 1% by volume of contaminated air from the fire area.

3.3.3.7. Contained Use Areas

(1) A *contained use area* shall conform to Sentences (2) to (5).

(2) A *contained use area* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(3) Except as permitted by Sentence (4), a *building* that includes a *contained use area* shall be *sprinklered* throughout.

(4) A *contained use area*, in a *building* for which Articles 3.2.2.20. to 3.2.2.93. do not require the installation of an automatic sprinkler system, is not required to be *sprinklered* as required by Sentence (3) provided

(a) the *building* is designed so that during a period of 2 h after the start of a fire in the *contained use area*, other *fire compartments* will not contain more than 1% by volume of contaminated air from the *contained use area*,

(b) the *building* is designed so that during a period of 2 h after the start of a fire in another part of the *building*, the *contained use area* will not contain more than 1% by volume of contaminated air from the other part of the *building*,

(c) all doors are designed to be remotely released in conformance with Sentence 3.3.1.13.(6), and

(d) the *contained use area* does not contain any rooms lined with *combustible* padding.

(5) A corridor serving a *contained use area* shall have no dead-end portion unless the area served by the dead-end portion has a second and separate *means of egress*.

3.3.3.8. Handrails

(1) Corridors and *ramps* used by residents in a long-term care home shall be equipped with handrails on each side conforming to Sentences 3.4.6.5.(5) to (7) and (11) to (13).

170. Sentences 3.3.4.2.(4) and (5) of Division B are revoked and the following substituted:

(4) Except in a *retirement home*, the *fire-resistance rating* of the *fire separation* located between a *dwelling unit* and an attached *storage garage* need not conform to that required by Sentence 3.3.5.6.(1) provided

(0.a) the *storage garage* contains not more than five vehicles,

(a) the *dwelling unit* and the attached *storage garage* are *sprinklered*,

(b) the *dwelling unit* is separated from the remainder of the *building* in conformance with Sentences (1) to (3),

(c) there are no air duct systems connecting the *storage garage* and the *dwelling unit*,

(d) the construction between the *storage garage* and the *dwelling unit* provides an effective barrier to gas and exhaust fumes, and

(e) every door between the *storage garage* and the *dwelling unit* is

(i) tight fitting and weather-stripped to provide an effective barrier against the passage of gas and exhaust fumes,

(ii) fitted with a self-closing device, and

(iii) not located in a room intended for sleeping.

(5) Except in a *retirement home*, the fire separation required by Sentence 3.3.5.6.(1) is not required between a *dwelling unit* and an attached *storage garage*, serving that *dwelling unit* only, provided

(a) the *dwelling unit* and its attached *storage garage* are separated from the remainder of the *building* in conformance with Sentences (1) to (3),

(b) there are no air duct systems connecting the *storage garage* and the *dwelling unit*,

(c) the construction between the *storage garage* and the *dwelling unit* provides an effective barrier to gas and exhaust fumes, and

(d) every door between the *storage garage* and the *dwelling unit* is

(i) tight fitting and weather-stripped to provide an effective barrier against the passage of gas and exhaust fumes,

(ii) fitted with a self-closing device, and

(iii) not located in a room intended for sleeping.

171. Sentence 3.3.4.3.(4) of Division B is revoked and the following substituted:

(4) Except where located within a *dwelling unit*, a room intended for the storage of *flammable liquids* or *combustible liquids* required by the Fire Code made under the *Fire Protection and Prevention Act, 1997* shall not be located above or below the *first storey* of the *building*.

172. Article 3.3.4.4. of Division B is revoked and the following substituted:

3.3.4.4. Egress from Dwelling Units

(1) Except as required by Sentence (8), single *storey dwelling units* in an apartment *building* need not lead to a *public corridor* or exterior passageway on the same *storey* provided the *dwelling units* are served by private stairways leading directly to a public *access to exit* on the *storey*

(a) immediately above, and

(b) immediately below.

(2) Except as required by Sentence (8) and as permitted by Sentences (3) and (4), a *dwelling unit* containing more than one *storey* shall have an *exit* door or an egress door opening directly into a public *access to exit* from the uppermost *storey* and from the lowest *storey* of the *dwelling unit* so that each of these *storeys* is served by an *exit* or egress door located not more than 1.5 m above or below its floor level.

(3) A single *exit* is permitted from a *dwelling unit* provided the *exit* is an exterior doorway not more than 1.5 m above adjacent ground level and

(a) it is not necessary to travel up or down more than one *storey* to reach the *exit* door, or

(b) the uppermost floor level opens to a balcony not more than 6 m above adjacent ground level.

(4) An egress door from either the uppermost *storey* or the lowest *storey* of a *dwelling unit*, as required by Sentence (2), need not be provided

(a) except as required by Sentence (8), if that *storey* is served by a stairway that

(i) leads to public *access to exit*,

(ii) has no direct access to any other *storey* in the *dwelling unit*, and

(iii) is separated from the other *storeys* in the *dwelling unit* by a *fire separation* having a *fire-resistance rating* of not less than 45 min,

(b) on the uppermost *storey* in the *dwelling unit* has not more than 2 *storeys* above the *first storey* of the *building,*

(c) if it is not necessary to travel either more than 18 m or more than one *storey* up or down without the *dwelling unit* to reach the egress door, or

(d) if that *storey* is

(i) provided with a balcony conforming to Sentence (7),

(ii) not more than 2 *storeys* above or below the *dwelling unit* egress door, and

(iii) in a *building* that is not more than 6 *storeys* in *building height*.

(5) In a *building* of *residential occupancy* not more than 3 *storeys* in *building height*, a doorway from a *dwelling unit* is permitted to open directly into an *exit* stairway provided the *dwelling unit* has a second and separate *means of egress*.

(6) If a *dwelling unit* has a second and separate *means of egress*, one *means of egress* from a *dwelling unit* is permitted to pass through

(a) an interior corridor served by a single *exit*,

(b) an exterior balcony served by a single *exit* stairway, or

(c) an exterior passageway served by a single *exit* stairway.

(7) Where a balcony is provided to meet the requirements of Sentence (3) or (4), the balcony shall have,

(a) a solid floor having a *fire-resistance rating* not less than that required for a floor assembly between *suites*, and

(b) an area providing not less than 1.5 m^2 per *suite* occupant, based on *occupant load*, and a minimum dimension of 1 200 mm.

(8) Each *dwelling unit* in a *building* conforming to Subclause 3.2.2.50.(1)(a)(ii) shall be served by

(a) a direct *exit* that is an exterior doorway located not more than 1.5 m above adjacent ground level, or

(b) a stairway that

(i) leads to an exterior doorway not more than 1.5 m above adjacent ground level,

(ii) has no access to another *dwelling unit*, and

(iii) is separated from the remainder of the *building* with a *fire separation* having a *fire-resistance rating* not less than 1 h.

173. Sentence 3.3.4.5.(1) of Division B is revoked and the following substituted:

(1) Except for *hotels*, a door opening onto a *public corridor* that provides *access to exit* from a *suite* shall be designed not to lock automatically.

174. Sentence 3.3.4.6.(1) of Division B is revoked and the following substituted:

(1) *Buildings* containing *dwelling units* shall be constructed so that airborne noise is controlled in conformance with Section 5.8.

175. Article 3.3.4.7. of Division B is revoked and the following substituted:

3.3.4.7. Stairs, Ramps, Landings, Handrails and Guards for Dwelling Units

(1) Except as required in Article 3.3.4.8., stairs, *ramps*, landings, handrails and interior *guards* within a *dwelling unit* shall conform to the applicable requirements in Section 9.8.

(2) Except as provided in Sentence (3), exterior stairs, *ramps*, landings, handrails and *guards* serving a single *dwelling unit* shall conform to the applicable requirements in Sentence 3.1.21.1.(1) and Section 9.8.

(3) Loads on exterior *guards* serving a single *dwelling unit* shall comply with Part 4.

176. Subsection 3.3.4. of Division B is amended by adding the following Articles:

3.3.4.9. Stud Wall Reinforcement

(1) If wood wall studs or sheet steel wall studs enclose the main bathroom in a *dwelling unit*, reinforcement shall be installed to permit the future installation of the following:

(a) for a water closet, a grab bar described in Clauses 3.8.3.8.(3)(a) and a grab described in Clause 3.8.3.8.(3)(c),

(b) for a shower, grab bars described in Clause 3.8.3.13.(2)(g), and

(c) for a bathtub, grab bars described in Clause 3.8.3.13.(7)(e).

3.3.4.10. Resistance to Forced Entry

(1) Resistance to forced entry into *dwelling units* shall conform to the applicable requirements in Articles 9.7.5.2. and 9.7.5.3.

3.3.4.11. Retirement Homes

(1) *Floor areas* containing residents' sleeping rooms in a *retirement home* shall conform to Sentences (2) to (12).

(2) Except as permitted by Sentence (3), a *floor area* containing residents' sleeping rooms in a *retirement home* where sleeping accommodation is provided for more than 10 residents shall be divided into no fewer than two *fire compartments*, each not more than 1 000 m^2 in area.

(3) The *floor area* on either side of a *horizontal exit* conforming to Article 3.4.6.10. is permitted to be considered as a *fire compartment* in applying the requirements of this Article.

(4) Except as permitted by Sentence (5), *fire separations* separating *fire compartments* required by Sentence (2) shall have a *fire-resistance rating* not less than 1 h.

(5) The *fire-resistance rating* of a *fire separation* referred to in Sentence (4) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

(a) the floor assembly above the *floor area*, or

(b) the floor assembly below the *floor area*, if there is no floor assembly above.

(6) A *closure* in a *fire separation* between *fire compartments* referred to in Sentence (2) shall be weather-stripped or otherwise designed and installed to retard the passage of smoke.

(7) The travel distance from any point within each *fire compartment* referred to in Sentence (2) to a door to an adjoining *fire compartment* shall be not more than 45 m.

(8) Each *fire compartment* referred to in Sentence (2) shall be capable of accommodating, in addition to its own occupants, the occupants of the largest adjacent *fire compartment* based on a clear floor space of 1.5 m^2 per resident in the adjacent *fire compartment*.

(9) The *fire separation* required by Sentence 3.3.5.5.(1) between a *retirement home* and a *repair garage* shall have no openings.

(10) In a *retirement home*, a dead-end *public corridor* is permitted provided it is not more than 3 m long.

(11) The minimum clear width of doorways serving residents in a *retirement home* shall be 850 mm.

(12) A voice communication system conforming to Article 3.2.4.22. shall be provided in a *retirement home*.

177. Sentence 3.3.5.2. of Division B is revoked and the following substituted:

(1) In addition to other requirements in this Division for the installation of automatic fire extinguishing systems, an appropriate fire extinguishing system shall be installed in every *industrial occupancy floor area* to provide protection if required by

(a) the Fire Code made under the *Fire Protection and Prevention Act, 1997*, or

(b) the CCBFC NRCC-CONST 56437E, "National Fire Code of Canada," in the absence of provisions referred to in Clause (a).

178. Sentences 3.3.5.4.(4) to (6) of Division B is revoked and the following substituted:

(4) A *storage garage* or *repair garage* shall be provided with natural or mechanical ventilation in conformance with the requirements of Subsection 6.3.1. and Article 6.9.1.2. to prevent excessive accumulation of carbon monoxide, exhaust fumes or flammable and toxic vapours.

(5) Except as required by Sentence 3.8.2.2.(2), the clear height in a *storage garage* shall be not less than 2 m.

(6) Where *storage garage* or *repair garage* floors or *ramps* are 600 mm or more above the adjacent ground or floor level, every opening through such floors and the perimeter of such floors and *ramps* shall be provided with

(a) a continuous curb not less than 140 mm high, a *guard* not less than 1 070 mm high and a vehicle guardrail not less than 500 mm high conforming to Sentence (7), or

(b) a full-height wall conforming to Sentence (7).

179. Sentences 3.3.5.7.(1) and (2) of Division B are revoked and the following substituted:

(1) If access is provided through a *fire separation* between a *storage garage* and a Group A, Division 1 or Group B *occupancy* or a *retirement home*, the access shall be through a vestibule conforming to Sentence (4).

(2) Reserved.

180. Articles 3.3.5.8. and 3.3.5.9. of Division B are revoked and the following substituted:

3.3.5.8. Reserved

3.3.5.9. Reserved

181. Subsection 3.3.5. of Division B is amended by adding the following Article:

3.3.5.11. Toe-Boards Required

(1) Where tools or other objects could fall from the floor of an upper level to a lower level in a room or space intended for use as a Group F *occupancy*, the edge of the floor at the upper level shall be provided with a toe-board extending from the floor surface to a height at least 125 mm above the floor surface.

182. Sentence 3.3.6.2.(3) and (4) of Division B are revoked and the following substituted:

(3) The design and *construction* of *buildings* or part of a *building* intended for the storage of *dangerous goods* classified as explosives shall conform to the *Explosive Act* (Canada) and the regulations made under that Act.

183. Articles 3.3.6.3. and 3.3.6.4. of Division B is revoked and the following substituted:

3.3.6.3. Indoor Storage of Compressed Gases

(1) Except as provided by Sentence (3), where required by the Fire Code made under the *Fire Protection and Prevention Act, 1997*, a room intended for the indoor storage of cylinders containing flammable *compressed gases* shall meet the following requirements,

(a) it is separated from the remainder of the *building* by a gas-tight *fire separation* having a *fire-resistance rating* of not less than 2 h

(b) it is located on an exterior wall of the *building*,

(c) it can be entered from the exterior,

(d) it is ventilated in conformance with Sentence (4),

(e) it is constructed so that an exterior wall provides explosion venting

(i) in the ratio of 0.2 m^2 for each cubic metre of room volume, or

(ii) in the ratio computed in accordance with NFPA 68, "Standard on Explosion Protection by Deflagration Venting", but in no case less than 0.065 m^2 of vent area for each cubic metre of room volume,

(f) it is not intended to contain fuel-fired equipment or high temperature heating elements, and

(g) it is not intended to be used for a purpose other than the storage of *compressed gas*.

(2) Where a *closure* is installed in the *fire separation* separating the room from the remainder of the *building* in accordance with Clause (1)(a), it shall be

(a) equipped with a self-closing device that keeps the *closure* closed when not in use, and

(b) constructed so as to prevent the migration of gases from the room into other parts of the *building*.

(3) Where required by the Fire Code made under the *Fire Protection and Prevention Act, 1997*, a room intended for the storage of not more than three cylinders of flammable *compressed gases* that are heavier than air and that have an aggregate capacity not exceeding 100 kg shall be

(a) separated from the remainder of the *building* by a gas-tight *fire separation* having a *fire-resistance rating* not less than 45 min,

(b) located at or above *grade*, and

(c) ventilated in conformance with Sentence (4).

(4) A room described in Sentence (1) or (3) shall be

(a) mechanically vented to the outside so as to ensure at least one air change per hour, or

(b) naturally vented to the outside so as to ensure cross ventilation through non-closable louvered openings with

(i) at least one opening having an aggregate free opening area of at least 0.2 m^2 per 100 m^2 of the *floor area* located not more than 300 mm from the ceiling, and

(ii) at least one opening having an aggregate free opening area of at least 0.2 m^2 per 100 m^2 of the *floor area* located not more than 300 mm from the floor.

(5) Except as permitted by Sentences (6) and (7), where required by the Fire Code made under the *Fire Protection and Prevention Act, 1997*, an area intended for the storage of cylinders containing *compressed gases* that may react with one another shall be divided into separate *fire compartments* having a *fire-resistance rating* not less than 1 h.

(6) Separate *fire compartments* required by Sentence (5) need not be provided, if the area intended for the storage of cylinders containing *compressed gases* that are lighter than air is separated by a concrete or masonry wall having the height of at least 2.0 m and projecting at least 1.0 m, measured horizontally, beyond the cylinders.

(7) Separate *fire compartments* required by Sentence (5) need not be provided, if the area intended for the storage of cylinders containing *compressed gases* that are heavier than air is separated by a concrete or masonry wall having a height of at least 1.5 m and projecting such that the minimum distance that vapour can travel between two cylinders of gas that may react with each other is not less than 15 m, measured horizontally.

3.3.6.4. Storage and Dispensing Rooms for Flammable Liquids and Combustible Liquids

(1) A room intended for the storage of *flammable liquids* and *combustible liquids* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* in conformance with the Fire Code made under the *Fire Protection and Prevention Act, 1997*.

(2) Except as provided by Sentences (3) and (4), a room intended for the storage or dispensing of Class IA or Class IB liquids in open containers shall be designed to prevent critical structural and mechanical damage from an internal explosion in accordance with good engineering practice, such as that described in NFPA 68, “Standard on Explosion Protection by Deflagration Venting.”

(3) Sentence (2) does not apply to a room intended for the storage of *distilled beverage alcohol*.

(4) A room in an *occupancy* or facility covered by Regulation 851 of the Revised Regulations of Ontario, 1990 (Industrial Establishments), made under the *Occupational Health and Safety Act,* or Ontario Regulation 67/93 (Health Care and Residential

Facilities), made under the Act, where Class IA liquids are intended to be stored in closed containers or Class I liquids are intended to be dispensed or stored in open containers, shall be designed to prevent critical structural and mechanical damage from an internal explosion in accordance with good engineering practice, such as described in NFPA 68, "Standard on Explosion Protection by Deflagration Venting".

(5) A dispensing room in an *occupancy* or facility described in Sentence (4) which has an area greater than 15 m^2 or in which the travel distance from any point to the nearest egress door is more than 4.5 m shall

(a) be located in a *floor area* that has at least two *exits*, and

(b) have at least two egress doors.

(6) An egress door serving a room described in Sentence (5) shall

(a) be equipped with a self-closing device, and

(b) swing on a vertical axis in the direction of travel to the *exit*.

(7) The minimum distance between the egress doors described in Clause (5)(b) shall not be less than three-quarters of the maximum diagonal dimension of the room.

(8) The travel distance within the room to the nearest egress door described in Clause (5)(b) shall not be more than 23 m.

184. Article 3.3.6.6. of Division B is revoked and the following substituted:

3.3.6.6. Ammonium Nitrate Storage

(1) Where the Fire Code made under the *Fire Protection and Prevention Act, 1997* applies due to the quantity and nature of the stored product, a *building* intended for the storage of ammonium nitrate shall

(a) be not more than one *storey* in *building height*,

(b) not contain a *basement* or crawl space,

(c) not contain open floor drains, tunnels, elevator pits or other pockets that might trap molten ammonium nitrate,

(d) have *noncombustible* flooring materials in storage areas,

(e) be designed to prevent the ammonium nitrate from coming into contact with *building* materials that

(i) will cause the ammonium nitrate to become unstable,

(ii) may corrode or deteriorate by reason of contract with the ammonium nitrate, or

(iii) will become impregnated with the ammonium nitrate, and

(f) have not less than 0.007 m^2 of vent area for each square metre of storage area, unless mechanical ventilation is provided.

185. Article 3.4.1.5. of Division B is amended by adding the following Sentence:

(2) Every exterior *exit* passageway that has as drop of more than 500 mm on any side shall have *guards* on the open sides not less than 1070 mm high.

186. Sentence 3.4.1.6.(2) of Division B is revoked and the following substituted:

(2) In a hospital or long-term care home, *horizontal exits* serving patients' or residents' sleeping rooms shall comprise not more than two-thirds of the required number of *exits* from any *floor area*.

(3) Where an elementary or secondary school is subdivided by a *firewall*, a *horizontal exit* shall not serve as an *exit* but is permitted to serve as an *access to exit*.

187. Subsection 3.4.1. of Division B is amended by adding the following Article:

3.4.1.11. Exterior Stairway for Long-Term Care Homes

(1) No open exterior stairway shall serve as a *means of egress* for residents above the second floor of a long-term care home.

188. (1) Table 3.4.2.1.-A of Division B is revoked and the following substituted:

Table 3.4.2.1.-A
Criteria for One Exit (Floor Area Not Sprinklered Throughout)

Forming Part of Sentence 3.4.2.1.(2)

Occupancy of *Floor Area*	Maximum *Floor Area*, m^2	Maximum Travel Distance, m
Group A	150	15
Group C	100	15
Group D	200	25
Group E	150	15
Group F, Division 2	150	10
Group F, Division 3	200	15

(2) Sentence 3.4.2.1.(4) of Division B is revoked and the following substituted:

(4) The requirements of Sentences (1) and (2) are permitted to be waived for *dwelling units* having *access to exit* conforming to Sentences 3.3.4.4.(1) to (4) and (8).

189. Article 3.4.2.4. of Division B is amended by adding the following Sentence:

(4) If there is a *firewall* in an elementary or secondary school, the travel distance shall not be measured to a door in the *firewall*, but shall be measured to an exterior *exit* door or an *exit* door to a stairway.

190. Sentence 3.4.2.5.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentences (2) and 3.3.2.5.(13) to (16), if more than one *exit* is required from a *floor area*, the *exits* shall be located so that the travel distance to at least one *exit* shall be not more than

(a) 25 m in a *high-hazard industrial occupancy*,

(b) 40 m in a *business and personal services occupancy*,

(c) 45 m in a *floor area* that contains an *occupancy* other than a *high-hazard industrial occupancy*, provided it is *sprinklered* throughout,

(d) 105 m in any *floor area*, served by a *public corridor*, in which rooms and *suites* are not separated from the remainder of the *floor area* by a *fire separation*, provided

(i) the *public corridor* is not less than 9 m wide,

(ii) the ceiling height in the *public corridor* is not less than 4 m above all floor surfaces,

(iii) the *building* is *sprinklered* throughout, and

(iv) not more than one-half of the required egress doorways from a room or *suite* open into the *public corridor* if the room or *suite* is required to have more than one egress doorway,

(e) 60 m in any *storage garage* that conforms to the requirements of Article 3.2.2.92., and

(f) 30 m in any *floor area* other than those referred to in Clauses (a) to (e).

191. Sentence 3.4.3.2.(2) of Division B is revoked and the following substituted:

(2) The minimum aggregate width of *exits* serving *floor areas* intended for a *care*, *care and treatment* or *detention occupancy* shall be determined by multiplying the *occupant load* of the area served by 18.4 mm per person.

192. Table 3.4.3.2.-B of Division B is revoked and the following substituted:

Table 3.4.3.2.-B
Minimum Widths of Exit Corridors, Passageways, Ramps, Stairs and Doorways in Group B, Division 2 and Division 3 Occupancies

Forming Part of Sentence 3.4.3.2.(8)

Occupancy Classification	*Exit* Corridors and Passage-ways, mm	*Ramps*, mm		Stairs, mm		Doorways, mm	
		Not serving patients' or residents' sleeping rooms[1]	Serving patients' or residents' sleeping rooms[1]	Not serving patients' or residents' sleeping rooms[1]	Serving patients' or residents' sleeping rooms[1]	Not serving patients' or residents' sleeping rooms[1]	Serving patients' or residents' sleeping rooms[1]
Group B, Division 2	1 100	1 100	1 650	900[2] 1 100[3]	1 650	850	1 050
Group B, Division 3	1 100	1 100	1 650	900[2] 1 100[3]	1 650	850	1 050

Notes to Table 3.4.3.2.-B:

[1] Minimum widths of *ramps*, stairs and doorways do not apply within individual *suites* of *care occupancy*.

[2] Serving not more than 2 *storeys* above the lowest *exit* level or not more than 1 *storey* below the lowest *exit* level.

[3] Serving more than 2 *storeys* above the lowest *exit* level or more than 1 *storey* below the lowest *exit* level.

193. Sentences 3.4.3.3.(3) and (4) of Division B are revoked and the following substituted:

(3) *Exit* doors shall be installed so that, when open, they shall neither diminish nor obstruct the required width of the *exit* by more than 50 mm for each door leaf.

(4) Handrails and construction below handrails, including handrail supports and stair stringers, are permitted to project into the required width of *means of egress* but the projections shall be not more than 100 mm on each side of the required width.

(5) In an elementary or secondary school, where a stair lift is installed in an *exit* stair, an intermediate handrail shall be installed between the path of travel of the stair lift and the remainder of the stair to ensure that the stair lift will not reduce the required width of the *exit* stair**.**

194. Article 3.4.3.4. of Division B is revoked and the following substituted:

3.4.3.4. Headroom Clearance

(1) Except as provided by Sentences (2), (4) and (5), every *exit* shall have a clear height over the clear width of the *exit* of not less than 2 100 mm.

(2) The clear height of stairways shall be measured vertically, over the clear width of the stairway, from the straight line tangent to the tread and landing nosings to the lowest point above, and shall not be less than 2 050 m.

(3) The clear height of landings shall be measured within the clear width of the landing vertically to the lowest element above.

(4) Except as permitted by Sentence (5), the clear height of doorways shall not be less than 2 030 mm.

(5) No door closer or other device shall be installed so as to reduce the clear height of a doorway to less than 1 980 mm.

195. (1) Sentence 3.4.4.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided by Sentences (2), and (4) and Sentences 3.3.5.4.(3), 3.4.4.2.(2), 3.4.4.3.(1) and 3.13.3.1.(3), every *exit* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than that required by Subsection 3.2.2., but not less than 45 min, for

(a) the floor assembly above the *storey*, or

(b) the floor assembly below the *storey*, if there is no floor assembly above.

(2) Article 3.4.4.1. of Division B is amended by adding the following Sentence:

(4) The path of *exit* travel may lead from an *exit* door or *exit* enclosure through *open air* parking that is located below a roof or floor assembly that is part of the *building* served by the *exit* door or *exit* enclosure where

(a) the portion of the path of *exit* travel that leads through the *open air* parking is not more than 9 m in length measured from the *exit* door to a point at ground level at the perimeter of the *building*,

(b) measures are taken to prevent vehicles intended to park in spaces adjacent to the path of *exit* travel from encroaching on the path of *exit* travel, and

(c) an alternate *means of egress* not leading through the *open air* parking is available from the interior side of the door opening onto the path of *exit* travel through the *open air* parking area.

196. Sentence 3.4.4.2.(2) of Division B is revoked and the following substituted:

(2) Not more than one *exit* from a *floor area* is permitted to lead through a lobby, provided

(a) the lobby floor is not more than 4.5 m above *grade*,

(b) the path of travel through the lobby to the outdoors is not more than 15 m,

(c) the adjacent rooms or premises having direct access to the lobby do not contain a *residential occupancy* or an *industrial occupancy*, except that *dwelling units* may open directly onto the lobby where

(i) from the interior of the *exit* stair that opens onto the lobby there is alternate *means of egress* not leading through the lobby and such *means of egress* is entirely within the same *storey* as the lobby, or

(ii) the *floor area* is *sprinklered*,

(d) except as required by Clause (g), the lobby is not located within an *interconnected floor space* other than as described in Sentence 3.2.8.2.(6),

(e) the lobby conforms to the requirements for *exits*, except that

(i) rooms other than *service rooms* and storage rooms are permitted to open onto the lobby,

(ii) the *fire separation* between the lobby and a room used for the sole purpose of control and supervision of the *building* need not have a *fire-resistance rating*,

(iii) the *fire separation* between the lobby and adjacent *occupancies* that are permitted to open onto the lobby need not have a *fire-resistance rating* provided the lobby and adjacent *occupancies* are *sprinklered*, and

(iv) passenger elevators are permitted to open onto the lobby, provided the elevator doors are designed to remain closed except while loading and unloading passengers, (see Note A-3.4.4.2.(2)(e))

(f) a *fire separation*, constructed in accordance with Sentence 3.4.4.1.(1), is maintained between the lobby and any *exit* permitted by this Sentence to lead through the lobby, and

(g) that if the *exit* serves a *hotel*, the lobby is not located within an *interconnected floor space*.

197. (1) Sentence 3.4.4.4.(1) of Division B is revoked and the following substituted:

(1) A *fire separation* that separates an *exit* from the remainder of the *building* shall have no openings except for

(a) standpipe and sprinkler piping,

(b) electrical wires and cables, totally enclosed *noncombustible* raceways and *noncombustible* piping that serve only the *exit*,

(c) openings required by the provisions of Subsection 3.2.6.,

(d) *exit* doorways,

(e) wired glass and glass block permitted by Article 3.1.8.16., and

(f) a sprinkler protected glazed wall assembly conforming to Article 3.1.8.20.

(2) Article 3.4.4.4. of Division B is amended by adding the following Sentence:

(10) In elementary and secondary schools, an *exit* shall be designed so that it does not serve as an access from one portion of a *floor area* to another portion of the same *floor area*.

198. Subsection 3.4.5. of Division B is revoked and the following substituted:

3.4.5. Exit Signs

3.4.5.1. Exit Signs

(1) Except as provided by Sentences (8) and (9), every *exit* door shall have an *exit* sign providing visual information placed over or adjacent to it if the *exit* serves

(a) a *building* more than 2 *storeys* in *building height*,

(b) a *building* having an *occupant load* of more than 150, or

(c) a room or *floor area* that has a fire escape as part of a required *means of egress*.

(2) Except as provided by Sentence (7), every *exit* sign providing visual information shall

(a) be visible on approach to the *exit*,

(b) consist of a green and white graphic or lightly tinted graphical symbol meeting the colour specifications referred to in ISO 3864-1, "Graphical symbols – Safety colours and safety signs – Part 1: Design principles for Safety Signs and Safety Markings," and

(c) conform to ISO 7010, "Graphical symbols – Safety Colours and Safety Signs

(i) E001 emergency exit left,

(ii) E002 emergency exit right,

(iii) E005 90-degree directional arrow, and

(iv) E006 45-degree directional arrow.

(3) Internally illuminated *exit* signs shall

(a) be continuously illuminated, and

(b) where illumination of the sign is powered by an electrical circuit, be constructed in conformance with CSA C22.2 No. 141, "Emergency Lighting Equipment."

(4) Externally illuminated *exit* signs shall be continuously illuminated by a light fixture supplied by an electrical circuit.

(4.1) Photoluminescent and self-luminous *exit* signs shall

(a) conform to CAN/ULC-S572, "Photoluminescent and Self-Luminous Signs and Path Marking Systems",

(b) be labelled in accordance with the time duration for which they have been tested and *listed*,

(c) be so installed that upon failure of the regular power they will continue to be illuminated for the applicable time duration specified in Clause 3.2.7.4.(1)(b), and

(d) be continuously illuminated if reliant on an external energy source to energize the reflective coating of the sign.

(5) If illumination of an *exit* sign is provided from an electrical circuit, that circuit shall

(a) serve no equipment other than emergency lighting in the area where *exit* signs are installed, and

(b) be connected to an emergency power supply as described in Sentence 3.2.7.4.(1).

(6) Where no *exit* is visible from a *public corridor*, from a corridor used by the public in a Group A or B *major occupancy* or from principal routes serving an open *floor area* having an *occupant load* of more than 150, an *exit* sign conforming to Clauses (2)(b) and (c) with an arrow or pointer indicating the direction of egress shall be provided.

(7) Except for egress doorways described in Sentence 3.3.2.3.(4), an *exit* sign conforming to Sentences (2) to (5) shall be placed over or adjacent to every egress doorway from rooms with an *occupant load* of more than 60 in Group A, Division 1 *occupancies*, dance halls, licensed beverage establishments, and other similar *occupancies* that, when occupied, have lighting levels below the level that would provide easy identification of the egress doorway.

(8) Except for *suite* doors opening directly to the exterior, every *exit* serving a *hotel* shall have an *exit* sign placed over or adjacent to it.

(9) An *exit* sign is not required within a *suite* containing a Group B, Division 3 *occupancy* if the following requirements are met:

(a) the *suite* contains sleeping accommodation for not more than 10 persons, and

(b) not more than 6 occupants require assistance in evacuation in case of an emergency.

3.4.5.2. Exit Signs with Tactile Information

(1) An *exit* sign displaying the word **EXIT** in tactile form that complies with Article 3.8.3.1 shall be mounted on the approach side of *exit* doors described in Sentence 3.4.5.1.(1), in the direction of travel to the *exit***.**

3.4.5.3. Signs for Stairs and Ramps at Exit Level

(1) In a *building* more than 2 *storeys* in *building height*, any part of an *exit ramp* or stair that continues up or down past the lowest *exit* level shall be clearly marked by a sign indicating that it does not lead to an *exit*.

(2) An *exit* stair serving a *building* more than 6 *storeys* in *building height* shall be clearly marked by signs indicating that it does not lead to an *exit* at the roof level.

199. Article 3.4.6.1. of Division B is revoked and the following substituted:

3.4.6.1. Surface Finish of Ramps and Stairs

(1) The surfaces of *ramps*, landings and treads shall

(a) have a finish that is slip resistant, and

(b) if accessible to the public, have a colour contrast or a distinctive visual pattern to demarcate

(i) the leading edge of the tread,

(ii) the leading edge of the landing, and

(iii) the beginning and end of a *ramp*.

(1.1) A tactile attention indicator conforming to Article 3.8.3.18. shall be installed

(a) at the top of the stairs, starting one tread depth back from the edge of the top stair, and

(b) at the leading edge of landings where a doorway opens onto stairs, starting one tread depth back from the edge of the landing.

(2) Treads and landings of exterior *exit* stairs shall be designed to be free of ice and snow accumulations if the stairs

(a) are more than 10 m high, or

(b) serve a *hotel*.

200. Sentence 3.4.6.3.(1) of Division B is revoked and the following substituted:

(1) No *flight* of stairs shall have a vertical rise of more than 3.7 m between floors or landings, except that a *flight* of stairs serving as an *exit* in a Group B, Division 2 or 3 *occupancy* shall have a vertical rise not more than 2.4 m between floors or landings.

201. Article 3.4.6.4. of Division B is revoked and the following substituted:

3.4.6.4. Dimensions of Landings

(1) Except as provided in Sentences (2) and (6), a landing shall be a landing shall be at least as wide and as long as the width of the stairway in which it occurs.

(2) In a straight stairway and in a stairway that turns less than 90°, the length of the landing need not be more than the lesser of

(a) the required width of stair or *ramp*, or

(b) 1 100 mm.

(3) The length of a landing shall be measured perpendicular to the nosings of adjacent steps, at a distance equal to half the length required in Sentence (2), from the narrow edge of the landing.

(4) Where a doorway or stairway empties onto a *ramp* through a side wall, there shall be a level area extending across the full width of the *ramp*, and for a distance of 300 mm on either side of the wall opening, except one side if it abuts on an end wall.

(5) Where a doorway or stairway empties onto a *ramp* through an end wall, there shall be a level area extending across the full width of the *ramp* and along its length for not less than 900 mm.

(6) Where the direction of *exit* travel changes at a landing, the landing is permitted to be chamfered or curved in plan, provided the required width of the stair is maintained where measured perpendicular to the direction of *exit* travel across the landing.

202. (1) Sentence 3.4.6.5.(3) of Division B is revoked and the following substituted:

(3) In addition to Sentence (2), intermediate handrails shall be provided so that

(a) a handrail is reachable within 825 mm of all portions of the required *exit* width, and

(b) at least one portion of the stair or *ramp* between two handrails is the required *exit* width for stairways or *ramps* as described in Sentences 3.4.3.2.(8) and 3.4.3.3.(4).

(2) Sentence 3.4.6.5.(10) of Division B is revoked and the following substituted:

(10) Except as required by Sentence (16) and except where interrupted by doorways or newels at changes in direction, at least one handrail shall be continuous throughout the length of a stair or *ramp*, including at landings.

(3) Sentences 3.4.6.5.(12) and (13) of Division B are revoked and the following substituted:

(12) At least one handrail shall

(a) in the case of a stair

(i) extend horizontally at the required height, not less than 300 mm beyond the top riser, and

(ii) continue to slope for a depth of one run beyond the bottom riser followed by a 300 mm horizontal extension, and

(b) in the case of a *ramp*, extend horizontally at the required height, not less than 300 mm beyond the top and bottom edges of the incline.

(13) The clearance between a handrail and any surface behind it shall be not less than

(a) 60 mm, if the surface behind the handrail is rough or abrasive, or

(b) 50 mm, in all other cases.

(4) Article 3.4.6.5. of Division B is amended by adding the following Sentence:

(16) In a long-term care home, a Group B, Division 3 *occupancy* and a r*etirement home*, a continuous handrail shall be provided on both sides of a stair throughout the length of the stair, including landings, except where a handrail is interrupted by doorways or newels at changes in direction.

203. (1) Sentence 3.4.6.6.(5) of Division b is revoked and the following substituted:

(5) Except as provided in Sentence (5.1), openings through any *guard* that is required by Sentence (1) shall be of a size that will prevent the passage of a sphere having a diameter more than 100 mm unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard.

(5.1) Openings through any *guard* that is required by Sentence (1) and that is installed in a *building* of *industrial occupancy* shall be of a size that will prevent the passage of a sphere having a diameter more than 200 mm unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard.

(2) Sentence 3.4.6.6.(7) of Division B is revoked and the following substituted:

(7) Unless it can be shown that the location and size of openings do not present a hazard, a *guard* shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above the level being protected by the *guard* will facilitate climbing.

204. Sentence 3.4.6.8.(1) of Division B is revoked and the following substituted:

(1) Except as permitted for *dwelling units* and by Sentence 3.4.7.5.(1) for fire escapes, steps in *flights* shall have a *run* of not less than 280 mm and not more than 355 mm between successive steps.

205. (1) Sentence 3.4.6.10.(1) of Division B is revoked and the following substituted:

(1) Except in an elementary or secondary school that is subdivided by a *firewall*, the *floor area* on each side of a *horizontal exit* shall be sufficient to accommodate the occupants of both *floor areas*, allowing not less than 0.5 m^2 of clear floor space per person, except that 1.5 m^2 shall be provided for each person in a wheelchair and 2.5 m^2 for each bedridden patient.

(2) Article 3.4.6.10. of Division B is amended by adding the following Sentence:

(7) Any change in floor level from one side of a *horizontal exit* to the other side shall not exceed 2 000 mm.

206. Sentences 3.4.6.11.(2) and (3) of Division B are revoked and the following substituted:

(2) Except as provided in Sentence (3) and where a threshold is used to contain spillage, a threshold for a doorway in an exit shall be not more than 13 mm higher than the surrounding finished floor surface.

(3) No *exit* door shall open directly onto a step except that, if there is danger of blockage from ice or snow, an *exit* door is permitted to open onto not more than one step which shall be not more than 150 mm high.

207. Article 3.4.6.12. of Division B is revoked and the following substituted:

3.4.6.12. Direction of Door Swing

(1) Except for doors serving a single *dwelling unit* and except as permitted by Sentences (2) and (3) and Article 3.4.6.14., every *exit* door shall

(a) open in the direction of *exit* travel, and

(b) swing on its vertical axis.

(2) Except in a *high-hazard industrial occupancy*, an *exit* door need not swing in the direction of *exit* travel where it serves

(c) a room, *suite* or *floor area* having an *occupant load* of not more than 60 persons, or

(d) as part of a *means of egress* from more than one *floor area* and the *floor areas* so served have a total *occupant load* of not more than 60 persons.

(3) *Exit* doors need not conform to Sentence (1), where they serve

(a) *storage garages* serving not more than one *dwelling unit*,

(b) accessory *buildings* serving not more than one *dwelling unit*, or

(c) storage *suites* not more than 28 m^2 in area that are on the *first storey* of a warehouse and open directly outdoors at ground level.

208. (1) Sentence 3.4.6.15.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentence (3), a revolving door, if used, shall

(a) be collapsible,

(b) have hinged doors providing equivalent exiting capacity located adjacent to it,

(c) be used as an *exit* from the ground floor level only,

(d) be not less than 3 m from the foot of any stairway, and

(e) have all glass in door leaves and enclosure panels conforming to

(i) CAN/CGSB-12.1, “Safety Glazing,” or

(ii) CAN/CGSB-12.11-M, “Wired Safety Glass.”

(2) Sentence 3.4.6.15.(3) of Division B is revoked and the following substituted:

(3) An electrically powered revolving door is not required to conform to Sentences (1) and (2) provided

(a) the door leaves will collapse and stop automatic rotation of the door system and not obstruct the doorway if a force not more than that specified in Sentence 3.4.6.16.(2) is applied at the centre of a door leaf,

(b) the door leaves are capable of being opened from inside the *building* without requiring keys, special devices, or specialized knowledge of the door opening mechanism,

(c) the allowable exiting capacity is based on the clear width of passage through the door enclosure when the doors are fully collapsed,

(d) a permanent sign, whose centre line is between 1 000 mm and 1 500 mm above the floor, is placed on each face of each door leaf indicating the method for collapsing the door leaf in an emergency, and

(e) glass used for door leaves and enclosure panels is safety glazing conforming to

(i) CAN/CGSB-12.1, "Safety Glazing," or

(ii) CAN/CGSB-12.11-M, "Wired Safety Glass."

209. Articles 3.4.6.16. to 3.4.6.19. of Division B are revoked and the following substituted:

3.4.6.16. Door Release Hardware

(1) Except for *dwelling units*, except for devices on doors serving a *contained use area* or an *impeded egress zone* designed to be released in conformance with Article 3.3.1.13., and except as permitted by Sentence (5), locking, latching and other fastening devices on every *exit* door shall permit the door to be readily opened from the inside with not more than one releasing operation and without requiring keys, special devices or specialized knowledge of the door opening mechanism.

(2) If a door is equipped with a latching mechanism, a device complying with Sentence (3) shall be installed on

(a) every *exit* door from a *floor area* containing an *assembly occupancy* having an *occupant load* more than 100,

(b) every door leading to an *exit* lobby from an *exit* stair shaft, and every exterior door leading from an *exit* stair shaft in a *building* having an *occupant load* more than 100, and

(c) every *exit* door from a *floor area* containing a *high-hazard industrial occupancy*.

(3) The device required in Sentence (2) shall

(a) extend across not less than one half of the width of the door release the latch, and

(b) allow the door to swing wide open when a force not more than that specified in Sentence 3.8.3.3.(7) is applied to the device in the direction of travel to the *exit*.

(4) Except as required by Sentence 3.8.3.3.(7), every *exit* door shall be designed and installed so that, when the latch is released, the door will open under a force of not more than 90 N, applied at the knob or other latch releasing device.

(5) Except as permitted by Sentence 3.3.1.13.(6), electromagnetic locks that do not incorporate latches, pins or other similar devices to keep the door in the closed position are permitted to be installed on *exit* doors, other than doors described in Sentence (6) provided

(a) the *building* is equipped with a fire alarm system conforming to Subsection 3.2.4.,

(b) the locking device, and all similar devices in the *access to exit* leading to the *exit* door, are installed as ancillary devices to the fire alarm system and release immediately upon activation of

(i) the *alarm signal* where a single stage fire alarm system is installed,

(ii) except as provided in Subclause (iii), the *alert signal* where a two-stage fire alarm system is installed, or

(iii) the *alarm signal* of a two-stage fire alarm system installed in a *care, care and treatment* or *detention occupancy* or in a *retirement home*,

(c) the locking device releases immediately upon loss of power controlling the electromagnetic locking mechanism and its associated auxiliary controls,

(d) the locking device releases immediately upon actuation of a manually operated switch readily accessible only to authorized personnel and located near the main entrance of the *building* or in the central alarm and control facility of Sentence 3.2.6.7.(1),

(e) the locking device releases immediately upon a fault being detected in the electrical circuit between the fire alarm control panel and the controller of the locking device,

(f) the locking device releases immediately upon the operation of a manual station for the fire alarm system located on the wall not more than 600 mm from the door,

(g) a visual information sign complying with Article 3.8.3.1. that displays the words **EMERGENCY EXIT UNLOCKED BY FIRE ALARM** is permanently mounted on the door,

(h) a tactile information sign complying with Article 3.8.3.1. that displays the words **EMERGENCY EXIT UNLOCKED BY FIRE ALARM** is permanently mounted near the door,

(i) upon release, the locking device must be reset manually by the actuation of the switch referred to in Clause (d),

(j) the operation of any by-pass switch, where provided for testing of the fire alarm system, causes an audible signal and a visual signal to be indicated at the fire alarm annunciator panel and at the monitoring station referred to in Sentence 3.2.4.8.(4),

(k) emergency lighting conforming to 3.2.7.3.(1) is provided, and

(l) where they are installed on doors providing emergency crossover access to *floor areas* from *exit* stairs in accordance with Article 3.4.6.18.

(i) the locking device releases immediately upon the operation of a manual station for the fire alarm system located on the wall on the exit stair side not more than 600 mm from the door,

(ii) a visual information sign displaying the words **RE-ENTRY DOOR UNLOCKED BY FIRE ALARM** that complies with Article 3.8.3.1. is permanently mounted on the door on the *exit* stair side, and

(iii) a tactile information sign displaying the words **RE-ENTRY DOOR UNLOCKED BY FIRE ALARM** that complies with Article 3.8.3.1. is permanently mounted near the door on the *exit* stair side.

(6) Reserved.

(7) Door hardware for the operation of the doors referred to in this Section shall be installed between 900 mm and 1100 mm above the finished floor.

(8) Except as permitted by Sentences (9) and (10), electromagnetic locks are not permitted to be installed on *exit* doors

(a) described in Clause (2)(a), (b) or (c),

(b) serving an elementary or secondary school, or

(c) leading directly from a *high-hazard industrial occupancy*.

(9) Electromagnetic locks are permitted to be installed on an exterior door leading from an *exit* stairway in a *building* containing only a Group B, Division 2 *major occupancy*, a Group B, Division 3 *major occupancy* or a *retirement home*.

(10) Electromagnetic locks are permitted to be installed on an *exit* door that serves only a *gaming premises* if

(a) the *gaming premises* is located within a *sprinklered floor area*,

(b) *smoke detectors* are installed in each room and each corridor accessible to the public,

(c) a force of not more than 90 N applied to the door opening hardware initiates an irreversible process that will release the locking device within 15 s and not relock until the door has been opened, and

(d) a legible sign conforming with Clauses (5)(g) and (h) is permanently mounted on the *exit* door to indicate that the locking device will release within 15 s of applying pressure to the door release hardware.

3.4.6.17. Reserved

3.4.6.18. Emergency Crossover Access to Floor Areas

(1) Except as permitted in Sentence (2), doors providing access to *floor areas* from *exit* stairs shall not have locking devices to prevent entry into any *floor area* from which the travel distance up or down to an unlocked door is more than 2 *storeys.*

(2) Doors referred to in Sentence (1) are permitted to be equipped with electromagnetic locks provided they comply with Sentences 3.4.6.16.(5) and (8).

(3) Doors referred to in Sentence (1) shall be identified by visual and tactile information signs complying with Article 3.8.3.1. mounted on the stairway side to indicate that they are openable from that side.

(4) Locked doors intended to prevent entry into a *floor area* from an *exit* stair shall

(a) be identified by visual and tactile information signs complying with Article 3.8.3.1. mounted on the stairway side to indicate the location of the nearest unlocked door in each direction of travel, and

(b) be openable with a master key that fits all locking devices and is kept in a designated location accessible to firefighters or be provided with a wired glass panel not less than 0.0645 m^2 in area and located not more than 300 mm from the door opening hardware.

(5) Where access to a *floor area* through unlocked doors is required by Sentence (1), it shall be possible for a person entering the *floor area* to have access through unlocked doors within the *floor area* to at least one other *exit*.

(6) In a *building* not more than 6 *storeys* in *building height*, doors providing access from *exit* stairs to a *floor area* containing a *hotel* are permitted to have locking devices to prevent entry into the *floor area* provided the requirements in Clause (4)(b) are complied with.

3.4.6.19. Floor Numbering and Identification of Stair Shafts

(1) Arabic numerals indicating the assigned floor number in both visual and tactile forms in accordance with Article 3.8.3.1. shall, be mounted permanently on the wall on the stair side and on the floor side at the latch side of doors to *exit* stair shafts.

(2) Upper case letters indicating the designation assigned to each *exit* stair shaft in both visual and tactile forms in accordance with Article 3.8.3.1. shall mounted permanently on the wall on the stair side and on the floor side at the latch side of doors to *exit* stair shafts.

210. Sentence 3.4.7.1.(2) of Division B is revoked and the following substituted:

(2) If it is impracticable to provide one or more of the *exit* facilities listed in Article 3.4.1.4., fire escapes conforming to Articles 3.4.7.2. to 3.4.7.7. are permitted to serve *floor areas* in an existing *building* provided the *floor areas* served are

(a) not in an elementary or secondary school or a *retirement home*,

(b) not more than 2 *storeys* above ground level in *care, care and treatment* or *detention occupancies*, and

(c) not more than 5 *storeys* above ground level in other *occupancies*.

211. Sentence 3.4.7.5.(4) of Division B is revoked and the following substituted:

(4) If a *flight* of stairs leading to the ground at the foot of a fire escape is not fixed in position, it shall

(a) be held in the raised position without a latch or locking device,

(b) be fitted with a counterbalancing device,

(c) be easily and quickly brought into position for use, and

(d) reach the ground in the lowered position.

212. Sentence 3.4.7.6.(4) of Division B is revoked and the following substituted:

(4) Openings through any *guard* that is required by Sentence (1) shall be of a size that will prevent the passage of a sphere having a diameter more than 100 mm unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard.

213. Sentence 3.5.1.1.(2) of Division B is revoked and the following substituted:

(2) Elevators in a *building* within the scope of Subsection 3.2.6. shall conform to Articles 3.2.6.4. and 3.2.6.5.

214. Subsection 3.5.2. of Division B is revoked and the following substituted:

3.5.2. Elevator Requirements

3.5.2.1. Required Elevators

(1) Except as provided in Sentence (2), in a Group B, Division 2 or 3 *occupancy*, if sleeping rooms or patient or resident services are provided on more than one floor level and the floor levels are not connected by *ramps* conforming to Article 3.8.3.4., such floor levels shall be served by at least one elevator that is large enough to accommodate a stretcher in a horizontal position.

(2) Sentence (1) does not apply to those parts of a *floor area* classified as a Group B, Division 3 *occupancy* if

(a) those portions of the *floor area* contain sleeping accommodation for not more than 10 persons, and

(b) not more than six occupants require assistance in evacuating in the case of an emergency.

3.5.2.2. Barrier-Free Design

(1) Passenger shall conform to Appendix E of ASME A17.1 / CSA B44, “Safety Code for Elevators and Escalators”.

215. Table 3.5.3.1. of Division B is revoked and the following substituted:

Table 3.5.3.1.
Fire Separation for Vertical Transportation Space

Forming Part of Sentences 3.5.3.1.(1) and 3.5.3.2.(1)

Fire-Resistance Rating of *Fire Separation* Required for Floor Assembly	Minimum *Fire-Resistance Rating* of *Vertical Service Space* for Elevator Hoistway	Minimum *Fire-Resistance Rating* of *Vertical Service Space* for Dumbwaiters
less than 45 min	45 min	-
45 min	45 min	45 min
1 h	1 h	45 min
1.5 h	1 h	1 h
2 h or more	1.5 h	1 h

216. Sentence 3.4.5.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (2), if an elevator is installed to conform to the requirements of Article 3.3.1.7., or if one or more elevators are provided in a *building* more than three *storeys* in building *height*, each *storey* having elevator service shall be served by a least one elevator that has inside dimensions that will accommodate and provide adequate access for a patient stretcher 2 010 mm long and 610 mm wide in the prone position.

217. Article 3.5.4.2. of Division B is revoked.

218. Articles 3.6.1.2. and 3.6.1.3. of Division B are revoked and the following substituted:

3.6.1.2. Reserved

3.6.1.3. Reserved

219. Sentence 3.6.1.5.(1) of Division B is revoked and the following substituted:

(1) A fuel-fired *appliance* installed on the roof of a *building* or in another location outside the *building* shall be installed not less than

(a) 1.2 m from a property line, measured horizontally, and

(b) 3 m from an adjacent wall of the same *building* if that wall contains any opening within 3 *storeys* above and 5 m horizontally from the *appliance*, unless every opening within these limits is protected by

(i) a *closure* having a *fire-protection rating* not less than 45 min determined in accordance with Article 3.1.8.4., or

(ii) a wired glass assembly permitted for use in a vertical *fire separation* and described in Article 2.3.15. of MMAH Supplementary Standard SB-2, "Fire Performance Ratings."

220. Subsection 3.6.1. of Division B is amended by adding the following Article:

3.6.1.6. Fixed Access Ladders

(1) If a fixed ladder is installed to provide access to a roof of a *building*, the design and installation of the attachment and anchorage system for the ladder shall be as described in MMAH Supplementary Standard SB-8, "Design, Construction and Installation of Anchorage System for Fixed Access Ladders".

221. (1) Sentence 3.6.2.1.(6) of Division B is revoked and the following substituted:

(6) Electrical equipment that is required to be located in a *service room* by a regulation made under the *Electricity Act, 1998*, shall be installed in a *service room* separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) Article 3.6.2.1. of Division B is amended by adding the following Sentence:

(11) The *fire separation* provisions for a fuel-fired *appliance* in a portable classroom shall conform to Article 3.9.3.7.

222. Article 3.6.2.7. of Division B is revoked and the following substituted:

3.6.2.7. Electrical Equipment

(1) Where an electrical equipment vault is required by the Electrical Safety Code adopted under Ontario Regulation 164/99 (Electrical Safety Code) made under the *Electricity Act, 1998*, the electrical equipment vault shall be totally enclosed by a *fire separation* of *solid masonry* or concrete construction having a *fire-resistance rating* of

not less than 3 h if the vault is not provided with an automatic fire extinguishing system and not less than 2 h if the vault is so protected.

(2) Where a *building* is required to be *sprinklered* throughout, the electrical equipment vault described in Sentence (1) need not be *sprinklered* provided

(a) the vault is designed for no purpose other than to contain the electrical equipment, and

(b) a *smoke detector* is provided in the vault that will actuate the *building* fire alarm system in the event of a fire in the vault.

(3) A vault, that is part of a *building* and houses electrical equipment indoors, shall have

(a) roofs or ceilings consisting of reinforced concrete of adequate strength for the conditions and not less than 150 mm thick, and

(b) floors consisting of reinforced concrete of adequate strength for the conditions and not less than 150 mm thick, except that floors that are at excavation level are permitted to be of reinforced concrete not less than 100 mm thick.

(4) Walls, roofs or ceilings, and floors shall be adequately anchored together in a manner designed to resist dislodgement by explosion.

(5) Only pipes or ducts necessary for fire protection or the proper operation of the electrical installation shall penetrate the *fire separations* surrounding the electrical equipment vault.

(6) A ventilation duct or opening, that penetrates the *fire separation* to the outdoors, need not be protected by a *closure* at the penetration.

(7) Each door to an electrical equipment vault shall be provided with a substantial lock or padlock.

(8) Explosion-relief devices and vents or other protective measures shall be provided for every electrical equipment vault containing dielectric-liquid-filled electrical equipment in conformance with Sentence 3.3.1.21.(3).

(9) Every electrical equipment vault shall be provided with a ventilation system designed in conformance with Part 6 to prevent the ambient temperature in the vault from exceeding 40°C.

(10) Where the vault ventilation system in Sentence (9) is directly from an outdoor area by natural ventilation without the use of ducts, and where the electrical equipment is the principal source of heat, the combined net area of inlet and outlet openings shall be not less than 0.002 m^2/kVa of electrical equipment capacity with a minimum of 0.093 m^2, except that

(a) where equipment in the power class as described in CAN/CSA-C88-M, "Power Transformers and Reactors" is installed, ventilation requirements are permitted to be based on the actual full-load losses, or

(b) where the equipment is installed for emergency purposes only and is not normally energized, it need not be considered in determining the ventilation requirements.

(11) In the vault ventilation system in Sentence (10), the inlet for fresh air shall lead from an outdoor area and shall terminate at a point not more than 1 000 mm above the floor level of the vault.

(12) Where the vault ventilation system in Sentence (9) is a mechanical system, it shall be separate from the system for the remainder of the *building* and shall be designed so that

(a) the vault temperature is thermostatically controlled,

(b) the fan is located so that it may be serviced without danger to personnel,

(c) a high temperature alarm is provided in the vault,

(d) the system is automatically shut off in the event of a fire in the vault, and

(e) a filter is provided in the air inlet if there is a possibility of dirt being drawn in.

(13) All ventilation openings shall be protected in conformance with Sentences 6.3.2.9.(4) and (5) and the protection shall be installed in such a manner that it cannot be removed from the outside by the use of common tools and it is tamperproof.

(14) Except as permitted in Sentence (15), the floor of an electrical equipment vault referred to in Sentences (1) and (2) shall be liquid tight and surrounded by liquid tight walls and sills of sufficient height to confine within the vault all of the liquid from the largest item of electrical equipment, but to a height of not less than 100 mm.

(15) The floor of the electrical equipment vault described in Sentences (1) and (2) may be provided with a floor drain connected to a covered sump capable of holding all of the liquid from the largest item of electrical equipment, and the connection shall have a *noncombustible trap* to prevent the spread of fire from the vault to the sump.

(16) Where the electrical equipment vault is located in a hazardous location classified as Class II, Division 1 in accordance with the Electrical Safety Code adopted under Ontario Regulation 164/99 (Electrical Safety Code) made under the *Electricity Act, 1998*, it shall have

(a) no vent opening except to the exterior of the *building*, and

(b) suitable pressure-relief openings communicating only with the air outside the *building*.

(17) Where doors are provided between the vault described in Sentence (16) and the rest of the *building*, they shall have suitable seals such as weatherstripping to minimize the entrance of dust into the vault.

(18) Every electrical equipment vault shall be provided with

(a) adequate lighting, controlled by one or more switches located near the entrance,

(b) luminaires located so that they may be relamped without danger to personnel, and

(c) a grounded receptacle located in a convenient location inside the vault, near the entrance.

223. Subsection 3.6.2. of Division B is amended by adding the following Article:

3.6.2.9. Storage of Oxygen Containers

(1) In a Group B, Division 2 or 3 *occupancy* or in a *retirement home*, a room for the storage of oxygen containers shall be

(a) separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h,

(b) designed for the storage of oxygen containers only,

(c) vapour tight,

(d) lined with *noncombustible* finish,

(e) separately exhausted to the exterior, and

(f) equipped with racks to store the containers.

224. Sentence 3.6.3.4.(1) of Division B is revoked and the following substituted:

(1) If a *vertical service space* contains an *exhaust duct* that serves more than one *fire compartment*, the duct shall have a fan located at or near the exhaust outlet to ensure that the duct is under negative pressure.

225. Subsection 3.6.4. of Division B is revoked and the following substituted:

3.6.4. Horizonal Services Spaces and Service Facilities

3.6.4.1. Scope

(1) This Subsection applies to *horizontal services spaces* and service facilities, including ceiling spaces, duct spaces, crawl spaces, and *attic or roof spaces*.

3.6.4.2. Fire Separations for Horizontal Service Spaces

(1) Except as provided in Article 3.6.3.5., a *horizontal service space* that penetrates a required vertical *fire separation* shall be separated from the remainder of the *building* it serves in conformance with Sentence (2).

(2) If a *horizontal service space* or other concealed space is located above a required vertical *fire separation* other than a vertical shaft, this space need not be divided at the fire separation as required by Article 3.1.8.3. provided the construction between this space and the space below is a *fire separation* with a *fire-resistance rating* equivalent to that required for the vertical *fire separation*, except that the *fire-resistance rating* is permitted to be not less than 30 min if the vertical *fire separation* is not required to have a *fire-resistance rating* more than 45 min.

3.6.4.3. Plenum Requirements

(1) A concealed space used as a *plenum* within a floor assembly or within a roof assembly need not conform to Sentence 3.1.5.18.(1) and Article 3.6.5.1. provided

(a) all materials within the concealed space have a *flame-spread rating* not more than 25 and a smoke developed classification not more than 50, except for

(i) tubing for pneumatic controls,

(ii) optical fibre cables and electrical wires and cables with *combustible* insulation, jackets or sheathes that are used for the transmission of voice, sound or data and conform to Sentences 3.1.4.3.(2) and 3.1.5.21.(2),

(iii) totally enclosed nonmetallic raceways with an FT6 rating, when tested in accordance with Clause 3.1.5.23.(1)(a), in *buildings* required to be of *noncombustible construction* or in *buildings* or parts of *buildings* permitted to be of *encapsulated mass timber construction*, and

(iv) totally enclosed non-metallic raceways with an FT4 rating, when tested in accordance with Clause 3.1.5.23.(1)(a), in *buildings* permitted to be of *combustible construction,* and,

(b) the supports for the ceiling membrane are of n*oncombustible* material having a melting point not below 760°C.

(2) If a concealed space referred to in Sentence (1) is used as a return-air *plenum* and incorporates a ceiling membrane that forms part of the required *fire-resistance rating* of

the assembly, every opening through the membrane shall be protected by a *fire stop flap* that

(a) stops the flow of air into the concealed space in the event of a fire,

(b) is supported in a manner that will maintain the integrity of the ceiling membrane for the duration of time required to provide the required *fire-resistance rating*,

(c) conforms to CAN/ULC-S112.2, "Standard Method of Fire Test of Ceiling Firestop Flap Assemblies", and

(d) activates at a temperature approximately 30°C above the normal maximum temperature that occurs in the return-air *plenum*, whether the air duct system is operating or shut down.

3.6.4.4. Attic or Roof Spaces

(1) An *attic or roof space* more than 600 mm high shall be provided with access from the floor immediately below by a hatchway not less than 5500 mm by 900 mm or by a stairway.

3.6.4.5. Horizontal Service Space Access

(1) A *horizontal service space,* consisting of ceiling and duct spaces, that is more than 1 200 mm high and 600 mm wide shall have inspection doors not less than 300 mm in both horizonal and vertical dimensions placed so that the entire interior of the duct or space can be viewed.

3.6.4.6. Crawl Space Access

(1) A crawl space shall have at least one access opening not less than 550 mm by 900 mm.

226. Sections 3.7. to 3.10. of Division B are revoked and the following substituted:

3.7. Health Requirements

3.7.1. Height and Area of Rooms

3.7.1.1. Room and Space Height

(1) The height of every room and space shall be sufficient so that the ceiling or ceiling fixtures do not obstruct movement or activities below.

(2) The unobstructed height in *dwelling units* and sleeping rooms in Group C *occupancies* shall conform to Subsection 9.5.3.

3.7.1.2. Residential Room Dimensions

(1) The areas of rooms in *dwelling units,* dormitories, boarding houses and rooming houses shall conform to Part 9.

3.7.1.3. Sleeping Areas in Group B and Child Care Facilities

(1) Except as provided in Sentence (2), a sleeping area in a Group B *occupancy* shall provide not less than 4.7 m^2 per person in a room having

(a) an area not less than 7 m^2,

(b) a horizontal dimension not less than 2 000 mm, and

(c) a ceiling height not less than 2 300 mm.

(2) Sleeping rooms for residents in long-term care homes shall have, exclusive of space provided for washrooms and for built-in or portable clothes closets, a floor space not less than

(a) 10.22 m^2 in a single-bed unit,

(b) 16.72 m^2 in a two-bed unit,

(c) 25.08 m^2 in a three-bed unit, and

(d) 29.73 m^2 in a four-bed unit.

(3) A child care facility shall provide sleeping accommodation having not less than 0.93 m^2 of floor surface area for each child with not less than 2 300 mm ceiling height over the entire room area.

3.7.1.4. Sleeping Areas in Camps

(1) *Recreational camps* shall have an area in the sleeping quarters of not less than 3.72 m^2 per camper or, if double or triple tier bunk units are used, 2.79 m^2 per camper.

(2) A *camp for housing of workers* shall have an area of not less than 3.72 m^2 per employee in every room used for sleeping purposes.

3.7.2. Windows

3.7.2.1. Window Areas

(1) Except as provided in Sentences (2) and (3) or otherwise permitted, every room used for sleeping in any *building*, and every principal room such as living room, dining room or combination of them in *dwelling units* shall be provided with windows having areas conforming to Part 9, except that Article 9.9.10.1. does not apply.

(2) Long-term care homes shall have

(a) in an activity room, a sitting room or a lounge, one or more windows with a total unobstructed glass area, exclusive of skylights, of not less than 10% of the area of the room, and

(b) in a residents' sleeping room, one or more windows that

(i) have a total unobstructed glass area, exclusive of skylights, of not less than 10% of the area of the room,

(ii) open to the outdoors and have a total unobstructed glass area, exclusive of skylights, of not less than 5% of the area of the room, and

(iii) are installed with the bottom edge of the glass of every window not more than 660 mm above the floor.

(3) Play activity rooms in a child care facility and work areas in *live/work units* shall have one or more windows that conform to Clause (2)(a).

3.7.3. Reserved

3.7.4. Plumbing Facilities

3.7.4.1. Plumbing and Drainage Systems

(1) Except as permitted in Sentence (3), each *building* situated on property that abuts on a *street* in which a public or municipal water main is located shall be provided with or have accessible to its occupants a *plumbing system* including a *potable* water supply, a *sanitary drainage system* and *plumbing fixtures.*

(2) When the installation of a *sanitary drainage system* is not possible because of the absence of a water supply, sanitary privies, chemical closets or other means for the disposal of human waste shall be provided.

(3) *Plumbing fixtures* need not be provided in a *building* that is not normally occupied by persons where such installations are impractical and other *fixtures* are available in nearby *buildings* when the subject *building* is in use.

3.7.4.2. Plumbing Fixtures, General

(1) Except as provided in Sentence (2), for the purposes of this Subsection, the *occupant load* shall be determined in accordance with the provisions in Subsection 3.1.17. except that in a Group D *occupancy,* the area per person shall be 14 m^2.

(2) For the purpose of this Subsection, the *occupant load* for *floor areas* that are classified as an *industrial occupancy* is permitted to be based solely on the total number of staff for which the *floor area* is designed, where the *floor area* is only intermittently occupied or where the presence of occupants is transitory. (See Note A-3.7.4.2.(2))

(3) Except as permitted by this Subsection, water closets shall be provided for each sex assuming that the *occupant load* is equally divided between males and females, unless the proportion of each sex expected in the *building* can be determined with reasonable accuracy. (See Note A-3.7.4.2.(3))

(4) Except as provided in Sentence (5), urinals are permitted to be substituted for water closets required by this Subsection for males and may be counted as water closets provided the number of urinals is not more than

(a) one-fifth of the required number of water closets in hospitals and long-term care homes, and

(b) two-thirds of the required number of water closets in any other *occupancy*.

(5) If only two water closets are required for males, one urinal is permitted to be substituted for one of the water closets.

(6) Except as required in this Subsection, at least one lavatory shall be provided in a room containing one or two water closets or urinals, and at least one additional lavatory shall be provided for each additional two water closets or urinals. (See Note A-3.7.4.2.(6))

(7) Wash fountains in circular or straight trough form are permitted to be provided in lieu of required lavatories provided each 500 mm of circumference or trough length is considered to be the equivalent of one lavatory.

(8) The water closet and lavatory provided in the universal washroom described in Sentence 3.8.3.12.(1) may be counted as part of the *plumbing fixtures* required for males and females in this Subsection if

(a) more than one water closet is required for males, and

(b) more than one water closet is required for females.

(9) Where one water closet is required for males and one water closet is required for females, the following may be provided in lieu of the water closets otherwise required by this Subsection:

(a) one universal washroom conforming to Sentence 3.8.3.12.(1), and

(b) one washroom containing one water closet that is permitted to be used by both sexes provided the door to the room can be locked from the inside.

(10) Both sexes are permitted to be served by a single water closet if the *occupant load* is not more than 10 persons in an *assembly occupancy* referred to in Article 3.7.4.3. except for

(a) elementary and secondary schools,

(b) child care facilities,

(c) places of worship, and

(d) undertaking premises.

(11) Any shelf or projection above a lavatory shall be located so that it will not be a hazard.

(12) Except for *dwelling units*, lavatories required by Sentence (6) shall be equipped with faucets that

(a) operate automatically, or

(b) have a manual control that

(i) has a lever type handle or is otherwise operable with a closed fist,

(ii) does not require the application of continuous force to maintain water flow, and

(iii) where metered, provides at least 10 s of water flow.

3.7.4.3. Plumbing Fixtures for Assembly Occupancies

(1) Except as provided by Sentences (2) to (16) and Sentence 3.7.4.2.(10), the number of water closets required for *assembly occupancies* shall conform to Table 3.7.4.3.-A.

Table 3.7.4.3.-A
Water Closets for Assembly Occupancies

Forming Part of Sentence 3.7.4.3.(1)

Number of Persons of Each Sex	Minimum Number of Water Closets for Males	Minimum Number of Water Closets for Females
1 to 25	1	1
26 to 50	1	2
51 to 75	2	3
76 to 100	2	4
101 to 125	3	5
126 to 150	3	6
151 to 175	4	7
176 to 200	4	8
201 to 250	5	9
251 to 300	5	10
301 to 350	6	11
351 to 400	6	12
Over 400	7 plus 1 for each additional increment of 200 males in excess of 400	13 plus 1 for each additional increment of 100 females in excess of 400

(2) Except for motion picture *theatres*, the number of water closets required for Group A, Division 1 *occupancies* shall conform to Table 3.7.4.3.-B.

Table 3.7.4.3.-B
Water Closets for Assembly Occupancies

Forming Part of Sentence 3.7.4.3.(2)

Number of Persons of Each Sex	Minimum Number of Water Closets for Males	Minimum Number of Water Closets for Females
1 to 50	1	2
51 to 75	2	3
76 to 100	2	4
101 to 125	3	5
126 to 150	3	6
151 to 175	4	7
176 to 200	4	8
201 to 250	5	9
251 to 300	5	10
301 to 350	6	11
351 to 400	6	12
Over 400	7 plus 1 for each additional increment of 200 males in excess of 400	13 plus 1 for each additional increment of 100 females in excess of 400

(3) The number of water closets required shall conform to Table 3.7.4.3.-C for,

(a) motion picture *theatres*,

(b) Group A, Division 3 *occupancies*,

(c) Group A, Division 4 *occupancies*, and

(d) *outdoor pools.*

Table 3.7.4.3.-C
Water Closets for Assembly Occupancies

Forming Part of Sentences 3.7.4.3.(3) and 3.11.9.1.(4)

Number of Persons of Each Sex	Minimum Number of Water Closets for Each Sex
1 to 50	1
51 to 100	2
151 to 250	3
251 to 375	4

376 to 500	5
Over 500	6 plus 1 for each additional increment of 150 persons of each sex in excess of 500

(4) Except as provided in Sentences (6) and (7), the number of water closets required for dining rooms, restaurants and cafeteria shall conform to Table 3.7.4.3.-D.

Table 3.7.4.3.-D
Water Closets for Assembly Occupancies

Forming Part of Sentences 3.7.4.3.(4) and (7)

Number of Persons of Each Sex	Minimum Number of Water Closets for Each Sex
1 to 20	1
21 to 70	2
71 to 105	3
106 to 135	4
136 to 165	5
166 to 195	6
196 to 225	7
226 to 275	8
276 to 325	9
326 to 375	10
376 to 425	11
Over 425	12 plus 1 for each additional 50 persons of each sex in excess of 425

(5) The number of water closets required for establishments used primarily for the consumption of alcoholic beverages that provide limited or no food service shall conform to Table 3.7.4.3.-E.

Table 3.7.4.3.-E
Water Closets for Assembly Occupancies

Forming Part of Sentences 3.7.4.3.(5) and 3.14.1.8.(1)

Number of Persons of Each Sex	Minimum Number of Water Closets for Each Sex
1 to 50	2
51 to 70	3
71 to 90	4
91 to 110	5
111 to 140	6
141 to 180	7

181 to 220	8
221 to 260	9
Over 260	10 plus 1 for each additional increment of 40 persons of each sex in excess of 260

(6) In every dining room, restaurant, cafeteria and alcoholic beverage establishment having more than 40 seats, separate sanitary facilities shall be provided for employees, in addition to facilities provided for patrons, and the number of water closets and lavatories required shall conform to Table 3.7.4.3.-F.

Table 3.7.4.3.-F
Water Closets for Assembly Occupancies

Forming Part of Sentence 3.7.4.3.(6)

Number of Employees of Each Sex	Minimum Number of Water Closets and Lavatories for Males	Minimum Number of Water Closets and Lavatories for Females
1 to 9	1	1
10 to 24	*2*	2
25 to 49	3	3
50 to 74	4	4
75 to 100	5	5
Over 100	6 plus 1 for each additional increment of 30 male employees in excess of 100	6 plus 1 for each additional increment of 30 female employees in excess of 100

(7) Except as provided in Sentence (8), in every dining room, restaurant, cafeteria and alcoholic beverage establishment having not more than 40 seats, employees are permitted to share the sanitary facilities provided for patrons, and the minimum number of water closets shall conform to Table 3.7.4.3.-D based on

(a) a male occupant load of 50% of the number of seats plus the number of male employees, and

(b) a female occupant load of 50% of the number of seats plus the number of female employees.

(8) Where a separate employee washroom is provided, the same room may be used by both female and male employees provided that

(a) the total number of employees is not more than 5, and

(b) the door to the room can be locked from the inside.

(9) The number of employees in Sentences (6) to (8) shall be the maximum number of employees who are normally present on the premises at one time and shall include only those who are present for more than 25 per cent of the working day.

(10) For a parking lot that is part of a restaurant where patrons are intended to eat in vehicles parked on the lot, the number of water closets required shall conform to

(a) Table 3.7.4.3.-G where food service by employees is not provided on the parking lot, or

(b) Table 3.7.4.3.-H where employees serve food on the parking lot.

Table 3.7.4.3.-G
Water Closets for Assembly Occupancies

Forming Part of Sentence 3.7.4.3.(10)

Number of Parking Spaces	Minimum Number of Water Closets for Each Sex
1 to 20	1
21 to 70	2
71 to 105	3
106 to 135	4
136 to 165	5
166 to 195	6
196 to 225	7
226 to 275	8
276 to 325	9
326 to 375	10
376 to 425	11
Over 425	12 plus 1 for each additional 50 parking spaces in excess of 425

Table 3.7.4.3.-H
Water Closets for Assembly Occupancies

Forming Part of Sentences 3.7.4.3.(10) and (11)

Number of Parking Spaces	Minimum Number of Water Closets for Each Sex
1 to 40	1
41 to 140	2
141 to 210	3
211 to 370	4
271 to 330	5
331 to 390	6
391 to 450	7
451 to 550	8
551 to 650	9
651 to 750	10
751 to 850	11

Over 850	12 plus 1 for each additional 100 parking spaces in excess of 850

(11) The number of water closets required for drive-in *theatres* shall conform to Table 3.7.4.3.-H.

(12) The number of water closets required for dance halls and recreational establishments shall be at least one fixture for each 100 males and one fixture for each 75 females.

(13) In a child care facility the maximum number of children per water closet and lavatory shall conform to Table 3.7.4.3.-I.

Table 3.7.4.3.-I
Plumbing Fixtures for a Child Care Facility

Forming Part of Sentence 3.7.4.3.(13)

Age of Children	Minimum Number of Children per Water Closet and Lavatory
Under 2	10 without regard to number of each sex
2 to 5	10 without regard to number of each sex
6 to 9	15 for males; 15 for females
Over 9	30 for males, 26 for females

(14) The number of water closets required for elementary and secondary schools shall be at least one fixture for each 30 males and one fixture for each 26 females.

(15) The number of water closets required for non-residential college *buildings* shall be at least one fixture for each 100 males and one fixture for each 75 females.

(16) The number of water closets required for places of worship and undertaking premises shall be at least one fixture for each 150 persons of each sex.

3.7.4.4. Plumbing Fixtures for Care, Care and Treatment or Detention Occupancies

(1) The number of water closets and lavatories required for Group B, Division 1 *occupancies* shall be determined on the basis of the special needs of these *occupancies*.

(2) In a Group B, Division 2 or 3 *occupancy*, washrooms shall be provided so that each washroom

(a) serves not more than four patients or residents,

(b) is accessible from patients' or residents' sleeping rooms,

(c) contains one water closet, and

(d) contains one lavatory.

(3) The number of water closets required for employees in Group B, Division 2 or 3 *occupancies* shall conform to Table 3.7.4.4.

Table 3.7.4.4.
Water Closets in Group B, Division 2 or 3 Occupancies

Forming Part of Sentence 3.7.4.4.(3)

Number of Persons of Each Sex	Minimum Number of Water Closets for Each Sex
Up to 9	1
10 to 24	2
25 to 49	3
50 to 74	4
75 to 100	5
Over 100	6 plus 1 for each additional increment of 30 persons of each sex in excess of 100

3.7.4.5. Plumbing Facilities for Dwelling Units

(1) A *dwelling unit* where a piped water supply is available shall be provided with a

(a) kitchen sink,

(b) lavatory,

(c) water closet or drainless composting water closet, and

(d) bathtub or shower stall.

3.7.4.6. Plumbing Fixtures for Other Residential Occupancies

(1) Except for *dwelling units* and as provided in Sentence (2), the number of water closets required for *residential occupancies* shall conform to Table 3.7.4.6.

Table 3.7.4.6.
Water Closets for Residential Occupancies

Forming Part of Sentence 3.7.4.6.(1)

Number of Persons of Each Sex	Minimum Number of Water Closets for Each Sex
Up to 9	1
10 to 24	2
25 to 49	3
50 to 74	4
75 to 100	5

Over 100	6 plus 1 for each additional increment of 30 persons of each sex in excess of 100

(2) At least one water closet or privy shall be provided for every,

(a) 10 campers of each sex in a *recreational camp*, and

(b) 10 employees of each sex in a *camp for housing of workers*.

(3) In *recreational camps* and *camps for housing of workers*, no fewer than two lavatories or provision for a pail or other portable container of sound construction shall be provided for each of the water closets or privies required in Sentence (2).

(4) A *camp for housing of workers* shall include,

(a) at least one shower or other area of bathing, and

(b) provisions for at least one washing machine or laundry tub for every 15 beds.

3.7.4.7. Plumbing Fixtures for Business and Personal Services Occupancies

(1) Except as provided in Sentence (2), the number of water closets required for *business and personal service occupancies* shall conform to Table 3.7.4.7.

(2) Not more than one water closet to serve both sexes need be provided in a Group D *occupancy* having an *occupant load* of not more than 10 persons.

Table 3.7.4.7.
Water Closets for Residential Occupancies

Forming Part of Sentence 3.7.4.7.(1)

Number of Persons of Each Sex	Minimum Number of Water Closets for Each Sex
Up to 9	1
10 to 24	2
25 to 49	3
50 to 74	4
75 to 100	5
Over 100	6 plus 1 for each additional increment of 30 persons of each sex in excess of 100

3.7.4.8. Plumbing Fixtures for Mercantile Occupancies

(1) Except as provided in this Article, the number of water closets required for employees in *mercantile occupancies* shall conform to Table 3.7.4.8.

Table 3.7.4.8.
Water Closets for Mercantile Occupancies

Forming Part of Sentence 3.7.4.8.(1)

Number of Persons of Each Sex	Minimum Number of Water Closets for Each Sex
Up to 9	1
10 to 24	2
25 to 49	3
50 to 74	4
75 to 100	5
Over 100	6 plus 1 for each additional increment of 30 persons of each sex in excess of 100

(2) Except as provided in Sentence (4), the number of water closets required for the public in *mercantile occupancies* shall be at least one fixture for each 300 males and one fixture for each 150 females, except that

(a) water closets provided for employees are permitted to be counted as part of those required for the public when these water closets are made accessible to the public, and

(b) where the total area of the *mercantile occupancy*, excluding *basements*, is not more than 600 m^2, not more than one water closet for each sex need be provided.

(3) Not more than one water closet to serve both sexes need be provided in a Group E *occupancy* where

(a) the *occupant load* is not more than nine persons, or

(b) where the total area of the *occupancy,* excluding *basements,* is not more than 300 m^2.

(4) For a restaurant classified as *mercantile occupancy*, the number of water closets and lavatories required shall conform to Article 3.7.4.3**.**

3.7.4.9. Plumbing Fixtures for Industrial Occupancies

(1) Except as provided in Sentence (2), the number of water closets and lavatories required for *industrial occupancies* shall conform to Table 3.7.4.9.

Table 3.7.4.9.
Water Closets for Industrial Occupancies

Forming Part of Sentence 3.7.4.9.(1)

Number of Persons of Each Sex	Minimum Number of Water Closets for Each Sex
Up to 9	1
10 to 24	2
25 to 49	3
50 to 74	4
75 to 100	5
Over 100	6 plus 1 for each additional increment of 30 persons of each sex in excess of 100

(2) Not more than one water closet to serve both sexes need be provided in a Group F *occupancy* where

(a) the *occupant load* is not more than 10 persons, or

(b) the total area of the *occupancy*, excluding *basements*, is not more than 300 m^2.

3.7.4.10. Glazing

(1) Glazing used for a shower or bathtub enclosure shall conform to Class A of CAN/CGSB 12.1, "Safety Glazing."

3.7.4.11. Surface Protection

(1) Wall and floor surfaces below the uppermost surfaces of urinals shall be protected from deterioration by impervious and durable material for a distance from the urinal to a point not less than 900 mm from the projected outline of the urinal on to the wall or floor.

(2) Floor surfaces around a water closet shall be protected from deterioration by impervious and durable material for a distance not less than 900 mm from the projected outline of the water closet on to the floor.

3.7.4.12. Floor Drains

(1) A floor drain shall be installed in a washroom for *public use* that contains a urinal or a water closet equipped with an automatic flushing device.

3.7.4.13. Grab Bar Installation

(1) Grab bars that are installed shall resist a minimum load of 1.3 kN applied vertically or horizontally.

3.7.4.14. Clearance for Water Closets

(1) Except for *dwelling units* and except as required by Section 3.8., a minimum clearance of 380 mm shall be provided in front of a water closet.

3.7.4.15. Privacy

(1) If a room contains not more than 1 water closet, the doorway to the room shall be provided with a full height door that is capable of being locked from the inside. (See Note A-3.7.4.2.(3).)

(2) Except in a room for private use, water closets, urinals, showers and bathtubs shall not be visible from the entrance to the room where it contains at least

(a) two water closets,

(b) one water closet and one urinal,

(c) one shower stall, or

(d) one bathtub.

3.7.4.16. Water Temperature Control

(1) A *water distribution system* supplying hot water to *plumbing fixtures* shall conform to the requirements in Subsection 7.2.10.

3.7.4.17. Drinking Water

(1) On every floor where work will be performed and within 100 m of any area where work will be performed, *potable* water shall be provided from

(a) a fountain with an upward jet,

(b) a tap from a piped water supply, or

(c) a tap from a covered vessel.

3.7.4.18. Pharmacies

(1) Every *pharmacy* shall be provided with a sink with hot and cold *potable* water for washing utensils used in the preparation, service or storage of drugs.

3.7.4.19. Plumbing Fixtures for Mobile Home Facilities

(1) If mobile homes do not have individual plumbing facilities connected to a central water supply and drainage system, a service *building* shall be provided for *public use*.

(2) The service *building* required by Sentence (1) shall contain

(a) at least one water closet for each sex if the service *building* facilities serve not more than 10 mobile homes, and

(b) an additional water closet for each sex for each additional 10 mobile homes.

(3) If a service *building* is required by Sentence (1) it shall contain lavatories as required by Sentence 3.7.4.2.(5) and at least

(a) one laundry tray or similar facility, and

(b) one bathtub or shower for each sex.

3.7.5. Health Care Facility Systems

3.7.5.1. Electrical Systems

(1) In anaesthetizing locations, electrical systems shall be designed, constructed, installed and tested in conformance with CSA Z32, "Electrical Safety and Essential Electrical Systems in Health Care Facilities".

3.7.5.2. Medical Gas Piping

(1) All medical gas piping systems shall be designed, constructed, installed and tested in conformance with

(a) CSA Z7396.1, "Medical gas piping systems - Part 1: Pipelines for medical gases, medical vacuum, medical support gases, and anaesthetic gas scavenging systems", and

(b) the provisions of the Fire Code made under the *Fire Protection and Prevention Act, 1997* or, in the absence of such provisions, Part 3 of Division B of the CCBFC NRCC-CONST-56437E, "National Fire Code of Canada".

3.7.5.3. Shielding of X-Ray Equipment

(1) Every installation of an *x-ray machine* or of *x-ray equipment* in a *building* shall be shielded to protect any person who could be exposed to radiation inside and outside the *building*.

3.7.6. Food Premises

3.7.6.1. Application

(1) The requirements of this Subsection apply to all *food premises*.

3.7.6.2. Room Finishes

(1) Except as provided in Sentence (2), floors and floor coverings shall be tight, smooth and non-absorbent in rooms where

(a) food or drink for human consumption, or an ingredient of food or drink for human consumption, is manufactured, processed, prepared, stored, displayed, handled, served, distributed, sold or offered for sale,

(b) utensils are washed, or

(c) washing *fixtures* or toilet *fixtures* are located.

(2) Carpeting may be used in areas where food is served.

(3) Wall and ceiling finishes of rooms and passageways shall be easy to clean.

3.7.6.3. Location of Plumbing Fixtures

(1) A room containing a water closet shall be located where,

(a) it does not open directly into any room or area where food or drink for human consumption, or an ingredient of food or drink for human consumption, is intended to be stored, prepared, processed, distributed, served, sold or offered for sale, and

(b) it is not necessary for the public to go through the food preparation areas to gain access to the *plumbing fixtures*.

(2) Except as permitted in Sentence (3), a room containing *plumbing fixtures* for the public and employees in a restaurant shall be located in the restaurant.

(3) A room containing *plumbing fixtures* for the public in Sentence (2) need not be located in the restaurant if

(a) the room is located in the *building* containing the restaurant, and

(b) the distance of travel between the restaurant and the room is not more than 45 m.

3.7.6.4. Lavatories, Appliances and Sinks

(1) A separate lavatory for the handwashing of employees shall be constructed in a location convenient for employees in each manufacturing, processing and preparation area.

(2) If equipment and facilities for the cleaning and sanitizing of utensils are provided, they shall consist of

(a) mechanical equipment, or

(b) drainage racks of corrosion-resistant materials and

(i) a three-compartment sink or three sinks, or

(ii) a two-compartment sink or two sinks, where the first compartment or sink can be used effectively for washing and rinsing and the second compartment or sink can be used effectively for sanitizing.

(3) A retail *food premises* is exempt from compliance with this Article if its eating and drinking area does not exceed 56 m^2 and any one or more of the following applies:

(a) it is designed to sell only cold drinks in or from the original container,

(b) it is designed to sell only frozen confections in the original package or wrapper,

(c) it is designed to prepare and sell only hot beverages,

(d) it is designed to prepare and sell only popped corn, roasted nuts or french-fried potatoes,

(e) it is designed to sell only food or drink for human consumption that

(i) is pre-packaged at a premises other than the *food premises* at which it is being offered for sale, and

(ii) is not capable of supporting the growth of pathogenic organisms or the production of the toxins of such organisms.

3.7.6.5. Hot and Cold Water Supply

(1) A hot and cold water supply shall be provided to

(a) every *plumbing appliance* and *fixture* required by Article 3.7.6.4.,

(b) every area where food or drink for human consumption, or an ingredient of food or drink for human consumption, is manufactured, processed or prepared, and

(c) every area where utensils are washed.

(2) This Article does not apply to a retail *food premises* described in Sentence 3.7.6.4.(3).

3.7.6.6. Employee Facilities

(1) In a *food premises*, where dressing rooms are provided for employees, there shall be separate dressing rooms for males and females that

(a) are large enough for the employees to change and store their clothing, and

(b) are equipped with lockers or other facilities suitable for storing the clothing of the employees.

(2) Every room containing *sanitary units* for employees shall have a floor area not less than 2.3 m^2.

3.7.6.7. Sleeping Quarters

(1) A room or space intended to be used as sleeping quarters shall not open directly into any room where food or drink for human consumption, or an ingredient of food or drink for human consumption, is manufactured, processed, prepared, stored, displayed, handled, served, distributed, sold or offered for sale.

Section 3.8. Barrier-Free Design (See Note A-3.8.)

3.8.1. General

3.8.1.1. Application (See Note A-3.8.)

(1) The requirements of this Section apply to all *buildings* except

(a) detached houses, semi-detached houses, houses with a *secondary suite*, duplexes, triplexes, townhouses, row houses and boarding or rooming houses with fewer than 8 boarders or roomers(See Note A-1.4.1.2.(1) of Division A, *Secondary Suite*),

(b) *buildings* of Group F, Division 1 major *occupancy*, (See Note A-3.8.1.1.(1)(b))

(c) *buildings* that are not intended to be occupied on a daily or full time basis, including automatic telephone exchanges, pumphouses and substations, and

(d) *camps for housing of workers*. (See Note A-3.8.1.1.(1)(d))

3.8.1.2. Entrances (See Note A-3.8.1.2.)

(1) Except as provided in Sentence 3.13.8.1.(2) and except for service entrances, all pedestrian entrances to a *barrier-free storey* of a *building* referred to in Sentence 3.8.1.1.(1) shall be *barrier-free* and shall connect to a *barrier-free* exterior path of travel complying with Sentence 3.8.2.2.(1).

(2) In addition to the *barrier-free* entrances required by Sentence (1), a *suite* of *assembly occupancy*, *business and personal services occupancy* or *mercantile occupancy* that is located in the *first storey* of a *building* or in a *storey* to which a *barrier-free* path of travel is provided, and that is separated from the remainder of the *building* so that there is no access to the remainder of the *building*, shall have at least one *barrier-free* entrance.

(3) A *barrier-free* entrance shall

(a) be designed in accordance with Article 3.8.3.3., and

(b) lead from

(i) the outdoors at sidewalk level, or

(ii) a *ramp* that conforms to Article 3.8.3.4. and leads from a sidewalk.

(4) At a barrier-free entrance that includes more than one doorway, only one of the doorways is required to be designed in accordance with Article 3.8.3.3.

(5) If a walkway or pedestrian bridge connects two *barrier-free storeys* in different *buildings*, the path of travel from one *storey* to the other *storey* by means of the walkway or bridge shall be *barrier-free*.

3.8.1.3. Barrier-Free Path of Travel

(1) Except as required in Sentence (4) and except as permitted in Subsection 3.8.3., every *barrier-free* path of travel shall provide an unobstructed width of at least 1 100 mm for the passage of wheelchairs.

(2) Interior and exterior walking surfaces that are within a *barrier-free* path of travel shall

(a) have no opening that will permit the passage of a sphere more than 13 mm in diam,

(b) have any elongated openings oriented approximately perpendicular to the direction of travel,

(c) be stable, firm and slip-resistant,

(d) be bevelled at a maximum slope of 1 in 2 at changes in level not more than 13 mm, and

(e) be provided with sloped floors or *ramps* at changes in level more than 13 mm. (See Note A-3.8.1.3.(2))

(3) A *barrier-free* path of travel is permitted to include *ramps*, passenger elevators or other platform equipped passenger elevating devices to overcome a difference in level.

(4) Every *barrier-free* path of travel less than 1 600 mm in width shall be provided with an unobstructed space not less than 1 800 mm in width and 1 800 mm in length located not more than 30 m apart. (See Note A-3.8.1.3.(4))

(5) Where the headroom of an area in a *barrier-free* path of travel is reduced to less than 1 980 mm, a guardrail or other barrier with its leading edge at or below 680 mm from the finished floor shall be provided. (See Note A-3.8.1.3.(5))

(6) A normally occupied *floor area* that is not required by Article 3.8.2.1. to have a *barrier-free* path of travel shall meet the following requirements:

(a) interior walking surfaces throughout the normally occupied *floor area* shall comply with Clauses (2)(a) to (e), and

(b) where the headroom of an area in a corridor or aisle in the normally occupied *floor area* is reduced to less than 1 980 mm, a guardrail or other barrier with its leading edge at or below 680 mm from the finished floor shall be provided. (See Note A-3.8.1.3.(6))

3.8.1.4. Escalators and Moving Walks

(1) In a *building* in which an escalator or inclined moving walk provides access to any floor level above or below the entrance floor level, an interior *barrier-free* path of travel shall be provided to that floor level.

(2) The route from the escalator or inclined moving walk to the *barrier-free* path of travel required by Sentence (1) shall be clearly indicated by appropriate signs.

(3) In a *building* in which a moving walk provides access between areas on the same floor level, a *barrier-free* path of travel shall be provided between the areas served by the moving walk.

3.8.1.5. Controls

(1) Except as required by Sentences 3.5.2.2.(1) and 3.8.3.5.(1) for elevators and Sentence 3.8.3.3.(17) for power door operator controls, controls for the operation of *building* services or safety devices, including electrical switches, thermostats and intercom switches, intended to be operated by the occupant and located in a *barrier-free* path of travel shall

(a) be mounted

(i) 1 200 mm above the finished floor, in the case of a thermostat or a manual station, and

(ii) not less than 900 mm and not more than 1 100 mm above the finished floor, in the case of all other controls, and

(b) be located so as to be adjacent to and centred on either the length or the width of a clear floor space of 810 mm by 1 370 mm, and

(c) be operable

(i) using one hand, without requiring tight grasping, pinching with fingers or twisting of the wrist, and with a force of not more than 22.2 N, in the case of a manual station, and

(ii) using a closed fist and with a force of not more than 22.2 N, in the case of all other controls. (See Note A-3.8.1.5.(1).)

(2) A signal intended for the public to indicate the operation of a *building* security system that controls access to a *building* shall consist of an audible and visual signal.

3.8.1.6. Illumination

(1) All portions of a *barrier-free* path of travel shall be equipped to provide a level of illumination in accordance with Sentence 3.2.7.1.(1).

3.8.2. Occupancy Requirements

3.8.2.1. Areas Requiring Barrier-Free Path of Travel

(1) Except as permitted by Sentence (3), a *barrier-free* path of travel from the entrances required by Sentences 3.8.1.2.(1) and (2) to be *barrier-free* shall be provided

(a) throughout the entrance *storey*, and

(b) within all normally occupied *floor areas* and rooftop amenity spaces, unless as permitted by Sentence (2). (See Article 3.3.1.7. for additional requirements regarding *floor areas* above or below the *first storey* to which a *barrier-free path* of travel is required). (See Note A.3.8.2.1.(1))

(2) A *barrier-free* path of travel described in Clause (1)(b) is not required to extend

(a) to *floor areas* or portions of *floor areas* containing a Group B, Division 2 or 3 *occupancy* that are not required by Article 3.5.2.1. to be connected by a *ramp* or served by an elevator,

(b) to *floor areas* containing Group C or Group D *occupancies* that are located in a *building* that

(i) is three or fewer *storeys* in *building height*, and

(ii) has a *building area* not exceeding 600 m^2, (See Note A.3.8.2.1.(2)(b))

(c) to portions of restaurants and licensed beverage establishments where the same amenities and uses are provided on other *floor areas* that have a *barrier-free* path of travel, or

(d) to portions of child care facilities that have all entrance doors at floor levels that do not have a *barrier-free* path of travel.

(3) A *barrier-free* path of travel described in Sentence (1) is not required

(a) into *service rooms*,

(b) into elevator machine rooms,

(c) into janitors' rooms,

(d) into *service spaces*,

(e) into crawl spaces,

(f) into *attic or roof spaces*,

(g) into *high-hazard industrial occupancies*,

(h) within portions of a *floor area* with fixed seats in an *assembly occupancy* where these portions are not part of the *barrier-free* path of travel to

(i) spaces designated for wheelchair use,

(ii) seats designated for adaptable seating, or

(iii) spaces for the storage of wheelchairs and mobility assistive devices,

(i) to *suites* of *residential occupancy* that are in *storeys* other than the entrance *storey* and that have all entrance doors at floor levels that are not required to have a *barrier-free* path of travel,

(j) except as required by Sentence (5), on the inside of a *suite* of *residential occupancy*,

(k) to portions of a *floor area* that are not at the same level as the entry level, provided amenities and uses provided on any raised or sunken level are accessible on the entry level by means of a *barrier-free* path of travel,

(l) within a parking level with no *barrier-free* parking spaces, or

(m) to the floor level above or below the entrance level in *buildings* no more than 2 *storeys* in *building height* or in 2-*storey suites*, unless the floor level above or below

(i) is served by a passenger elevator, a platform-equipped passenger-elevating device, an escalator or an inclined moving walk,

(ii) is 600 m^2 or more in *floor area*,

(iii) contains facilities that are not contained on the entrance level, but that are integral to the principal function of the entrance level, or

(iv) contains an *assembly occupancy* more than 100 m^2 in *floor area*. (See Note A-(3.8.2.1.(3)(m))

(4) In an *assembly occupancy* with fixed seats, the minimum number of spaces designated for wheelchair use and the minimum number of fixed seats designated for *adaptable seating* shall conform to Table 3.8.2.1. (See Note A.3.8.2.1.(4))

Table 3.8.2.1.
Designated Wheelchair Spaces and Adaptable Seating
Forming Part of Sentence 3.8.2.1.(4)

Number of Fixed Seats in Seating Area	Minimum Number of Spaces Designated for Wheelchairs	Minimum Number of Fixed Seats Designated for *Adaptable Seating*
Up to 20	2	1
21 to 40	2	2
41 to 60	2	3
61 to 80	2	4
81 to 100	3	5
Over 100	3% of the seating capacity	The greater of 5 seats or 5% of the aisle seating capacity

(5) In a Group C *major occupancy* apartment *building*, not less than 15% of all *suites* of *residential occupancy* shall be provided with a *barrier-free* path of travel from the *suite* entrance door into the following rooms and spaces that shall be located at the same level as the *barrier-free* path of travel:

(a) at least one bedroom, (See Note A-3.8.2.1.(5)(a))

(b) at least one bathroom conforming to Sentence (6), (See Note A-3.8.2.1.(5)(b))

(c) a kitchen or kitchen space, and

(d) a living room or space. (See Note A-3.8.2.1.(5))

(6) Bathrooms required by Clause (5)(b) shall

(a) contain a lavatory,

(b) contain a water closet,

(c) contain a bathtub or a shower,

(d) have wall reinforcement installed in conformance with Sentence 3.3.4.9.(1), and

(e) be designed to permit a wheelchair to turn in an open space not less than 1 500 mm in diameter. (See Note A-3.8.2.1.(6).)

(7) The number of *suites* described in Sentence (5) having 1, 2 or 3 or more bedrooms shall be in proportion to the number of *suites* of *residential occupancy* having 1, 2 or 3 or more bedrooms in the remainder of the *building*. (See Note A-3.8.2.1.(7))

(8) The *suites* described in Sentence (5) shall be distributed among *storeys* that are required by Article 3.8.2.1. to have a *barrier-free* path of travel, having regard to the height of the *suite* above *grade*.

3.8.2.2. Barrier-Free Paths of travel to Building Entrances, Exterior Passenger Loading Zones, and Access to Parking Areas (See Note A-3.8.2.2.)

(1) A direct *barrier-free* path of travel shall be provided between a *barrier-free* entrance referred to in Article 3.8.1.2. to

(a) a designated *barrier-free* parking area, where provided,

(b) an exterior passenger-loading zone, where provided, and

(c) a public thoroughfare. (See Note A-3.8.2.2.(1))

(2) The vehicular entrance to and egress from any parking level described in Sentence (1) and all areas intended to be used by wheelchair accessible vehicles to gain access to a parking space on that level shall have a vertical clearance of not less than 2 100 mm.

(3) If an exterior passenger loading zone is provided, it shall have,

(a) an access aisle not less than 2 440 mm wide and 7 400 mm long adjacent and parallel to the vehicle pull-up space,

(b) a curb *ramp,* where there are curbs between the access aisle and the vehicle pull-up space, and

(c) a clearance height of not less than 3 600 mm at the vehicle pull-up space and along the vehicle access and egress routes.

(4) In *storage garages*, a *barrier-free* path of travel shall be provided between each parking level with *barrier-free* parking and all other parts of the *building* required to be

provided with *barrier-free* access that are served by that *storage garage*. (See Note A-3.8.2.2.(4))

3.8.2.3. Washrooms Required to be Barrier-Free (See Note A-3.8.2.3.)

(1) A *barrier-free* path of travel shall be provided to *barrier-free* washrooms designed to accommodate persons with disabilities in conformance with the requirements in Articles 3.8.3.8. to 3.8.3.12.

(2) The number of universal washrooms conforming to Article 3.8.3.12. provided in a *building* in which a washroom is required by Subsection 3.7.4. shall conform to Table 3.8.2.3.-A. (See Note A-3.8.2.3.(2))

Table 3.8.2.3.-A
Minimum Number of Universal Washrooms per Building
Forming Part of Sentence 3.8.2.3.(2)

Number of *Storeys* in *Building*	Minimum Number of Universal Washrooms per *Building*
1 to 3	1
4 to 6	2
Over 6	3, plus 1 for each additional increment of 3 *storeys* in excess of 6 *storeys*

(3) Where a washroom required by Subsection 3.7.4. is provided in a *storey* that is required by Article 3.8.2.1. to have a *barrier-free* path of travel,

(a) the washroom shall conform to Articles 3.8.3.8. to 3.8.3.11., and

(b) the number of *barrier-free* water closet stalls or enclosures provided in the washroom shall conform to Table 3.8.2.3.-B. (See Note A-3.8.2.3.(3))

(4) Except as permitted in Sentence (5), where washrooms in excess of those required by Subsection 3.7.4. are provided in a *storey* that is required by Article 3.8.2.1. to have a *barrier-free* path of travel, the additional washrooms shall be designed to accommodate persons with disabilities in conformance with the requirements of

(a) Articles 3.8.3.8. to 3.8.3.11., or

(b) Article 3.8.3.12.

Table 3.8.2.3.-B
Minimum Number of Water Closet Stalls or Enclosures Required to be Barrier-Free
Forming Part of Sentence 3.8.2.3.(3)

Number of Water Closets per Washroom	Minimum Number of *Barrier-Free* Water Closet Stalls or Enclosures per Washroom
1 to 3	0, where a universal washroom is provided on the same floor level within 45 m of the washroom, or 1, where a universal washroom is not provided on the same floor level within 45 m of the washroom
4 to 9	1
10 to 16	2
17 to 20	3
21 to 30	4
Over 30	5, plus 1 for each additional increment of 10 water closets per washroom in excess of 30 water closets per washroom

(5) Washrooms need not conform to Sentence (4) provided

(a) they are located within *suites* of *residential occupancy*,

(b) other *barrier-free* washrooms are provided on the same floor level within 45 m, or (See Note A-3.8.2.3.(5)(b).)

(c) they are located in an individual *suite* that is

(i) used for a *business and personal services occupancy*, a *mercantile occupancy* or an *industrial occupancy*,

(ii) less than 300 m^2 in area, and

(iii) completely separated from, and without access to, the remainder of the *building*.

(6) Where a washroom required by Subsection 3.7.4. is provided in a *storey* that is not required by Article 3.8.2.1. to have a *barrier-free* path of travel, the washroom shall

(a) conform to Article 3.8.3.9. and Sentences 3.8.3.10.(4) and 3.8.3.11.(5), and

(b) be provided with at least one ambulatory water closet stall or enclosure conforming to Sentence 3.8.3.8.(10). (See Note A-3.8.2.3.(6))

3.8.2.4. Hotels

(1) Except as permitted in Sentence (2), at least 10% of the *suites* of a *hotel* shall

(a) have a *barrier-free* path of travel extending to

(i) the inside of each room, and

(ii) a balcony where required by Sentence 3.3.1.7.(2), and

(b) be distributed among *storeys* that are required by Article 3.8.2.1. to have a *barrier-free* path of travel, having regard to the height of the *suite* above *grade*. (See Note A-3.8.2.4.(1))

(2) Not more than 20 *suites* need comply with Sentence (1).

(3) A *suite* having a *barrier-free* path of travel required by Sentence (1) shall have a bathroom that

(a) conforms to Clauses 3.8.3.12.(1)(a) to (h) and (j),

(b) has an unobstructed area at least 1 200 mm in diameter extending the full height of the room, except that a door is permitted to open on the inside if it does not reduce the unobstructed area, and

(c) has a bathtub or shower that conforms to Article 3.8.3.13.

(4) Except as required by Sentence 3.8.3.3.(17) for power door operator controls, controls for the operation of *building* services or safety devices, including electrical switches, thermostats and intercom switches, intended to be operated by the occupant and located within a *suite* having a *barrier-free* path of travel required by Sentence (1) shall conform to Sentence 3.8.1.5.(1).

(5) An entrance door to a *suite* having a *barrier-free* path of travel required by Sentence (1) shall have

(a) a power door operator conforming to Article 3.8.3.3., and

(b) a door viewer located at a height no higher than 1 100 mm above the finished floor.

(6) Where a door is provided between a *suite* having a *barrier-free* path of travel required by Sentence (1) and an adjoining *suite*, the door shall conform to Sentences 3.8.3.3.(1) and (3).

(7) Where an emergency power supply is supplied by a generator, it shall supply at least one emergency power receptacle in at least one of the *suites* having a *barrier-free* path of travel required by Sentence (1). (See Note A-3.8.2.4.(7))

(8) The emergency power receptacle described in Sentence (7) shall be identified with a legible sign having the words **EMERGENCY POWER OUTLET** permanently mounted on the wall beside the receptacle.

3.8.3. Design Standards

3.8.3.1. Accessibility Signs (See Note A-3.8.3.1.)

(1) Signs providing visual information shall be installed to indicate the location of

(a) *barrier-free* entrances,

(b) *ramps* located in a required *barrier-free* path of travel serving that entrance,

(c) an exterior passenger loading zone conforming to Sentence 3.8.2.2.(3), if one is provided,

(d) *barrier-free* washrooms,

(e) *barrier-free* showers,

(f) *barrier-free* elevators,

(g) *barrier-free* parking spaces, and

(h) assistive listening systems or adaptive technologies.

(2) Where a washroom, elevator, telephone or parking area is required to accommodate persons with disabilities, it shall be identified by a sign consisting of the International Symbol of Access or the International Symbol of Access for Hearing Loss and appropriate graphical or textural information that clearly indicates the type of facilities available.

(3) Where a washroom is not designed to accommodate persons with physical disabilities in a *storey* to which a *barrier-free* path of travel is required by Article 3.8.2.1., signs providing visual and tactile information shall be installed to indicate the location of *barrier-free* facilities.

(4) Signs incorporating the International Symbol of Access shall be installed where necessary to indicate the location of a *barrier-free means of egress*.

(5) Directional signs shall be provided with visual information.

(6) Except for doors that serve *service spaces* or are located within a *suite*, signs installed at or near doors shall provide the same information in both visual and tactile forms.

(7) Tactile information sign required by Subsections 3.4.5. and 3.4.6 and this Article shall

(a) have Braille and tactile characters in accordance with Clauses 4.5.6.2. and 4.5.6.3. of CSA B651, “Accessible design for the built environment,”

(b) be installed on the wall closest to the latch side of the door or on the nearest wall in the right side of the door, where there is no wall at the latch side, and

(c) be centred 1500 mm above the finished floor with the edge of the sign located not more than 300 mm from the door. (See Note A-3.8.3.1.(7))

(8) Visual information signs required by Subsections 3.4.5. and 3.4.6. and this Article shall comply with Clauses 4.5.2., 4.5.3. and 4.5.4. of CSA B651, "Accessible design for the built environment." (See Note A-3.8.3.1.(8))

3.8.3.2. Exterior Walks

(1) Except as provided in Sentence (2), exterior walks that form part of a *barrier-free* path of travel shall

(a) be provided by means of a continuous plane not interrupted by steps or abrupt changes in level,

(b) have a permanent, firm and slip-resistant surface,

(c) except as required in Sentence 3.8.1.3.(4), have an uninterrupted width of not less than 1 100 mm and a gradient not exceeding 1 in 20,

(d) be designed as a *ramp* where the gradient is greater than 1 in 20,

(e) have not less than 1 600 mm wide surface of a different texture to that surrounding it, where the line of travel is level and even with adjacent walking surfaces,

(f) be free from obstructions for the full width of the walk to a minimum height of 1 980 mm, except that handrails are permitted to project not more than 100 mm from either side into the clear area,

(g) have a level area adjacent to the entrance doorway conforming to Clause 3.8.3.4.(1)(c), and

(h) have a tactile attention indicator conforming to Article 3.8.3.18. that is located to identify an entry into a vehicular route or area where no curbs or any other element separate the vehicular route or area from a pedestrian route. (See Note A-3.8.3.2.(1)(h).)

(2) Where a difference in elevation between levels in a walkway is not more than 200 mm, a curb *ramp* conforming to Sentences (3) and (4) may be provided.

(3) The curb *ramp* permitted by Sentence (2) shall

(a) have a running slope conforming to Table 3.8.3.2.,

(b) have a width of not less than 1 500 mm exclusive of flared sides,

(c) have a surface including flared sides that shall

(i) be slip-resistant,

(ii) have a detectable warning surface that is colour- and texture-contrasted with the adjacent surfaces, and

(iii) have a smooth transition from the *ramp* and adjacent surfaces, and

(d) have flared sides with a slope of not more than 1:10 where pedestrians are likely to walk across them.

(4) Curb *ramps* described in Sentence (3) do not require handrails *or guards*.

Table 3.8.3.2.
Ramp Rise and Slope
Forming Part of Sentence 3.8.3.2.(3)

Vertical Rise Between Surfaces, mm	Slope
75 to 200	1:10 to 1:12
less than 75	1:8 to 1:10

3.8.3.3. Doorways and Doors

(1) Every doorway that is located in a *barrier-free* path of travel shall have a clear width of not less than 850 mm when the door is in the open position. (See Note A-3.8.3.3.(1))

(2) Except as provided in Sentence 3.3.4.11.(11) and except where no bathroom within the *suite* is at the level of the *suite* entrance door to which a *barrier-free* path of travel is provided in accordance with Sentence 3.8.2.1.(1), the doorway to at least one bathroom and to each bedroom at the same level as such bathroom within a *suite* of *residential occupancy* shall have, when the door is in the open position, a clear width of not less than

(a) 760 mm where the door is served by a corridor or space not less than 1 060 mm wide, and

(b) 810 mm where the door is served by a corridor or space less than 1 060 mm wide. (See Note A-3.8.3.3.(2))

(3) Door opening devices that are the only means of operation shall

(a) be designed to be operable using a closed fist, and

(b) be mounted not less than 900 mm and not more than 1 100 mm above the finished floor. (See Note A-3.8.3.3.(3))

(4) Except as permitted by Sentence (12), every door that provides a *barrier-free* path of travel through a *barrier-free* entrance referred to in Article 3.8.1.2. shall be equipped with a power door operator. (See Note A-3.8.3.3.(4))

(4.1) Except as permitted by Sentence (12), doors equipped with a self-closing device shall be equipped with power door operators where doors are located in a *barrier-free* path of travel, between the entrance referred to Article 3.8.1.2., including the interior

doors of a vestibule, and the entrance doors to *suites* or rooms served by a *public corridor* or a corridor used by the public. (See Note A-3.8.3.3.(4.1))

(5) Except as permitted by Sentence (12), where a *barrier-free* entrance referred to in Article 3.8.1.2. incorporates a vestibule, a door leading from the vestibule into *the floor area* shall be equipped with a power door operator.

(6) A door shall be equipped with a power door operator where the door serves

(a) a washroom for *public use* required to be *barrier-free*, or

(b) a Group A *occupancy* within a Group C *major occupancy* apartment *building*.

(7) Except as permitted in Sentence (8), and except for doors with power operators, closers for doors in a *barrier-free* path of travel shall be designed to permit doors to open when a force of not more than 38 N is applied to the handles, push plates or latch-releasing devices in the case of exterior doors and 22 N in the case of interior doors.

(8) Sentence (7) does not apply to doors at the entrances to *dwelling units*, or where greater forces are required in order to close and latch the doors against prevailing differences in air pressures on opposite sides of the doors. (See Note A-3.8.3.3.(8))

(9) Except for doors at the entrances to *dwelling units*, closers for interior doors in a *barrier-free* path of travel shall have a closing period of not less than 3 seconds measured from when the door is in an open position of 70° to the doorway, to when the door reaches a point 75 mm from the closed position, measured from the leading edge of the latch side of the door. (See Note A-3.8.3.3.(9))

(10) Unless equipped with a power door operator, a door in a *barrier-free* path of travel shall have a clear space on the latch side extending the height of the doorway and not less than

(a) 600 mm beyond the edge of the door opening if the door swings toward the approach side,

(b) 300 mm beyond the edge of the door opening if the door swings away from the approach side, and

(c) 300 mm beyond both sides of a sliding door. (See Note A-3.8.3.3.(10).)

(11) Vestibules located in a *barrier-free* path of travel

(a) shall be arranged to allow the movement of wheelchairs between doors, and

(b) shall provide

(i) where the doors into the vestibule are in series, a distance between the doors of at least 1 500 mm plus the width of any door that swings into the space in the path of travel from one door to another, and

(ii) where the doors into the vestibule are not aligned, a turning diameter of 1 500 mm within the vestibule clear of any door swing. (See Note A-3.8.3.3.(11)(b))

(12) Only the active leaf in a multiple leaf door in a *barrier-free* path of travel need conform to the requirements of this Article.

(13) Except as provided in Clause 3.8.3.4.(1)(c), the floor surface on each side of a door in a *barrier-free* path of travel shall be level within a rectangular area

(a) as wide as the door plus the clearance required on the latch side by Sentence (10), and

(b) whose dimension perpendicular to the closed door is not less than the width of the *barrier-free* path of travel but need not exceed 1 500 mm.

(14) Where a vision panel is provided in a door in a *barrier-free* path of travel, such panel shall be at least 75 mm in width and be located so that

(a) the bottom of the panel is not more than 900 mm above the finished floor, and

(b) the edge of the panel closest to the latch is not more than 250 mm from the latch side of the door.

(15) A door in a *barrier-free* path of travel consisting of a sheet of glass shall be marked with a continuous opaque strip that

(a) shall be colour and brightness contrasted to the background of the door,

(b) shall be at least 50 mm wide,

(c) shall be located across the width of the door at a height of 1 350 mm to 1 500 mm above the finished floor, and

(d) may incorporate a logo or symbol provided such logo or symbol does not diminish

(i) the opacity of the strip,

(ii) the width of the strip,

(iii) the colour and brightness contrast of the strip to the background of the door, and

(iv) the continuity of the strip across the width of the door.

(16) Reserved.

(17) Except where a proximity scanning device is installed in conformance with Sentence (18), the control for a power door operator required by Sentence (4), (5) or (6) shall

(a) have a face dimension of not less than

(i) 150 mm in diameter where the control is circular, or

(ii) 50 mm by 100 mm where the control is rectangular,

(b) be operable using a closed fist,

(c) be located so that

(i) its centre is located not less than 900 mm and not more than 1 100 mm from the finished floor or ground, or

(ii) it extends from not more than 200 mm to not less than 900 mm above the finished floor or ground, (See Note A-3.8.3.3.(17)(c))

(d) be located not less than 600 mm and not more than 1 500 mm beyond the door swing where the door opens towards the control,

(e) be located to allow persons to activate the opening of the door from either direction of travel,

(f) be located so that the path of travel is not obstructed,

(g) be located in a clearly visible position, and

(h) contain a sign incorporating the International Symbol of Access.

(18) A proximity scanning device that activates a power door shall be capable of detecting a person in a wheelchair. (See Note A-3.8.3.3.(18))

(19) A normally occupied *floor area* that is not required by Article 3.8.2.1. to have a *barrier-free* path of travel shall comply with the following requirements:

(a) all doorways in *public corridors* in the normally occupied *floor area* shall comply with Sentence (1),

(b) door opening devices that are the only means of operation on doors in the normally occupied *floor area* shall comply with Sentence (3), (See Note A-3.8.3.3.(19)(b))

(c) where a vision panel is provided in a door in the normally occupied *floor area*, the panel shall comply with Sentence (14),

(d) doors consisting of a sheet of glass in the normally occupied *floor area* shall comply with Sentence (15), and

(e) where a power door operator is installed for doors in the normally occupied *floor area*, the control for the power door operator shall comply with Sentence (17).

3.8.3.4. Ramps

(1) A *ramp* located in a *barrier-free* path of travel shall,

(a) have a minimum width not less than 1 000 mm between handrails (See Note A-3.4.3.4.),

(b) have a maximum gradient of 1 in 12, (See Note A-3.8.3.3.(1)(b))

(c) have a level area of at least 1700 mm by 1 700 mm at the top and bottom of a *ramp* and where a door is located in a *ramp*, so that the level area extends at least 600 mm beyond the latch side of the door opening, except that where the door opens away from the *ramp*, the area extending beyond the latch side of the door opening may be reduced to 300 mm, (See Note A-3.8.3.4.(1)(c))

(d) have a level area at least 1 700 mm long and at least the same width as the *ramp*

  (i) at intervals of not more than 9 m along its length, and

  (ii) where there is a change of 90° or more in the direction of the *ramp*,

(e) except as provided in Sentence (2), be equipped with handrails on both sides that shall

  (i) be continuously graspable along their entire length and have circular cross-section with an outside diameter not less than 30 mm and not more than 40 mm, or any non-circular shape with a graspable portion that has a perimeter not less than 100 mm and not more than 155 mm and whose largest cross-sectional dimension is not more than 57 mm,

  (ii) be not less than 865 mm and not more than 965 mm high, measured vertically from the surface of the *ramp*, except that handrails not meeting these requirements are permitted provided they are installed in addition to the required handrail,

  (iii) be terminated in a manner that will not obstruct pedestrian travel or create a hazard,

  (iv) extend horizontally not less than 300 mm beyond the top and bottom of the *ramp*,

  (v) be provided with a clearance that conforms to Sentence 3.4.6.5.(13), and

  (vi) be designed and constructed such that handrails and their supports will withstand the loading values obtained from the nonconcurrent application of a concentrated load not less than 0.9 kN applied at any point and in any direction for all handrails and a uniform load not less than 0.7 kN/m applied in any direction to the handrail,

(f) except as provided in Sentence (2), have a wall or a *guard* on both sides and where a *guard* is provided the *guard* shall

(i) be not less than 1 070 mm measured vertically to the top of the *guard* from the *ramp* surface, and

(ii) be designed so that no member, attachment or opening located between 140 mm and 900 mm above the *ramp* surface being protected by the *guard* will facilitate climbing,

(g) be provided

(i) with a curb at least 50 mm high on any side of the *ramp* where no solid enclosure or solid *guard* is provided, or

(ii) with horizontal railings which are located or other barriers that extend to within 50 mm of the finished *ramp*, and

(h) except as provided in Sentence (2), where the *ramp* is wider than 2 200 mm, have an intermediate handrail with a clear width of 900 mm between the intermediate handrail and one of the handrails described in Clause (e).

(2) Where a *ramp* serves as an aisleway for fixed seating, the requirements for handrails in Clauses (1)(e) and (h) and for walls or *guards* in Clause (1)(f) need not apply. (See Note A-3.8.3.4.(2))

(3) Floors or walks in a *barrier-free* path of travel having a slope steeper than 1 in 20 shall be designed as *ramps*. (See Note A-3.8.3.4.(3))

3.8.3.5. Passenger Elevating Devices

(1) A passenger elevating device referred to in Article 3.8.2.1. located in a *barrier-free* path of travel shall

(a) conform to CSA B355, “Platform lifts and stair lifts for barrier-free access”,

(b) have a clear floor space not less than 1 500 mm long by 1 000 mm wide, and

(c) have entry doors or gates

(i) providing a clear width not less than 850 mm in the open position if located on the short side of the passenger elevating device, or

(ii) providing a clear width not less than 1 000 mm in the open position if located at either end of the long side of the passenger-elevating device.

3.8.3.6. Wheelchair Spaces and Adaptable Seating

(1) Spaces designated for wheelchair use required by Sentence 3.8.2.1.(4) shall be

(a) clear and level or level with removable seats,

(b) not less than 900 mm wide and not less than

(i) 1 525 mm long where designed to permit a wheelchair to enter from a side approach, and

(ii) 1 220 mm long where designed to permit a wheelchair to enter from the front or rear of the space,

(c) arranged so that

(i) at least two of the designated spaces are side by side, and

(ii) at least one fixed seat for a companion is located beside

(A) each group of designated spaces, if two or more designated spaces are arranged side by side in a group, and

(B) each designated space that is not part of a group described in Sub-subclause (A), (See Note A-3.8.3.6.(1)(c).)

(d) located adjoining a *barrier-free* path of travel without infringing on egress from any row of seating or any aisle requirements, and

(e) situated, as part of the designated seating plan, to provide a choice of viewing location and a clear view of the event taking place.

(2) Fixed seats designated for *adaptable seating* required by Sentence 3.8.2.1.(4) shall be

(a) located adjoining a *barrier-free* path of travel without infringing on egress from any row of seating or any aisle requirements,

(b) equipped with a movable or removable armrest on the side of the seat adjoining the *barrier-free* path of travel, and

(c) situated, as part of the designated seating plan, to provide a choice of viewing location and a clear view of the event taking place.

(3) In an *assembly occupancy* with fixed seats, space shall be provided for the storage of wheelchairs and *mobility assistive devices* in accordance with the following requirements:

(a) at least one storage space not less than 810 mm by 1 370 mm shall be provided where the *assembly occupancy* has not more than 200 fixed seats and at least two such storage spaces shall be provided where the *assembly occupancy* has more than 200 fixed seats, and

(b) the storage space or spaces shall be located on the same level and in proximity to the spaces designated for wheelchair use and seats designated for *adaptable seating*.

3.8.3.7. Assistive Listening Systems

(1) In *buildings* of *assembly occupancy*, all classrooms, auditoria, meeting rooms and *theatres* with an area of more than 100 m^2 shall be equipped with an assistive listening system encompassing the entire seating area. (See Note A.3.8.3.7.(1))

(2) In each location where information, goods or services are provided to the public at service counters in *buildings* of *assembly occupancy*, at least one of the service counters shall be equipped with:

(a) an assistive listening system or adaptive technology, and

(b) an amplification system, where there is a barrier to communication, such as a glass screen. (See Note A-3.8.3.7.(2))

(3) Assistive listening systems or adaptive technologies required by Sentence (2) shall provide for the clear communication required for the exchange of information, goods, and services.

3.8.3.8. Water Closets Stalls and Enclosures

(1) Every *barrier-free* water closet stall or enclosure in a washroom described in Sentence 3.8.2.3.(3) or (4) shall

(a) have a clear turning space within the stall or enclosure of at least 1 500 mm in diameter, (See Note A-3.8.3.8.(1)(a))

(b) have a clear floor space in front of the stall or enclosure of at least 1 500 mm in diameter,

(c) be equipped with a door that

(i) is capable of being latched from the inside with a mechanism conforming to Subclause 3.8.1.5.(1)(c)(ii),

(ii) in an open position, has a clear opening of at least 850 mm wide,

(iii) swings outward, unless 820 mm by 1 440 mm clear floor area is provided within the stall to permit the door to be closed without interfering with the wheelchair, (See Note A_3.8.3.8.(1)(c)(iii))

(iv) is self-closing so that, when at rest, the door remains open not more than 50 mm beyond the jamb,

(v) is provided with a horizontal, D-shaped, visually contrasting door pull on both sides of the door, mounted on the vertical centre line of the door, located at a height not less than 800 mm and not more than 1 000 mm above the finished floor, (See Note A-3.8.3.8.(1)(c)(v))

(vi) is aligned with a clear transfer space required by Subclause (2)(a)(ii) or Clause (2)(b), and

(vii) is capable of having the latch required by Subclause (i) released from the outside in case of an emergency,

(d) be equipped with a water closet conforming to Article 3.8.3.9. that is located in accordance with Clause (2)(a) or (b),

(e) be equipped with a coat hook mounted not more than 1 200 mm above the finished floor on a side wall and projecting not more than 50 mm from the wall,

(f) have a clearance of at least 1 700 mm between the outside of the stall face and the face of an in-swinging washroom door and 1 400 mm between the outside of the stall face and any wall-mounted fixture or other obstruction, and (See Note A-3.8.3.8.(1)(f))

(g) be equipped with a toilet paper dispenser mounted on the side wall closest to the water closet so that

(i) the dispenser is located below the grab bar,

(ii) the closest edge of the dispenser is 300 mm from the front of the water closet seat, and

(iii) the bottom of the dispenser is 600 mm to 800 mm above the finished floor.

(2) A water closet described in Clause (1)(d) shall be

(a) located so that

(i) the centre line of the water closet is not less than 460 mm and not more than 480 mm from one side wall, and

(ii) a clear transfer space at least 900 mm wide and 1 500 mm deep is provided on the other side of the water closet, or

(b) located so that a clear transfer space at least 900 mm wide and 1 500 mm deep is provided on each side of the water closet. (See Note A-3.8.3.8.(2)(b))

(3) Where a water closet is located in accordance with Clause (2)(a)

(a) a grab bar conforming to Sentences (5) and (7) shall be provided on the side wall referred to in Subclause (2)(a)(i),

(b) a fold-down grab bar may be provided and, if one is provided, it shall conform to Sentence (8) and be provided on the side of the water closet opposite the grab bar described in Clause (a), and

(c) a grab bar conforming to Sentences (6) and (7) shall be provided on the wall behind the water closet. (See Note A-3.8.3.8.(3).)

(4) Where a water closet is located in accordance with Clause (2)(b)

(a) a fold-down grab bar conforming to Sentence (8) shall be provided on each side of the water closet, and

(b) a grab bar conforming to Sentences (6) and (7) shall be provided on the wall behind the water closet. (See Note A-3.8.3.8.(3))

(5) A grab bar described in Clause (3)(a) shall

(a) be continuous L-shaped with 750 mm long horizontal and vertical components, and

(b) be wall mounted with the horizontal component 750 mm above the finished floor and the vertical component 150 mm in front of the water closet. (See Note A-3.8.3.8.(3) and Note A-3.8.3.8.(5))

(6) A grab bar described in Clause (3)(c) or (4)(b) shall

(a) be at least 600 mm in length, and

(b) be wall mounted horizontally from 840 mm to 920 mm above the finished floor and, where the water closet has a water tank, be wall mounted 150 mm above the tank. (See Note A-3.8.3.8.(3))

(7) A grab bar described in Clause (3)(a) or (c) or (4)(b) shall

(a) be installed to resist a load of at least 1.3 kN applied vertically or horizontally,

(b) be not less than 30 mm and not more than 40 mm in diameter,

(c) have a clearance of not less than 38 mm and not more than 50 mm from the wall to the inside surface of the grab bar, and

(d) have a slip-resistant surface. (See Note A-3.8.3.8.(3))

(8) A fold-down grab bar described in Clause (3)(b) or (4)(a) shall

(a) be mounted on the wall behind the water closet

(i) with the horizontal component 750 mm above the finished floor, and

(ii) not less than 390 mm and not more than 410 mm from the centre line of the water closet,

(b) not require a force of more than 22.2 N to pull it down,

(c) be at least 750 mm in length,

(d) be installed to resist a load of at least 1.3 kN applied vertically or horizontally,

(e) be not less than 30 mm and not more than 40 mm in diameter, and

(f) have a slip-resistant surface. (See Note A-3.8.3.8.(3) and Note A-3.8.3.8.(8))

(9) A fold-down grab bar installed in accordance with Sentence (8) is permitted to encroach into

(a) the clear turning space described in Clause (1)(a), or

(b) a clear transfer space described in Subclause (2)(a)(ii) or Clause (2)(b). (See Note A-3.8.3.8.(3))

(10) Where an ambulatory water closet stall or enclosure is required by Sentence 3.8.2.3.(6), it shall

(a) be at least 1 500 mm in depth and be not less than 890 mm and not more than 940 mm in width,

(b) be equipped with a door that shall

(i) be capable of being latched from the inside with a mechanism that is operable using a closed fist,

(ii) when the door is in an open position, have a clear opening of at least 810 mm,

(iii) swing outward, unless the minimum dimensions in Clause (a) are not located within the door swing,

(iv) be provided with spring-type or gravity hinges so that the door closes automatically,

(v) be provided with a door pull on both sides of the door, near the latch side of the door, located at a height not less than 900 mm and not more than 1 100 mm above the finished floor, and

(vi) be capable of having the latch required by Subclause (i) released from the outside in the case of an emergency,

(c) be equipped with a water closet conforming to Article 3.8.3.9. and located so that its centre line is centred between the partition walls,

(d) be equipped on each side of the water closet with grab bars conforming to Clause (3)(a), and

(e) be equipped with a coat hook conforming to Clause (1)(e). (See Note A-3.8.3.8.(10))

3.8.3.9. Water Closets (See Note A-3.8.3.9.)

(1) A water closet described in Clause 3.8.3.8.(1)(d) or (10)(c) or 3.8.3.12.(1)(d) shall

(a) be equipped with a seat located at not less than 430 mm and not more than 485 mm above the finished floor,

(b) flush automatically or be equipped with a flushing control that

(i) is located between 500 mm and 900 mm above the finished floor,

(ii) is operable from the transfer side, and

(iii) is operable using a closed fist and with a force of not more than 22.2 N, and

(c) be equipped with a back support where there is no seat lid or tank. (See Note A-3.8.3.9.(1)(c)) (See Note A-3.8.3.9.(1))

3.8.3.10. Urinals (See Note A-3.8.3.10.)

(1) Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3.(3) or (4), at least one urinal shall

(a) be mounted with the rim located not more than 430 mm above the finished floor,

(b) have a clear floor space at least 800 mm wide that is perpendicular to, and centred on, the urinal and is unobstructed by privacy screens, and

(c) have no step in front of it.

(2) A urinal described in Sentence (1) shall

(a) flush automatically or be equipped with a flushing control that is,

(i) located between 900 mm and 1 100 mm above the finished floor, and

(ii) operable using a closed fist and with a force of not more than 22.2 N, and

(b) have installed on each side, a vertically mounted grab bar that

(i) complies with Article 3.8.3.8.(7),

(ii) is not less than 600 mm long, with its centre line 1 000 mm above the finished floor, and

(iii) is located not more than 380 mm from the centre line of the urinal.

(3) Where privacy screens are installed for a urinal described in Sentence (1), they shall

(a) be mounted a minimum of 460 mm from the centre line of the urinal, and

(b) have a clearance of at least 50 mm from the grab bars required by Clause (2)(b).

(4) Where more than one urinal is provided in a washroom described in Sentence 3.8.2.3.(6), at least one urinal conforming to Sentences (1) to (3) shall be provided in the washroom.

3.8.3.11. Lavatories, Mirrors and Washroom Accessories (See Note A-3.8.3.11.)

(1) A washroom described in Sentence 3.8.2.3.(2), (3) or (4) shall be provided with a lavatory that shall

(a) be located so that the distance between the centre line of the lavatory and the side wall is not less than 460 mm,

(b) have a rim height not more than 865 mm above the finished floor,

(c) have a clearance beneath the lavatory not less than

(i) 920 mm wide,

(ii) 735 mm high at the front edge,

(iii) 685 mm high at a point 200 mm back from the front edge, and

(iv) 350 mm high over the distance from a point 280 mm to a point 430 mm back from the front edge, (See Note A-3.8.3.11.(1)(c))

(d) have insulated pipes where they would otherwise present a burn hazard or have water supply temperature limited to a maximum of 43°C, (See Note A-3.8.3.11.(1)(d).)

(e) be equipped with faucets that

(i) operate automatically or comply with 3.7.4.2.(12)(b)(i) and (ii), and

(ii) are located so that the distance from the centre line of the faucet to the edge of the basin or, where the basin is mounted in a vanity, to the front edge of the vanity, is not more than 485 mm,

(f) have a minimum 1 370 mm deep floor space to allow for a forward approach, of which a maximum of 500 mm can be located under the lavatory, (See Note A-3.8.3.11.(1)(f).)

(g) have a soap dispenser that

(i) operates automatically or is operable using a closed fist and with a force of not more than 22.2 N, and

(ii) is located not more than 1 100 mm above the finished floor, within 500 mm from the front of the lavatory, and,

(h) have a towel dispenser or other hand drying equipment that is

(i) located to be accessible to persons in wheelchairs,

(ii) located so that the dispensing height is not more than 1 200 mm above the finished floor,

(iii) operable with one hand, and

(iv) located not more than 610 mm, measured horizontally, from the edge of the lavatory.

(2) If mirrors are installed in a washroom described in Sentence 3.8.2.3.(2), (3) or (4), at least one mirror shall be

(a) installed above a lavatory required by Sentence (1), and

(b) mounted with its bottom edge not more than 1 000 mm above the finished floor or inclined to the vertical to be usable by a person in a wheelchair.

(3) If dispensing or hand-operated washroom accessories, other than those located in water closet stalls or enclosures and those described in Clause (1)(g), are provided, they shall be mounted so that

(a) the dispensing height is not less than 900 mm and not more than 1 200 mm above the finished floor,

(b) the controls or operating mechanisms are mounted not less than 900 mm and not more than 1 200 mm above the finished floor, and

(c) a minimum 1 370 mm deep floor space is provided in front of the controls or operating mechanisms to allow for a front approach.

(4) Where a shelf is installed above a lavatory required by Sentence (1), it shall

(a) be located not more than 200 mm above the top of the lavatory and not more than 1 100 mm above the finished floor, and

(b) project not more than 100 mm from the wall.

(5) A washroom described in Sentence 3.8.2.3.(6) shall be provided with a lavatory conforming to Clauses (1)(e), (g) and (h).

3.8.3.12. Universal Washrooms

(1) A universal washroom room shall

(a) be served by a *barrier-free* path of travel,

(b) have a door that

(i) complies with Article 3.8.3.3.,

(ii) has a graspable latch-operating mechanism that is

(A) operable using a closed fist and with a force of not more than 22.2 N, and

(B) located between 900 mm and 1 000 mm above the finished floor, and

(iii) is capable of being locked from the inside and released from the outside in case of emergency,

(c) have one lavatory conforming to Sentences 3.8.3.11.(1), (3) and (4),

(d) have one water closet conforming to Article 3.8.3.9. that is located in accordance with Clause 3.8.3.8.(2)(a) or (b), (See Note A-3.8.3.12.(1)(d).)

(e) have grab bars conforming to

(i) Sentence 3.8.3.8.(3), if the water closet is located in accordance with Clause 3.8.3.8.(2)(a), or

(ii) Sentence 3.8.3.8.(4), if the water closet is located in accordance with Clause 3.8.3.8.(2)(b),

(f) have no internal dimension between walls that is less than 1 700 mm,

(g) have a coat hook that conforms to Clause 3.8.3.8.(1)(e) and a shelf that is located not more than 1 100 mm above the finished floor and projects not more than 100 mm from the wall,

(h) be designed to permit a wheelchair to turn in an open space not less than 1 700 mm in diameter,

(i) be provided with a door equipped with a power door operator,

(j) be provided with a mirror

(i) installed above a lavatory described in Clause (1)(c), and

(ii) mounted with its bottom edge not more than 1 000 mm above the finished floor or inclined to the vertical to be usable by a person in a wheelchair, and

(k) have lighting controlled by a motion sensor conforming to Sentence 12.2.4.1.(2). (See Note A-3.8.3.12.(1).)

(2) A universal washroom shall have

(a) an emergency call system that consists of audible and visual signal devices inside and outside of the washroom that are activated by a control device inside the washroom, and

(b) an emergency sign that contains the words **IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE** in letters at least 25 mm high with a 5 mm stroke and that is posted above the emergency button. (See Note A-3.8.3.12.(2).)

(3) A clear space not less than 810 mm wide and 1 830 mm long shall be provided in each universal washroom for an adult-size change table. (See Note A-3.8.3.12.(3))

(4) Where the clear space provided for an adult-size change table is adjacent to a wall, reinforcement shall be installed in the wall to permit the future installation of the change table.

(5) Where an adult-size change table is installed, it shall

(a) when fully loaded, have a surface height above the finished floor that can be adjusted from between 450 mm and 500 mm at the low range to between 850 mm and 900 mm at the high range,

(b) be designed to carry a minimum load of 1.33 kN,

(c) have a clear floor space parallel to the long side of the table not less than 760 mm wide and 1 500 mm long, and

(d) in the case of a fold-down table

(i) be installed so that it does not encroach into a clear transfer space described in Clause 3.8.3.8.(2)(a) or (b), and

(ii) have no operating mechanisms higher than 1 200 mm.

(6) A universal washroom need not conform to Sentences (3) and (4) if

(a) it is located in an individual *suite* that

(i) is used for an *assembly occupancy*, a *business and personal services occupancy,* a *mercantile occupancy* or an *industrial occupancy*, and

(ii) meets one of the following requirements

(A) it is located in a *building* that is less than 300 m^2 in *building area*, or

(B) it is less than 300 m^2 in area, if located in a *building* that is at least 300 m^2 in *building area*, or

(b) another universal washroom conforming to this Article is provided on the same floor level within 45 m. (See Note A-3.8.3.12.(6))

3.8.3.13. Showers and Bathtubs

(1) Except within a *suite* of *residential occupancy*, if showers are provided in a *building*, the number of *barrier-free* showers shall conform to Table 3.8.3.13. (See Note A.3.8.3.13.(1))

Table 3.8.3.13.
Minimum Number of Barrier-Free Showers

Forming Part of Sentence 3.8.3.13.(1)

Number of Showers Provided in a Group	Minimum Number of Showers Required to be *Barrier-Free*
1	0
2 to 7	1
Over 7	1, plus 1 for each additional increment of 7 showers in a group

(2) A *barrier-free* shower required by Sentence (1) shall

(a) be not less than 1 500 mm wide and 900 mm deep,

(b) have a clear floor space at the entrance to the shower not less than 900 mm deep and the same width as the shower, except that fixtures are permitted to project into that space provided they do not restrict access to the shower, (See Note A-3.8.3.13.(2)(b)).

(c) have no doors that obstruct the shower controls or the clear floor space described in Clause (b),

(d) have a slip-resistant floor surface,

(e) have a threshold that is level with the adjacent finished floor or a bevelled threshold not more than 13 mm higher than the adjacent finished floor,

(f) have a hinged seat, other than a spring-loaded hinged seat, or a fixed seat that shall

(i) be not less than 450 mm wide and 400 mm deep

(ii) be mounted on the same side wall as the vertical grab bar between 460 mm and 480 mm above the finished floor,

(iii) be designed to carry a minimum load of 1.3 kN,

(iv) be located so that the edge of the seat is within 500 mm of the shower controls, and

(v) have a smooth and slip-resistant surface and no rough edges, (See Note A-3.8.3.13.(2)(f).)

(g) have two grab bars

(i) that conform to Sentence 3.8.3.8.(7) and do not obstruct the use of the shower controls,

(ii) one of which is 1 000 mm long vertically located on the side wall between 50 mm and 80 mm from the adjacent clear floor area, and with the lower end between 600 mm and 650 mm above the finished floor, and

(iii) one of which is L-shaped, located on the wall opposite the entrance to the shower, with a 1 000 mm long horizontal component mounted between 750 mm and 870 mm above the finished floor and a 750 mm long vertical component mounted between 400 mm and 500 mm from the side wall on which the vertical grab bar described in Subclause (ii) is mounted, (See Note A-3.8.3.13.(2)(g).)

(h) have a pressure-equalizing or thermostatic mixing valve that

(i) is operable using a closed fist and with a force of not more than 22.2 N,

(ii) is mounted on the wall opposite the entrance to the shower no more than 1 200 mm above the finished floor, and

(iii) is located within reach of the seat,

(i) have a hand-held shower head with not less than 1 800 mm of flexible hose located so that it

(i) can be reached from a seated position,

(ii) can be used in a fixed position at a height of 1 200 mm and 2 030 mm from the finished floor, and

(iii) does not obstruct the use of the grab bars, and

(j) have fully recessed soap holders that can be reached from the seated position.

(3) All other controls installed in a shower described in Sentence (2) shall comply with Subclauses (2)(h)(i) to (iii).

(4) At each location where a showering facility is provided for use by the general public or customers, or as part of a common-use area for employees, at least one universal dressing and shower room shall be provided. (See Note A-3.8.3.13.(4))

(5) A universal dressing and shower room required by Sentence 3.8.3.13.(4) shall

(a) be located in a *barrier-free* path of travel,

(b) have a door capable of being locked from the inside and released from the outside in the event of an emergency,

(c) have a lavatory and a mirror conforming to Article 3.8.3.11.,

(d) have a shower conforming to Sentence (2),

(e) have a bench that is at least 1 830 mm long by 760 mm wide and 480 mm to 520 mm high,

(f) have a clear transfer space adjacent to the long side of the bench that is 900 mm wide and as long as the bench (see Note A-3.8.3.13.(5)(f)), and

(g) have a coat hook mounted not more than 1 200 mm above the floor on a side wall and projecting not more than 50 mm from the wall.

(6) Individual showers that are provided for use by patients or residents in *buildings* of Group B, Division 2 or 3 *occupancy* shall conform to Sentence (2).

(7) Individual bathtubs that are provided for the use of patients or residents in buildings of Group B, Division 2 or 3 *occupancy* shall

(a) be located in a room with a clear floor space not less than 1 500 mm in diameter,

(b) be not less than 1 500 mm long,

(c) be capable of being accessed along the full length of the bathtub with no tracks mounted on the bathtub rim,

(d) have faucets that

(i) are operable using a closed fist and with a force of not more than 22.2 N, and

(ii) are located on the centre line of the bathtub or between the centre line of the bathtub and the exterior edge of the bathtub rim, at a maximum height of 450 mm above the rim,

(e) unless the bathtub is free-standing, have three grab bars

(i) conforming to Sentence 3.8.3.8.(7),

(ii) that are not less than 1 200 mm long,

(iii) two of which are located vertically at each end of the bathtub, mounted between 80 mm and 280 mm above the bathtub rim, and

(iv) one of which is located horizontally along the full length of the bathtub, mounted between 80 mm and 280 mm above the bathtub rim,

(f) have a slip-resistant bottom surface, and

(g) be equipped with a hand-held shower head with not less than 1 800 mm of flexible hose that can be used in a fixed position at a height of 1 200 mm and 2 030 mm and does not obstruct the use of the grab bars. (See Note A-3.8.3.13.(7))

(8) Where a barrier-free bathtub is provided, a clear floor space at least 900 mm wide and 1 500 mm long shall be provided along the full length of the bathtub.

3.8.3.14. Service Counters

(1) Where a service counter is provided, at least one section of the service counter shall comply with Sentence (2). (See Note A-3.8.3.14.(1))

(2) A section of a service counter required to be *barrier-free* shall

(a) be not less than 800 mm long centred over a knee space conforming to Clause (c),

(b) have a surface not more than 865 mm above the floor, and

(c) where forward-facing interaction with a person or a device is required, have a knee space underneath it that is

(i) not less than 800 mm wide,

(ii) not less than 685 mm high, and

(iii) not less than 485 mm deep. (See Note A-3.8.3.14.(2)(c))

3.8.3.15. Shelves or Counters for Telephones See Note A-3.8.3.15.)

(1) Where more than one telephone is provided for public use, a built-in shelf or counter shall be provided for at least one telephone.

(2) A shelf or counter described in Sentence (1) shall

(a) be level,

(b) be not less than 500 mm wide and 350 mm deep, and

(c) have, for each telephone provided, a clear space that,

(i) is not less than 810 mm wide and 1 370 mm deep, centred on the telephone, and

(ii) has no obstruction within 250 mm above the surface.

(3) The top surface of a section of the shelf or counter described in Sentence (1) shall

(a) be located not less than 775 mm and not more than 875 mm from the finished floor, and

(b) have a knee space not less than 740 mm high.

(4) Where a wall-hung telephone is provided above the shelf or counter section described in Sentence (3), it shall be located so that the receiver and coin or card slot are not more than 1 200 mm from the finished floor.

(5) Where more than one telephone is provided for public use in a normally occupied *floor area* that is not required by Article 3.8.2.1. to have a *barrier-free* path of travel, a

built-in shelf or counter that conforms to Sentences (2), (3) and (4) shall be provided for at least one telephone.

3.8.3.16. Drinking Fountains (See Note A-3.8.3.16.)

(1) Where more than one drinking fountain is provided, at least one shall be a *barrier-free* fountain that conforms to Sentences (2) and (3).

(2) A *barrier-free* drinking fountain shall

(a) have a spout located near the front of the unit not more than 915 mm above the finished floor,

(b) be equipped with controls that are easily operated from a wheelchair using one hand with a force of not more than 22 N or operates automatically,

(c) project the water at least 100 mm high,

(d) provide the water stream at a vertical angle of up to

(i) 30°, where the spout is located less than 75 mm from the front of the fountain, or

(ii) 15°, where the spout is located not less than 75 mm and not more than 125 mm from the front of the fountain,

(e) be detectable by a cane at a level at or below 680 mm from the finished floor, and

(f) where the drinking fountain is cantilevered, meet the following requirements:

(i) be mounted not more than 915 mm above the finished floor,

(ii) provide a clearance height under the fountain of not less than 735 mm above the finished floor,

(iii) have a clear depth under the fountain of not less than 450 mm,

(iv) have a clear width under the fountain of not less than 760 mm,

(v) have a toe clearance height under the fountain of at least 350 mm above the finished floor from a point 300 mm back from the front edge to the wall, and

(vi) have a depth at the base of the fountain of at least 700 mm.

(3) A *barrier-free* drinking fountain required by Sentence (1) shall have a clear floor space in front of, or adjacent to, the fountain that is a minimum of 810 mm deep and 1 370 mm wide.

(4) Where more than one drinking fountain is provided in a normally occupied *floor area* that is not required by Article 3.8.2.1. to have a *barrier-free* path of travel, at least one shall be a *barrier-free* fountain that conforms to Sentences (2) and (3).

3.8.3.16A. Water-Bottle Filling Stations

(1) Where one or more water-bottle filling stations are provided at each location, at least one shall be equipped with controls that

(a) activate automatically, or

(b) comply with Clause 3.8.1.5.(1)(c).

(2) Water-bottle filling stations required by Sentence (1) that are located in a *storey* where a *barrier-free* path of travel is required shall,

(a) be located along the *barrier-free* path of travel,

(b) have a clear floor space of 800 mm by 1 350 mm in front of them (See Note A-3.8.3.16A.(2)(b)),

(c) where they have frontal access, provide a knee clearance in accordance with Clause 3.8.3.11.(1)(c),

(d) be operable at a height of not more than 1 200 mm above the floor (See Note A-3.8.3.16A.(2)(d)), and

(e) be equipped with controls that

(i) activate automatically, or

(ii) comply with Sentence 3.8.1.5.(1). (See Sentences 3.3.1.8.(2) and (3) on horizontal projections)

3.8.3.17. Platforms

(1) A tactile attention indicator conforming to Article 3.8.3.18. shall be installed along any edge of a platform that is

(a) not protected by a *guard*, and

(b) higher than 250 mm above the finished floor or ground or sloped steeper than 1 in 3.

(2) Sentence (1) does not apply to the front edges of *stages*.

3.8.3.18. Tactile Attention Indicators

(1) Where a tactile attention indicator is required, it shall conform to Sentence (2) and Clauses 5.1.1. and 5.1.2. of ISO 23599, “Assistive Products for Blind and Vision-Impaired Persons – Tactile Walking Surface Indicators”.

(2) The depth of the tactile attention indicator shall be not less than 300 mm and not more than 610 mm.

Section 3.9. Portable Classrooms

3.9.1. Scope

3.9.1.1. Application

(1) Except as provided in this Section, the requirements in this Division apply to portable classrooms.

3.9.1.2. Heating Systems

(1) Heating systems and equipment in a portable classroom shall be designed and installed in accordance with Section 6.2.

3.9.2. Interior Finish

3.9.2.1. Flame-Spread Ratings

(1) Interior finish material used on a wall or ceiling of a portable classroom shall have a *flame-spread rating* of 150 or less.

3.9.3. Application

3.9.3.1. Building Areas

(1) A single portable classroom shall be not more than 100 m^2 in *building area*, and not more than 1 *storey* in *building height*.

(2) For the purposes of Subsection 3.2.2., where the horizontal distance between portable classrooms is less than 6 m, a group of portable classrooms may be considered as a single *building* with a *building area* equal to the aggregate area of the portable classrooms.

3.9.3.2. Spatial Separations

(1) The requirements in Subsection 3.2.3. need not be provided between individual portable classrooms where the distance between the classrooms is 6 m or more.

(2) The requirements in Subsection 3.2.3. need not be provided between individual portable classrooms within a group where

(a) the portable classrooms are in groups where

(i) the distance between the classrooms is less than 6 m,

(ii) the number of classrooms in a group is not more than six, and

(iii) the distance between groups of classrooms is 12 m or more, or

(b) the portable classrooms are in groups where

(i) the *means of egress* for each classroom within a group is by a common corridor or passageway,

(ii) the number of portable classrooms in a group is not more than six, and

(iii) the distance between groups of portable classrooms is 12 m or more.

3.9.3.3. Fire Alarm Systems

(1) Except as provided in Sentences (2) and (3), the fire alarm system in the main school *building* shall be extended to the portable classrooms with a separate zone indicator on the annunciator.

(2) The requirements in Sentence (1) need not be provided where there are not more than 12 portables on a site and where

(a) the distance between portable classrooms is less than 6 m and the requirements of Subsection 3.2.3. are applied between the classrooms, or

(b) the portable classrooms are in groups where

(i) the distance between the classrooms is less than 6 m,

(ii) the number of classrooms in a group does not exceed six,

(iii) within a group of classrooms, the facing walls have a *fire-resistance rating* of 45 min, rated from inside the classroom, and

(iv) the distance between groups of classrooms is 12 m or more.

(3) The requirements in Sentence (1) need not be provided where the distance between portable classrooms is 6 m or more.

3.9.3.4. Provisions for Firefighting

(1) The requirements in Articles 3.2.2.10. and 3.2.5.1. to 3.2.5.7. need not be provided where there are not more than 12 portable classrooms on a site and where

(a) the distance between portable classrooms is 6 m or more,

(b) the distance between portable classrooms is less than 6 m and the requirements of Subsection 3.2.3. are applied between the classrooms, or

(c) the portable classrooms are in groups conforming with either Clause 3.9.3.2.(2)(a) or (b).

3.9.3.5. Portable Fire Extinguishers

(1) A fire extinguisher, in accordance with Article 3.2.5.16., shall be installed in each portable classroom.

3.9.3.6. Means of Egress

(1) Except as required in Sentence 3.9.3.7.(1), a portable classroom shall be provided with *means of egress* conforming to Sections 3.3. and 3.4.

3.9.3.7. Fuel-Fired Appliances

(1) Where there is only one egress door from a portable classroom, a fuel-fired *appliance* shall be separated from the remainder of the classroom by a *fire separation* with a *fire-resistance rating* of not less than 45 min.

(2) Except as provided in Sentences (3) and (4), if a portable classroom contains a fuel-fired *appliance*, the *appliance* shall be separated from the remainder of the classroom by a *fire separation* having *fire-resistance rating* not less than

(a) 1.5 h where the horizontal distance between portable classroom is 1.5 m or less, and

(b) 45 min where the horizontal distance between portable classrooms is more than 1.5 m.

(3) If the horizontal distance between portable classrooms is 6 m or more, a fuel-fired *appliance* need not be separated from the remainder of the classroom by a *fire separation* provided

(a) there is not more than one *appliance* per portable classroom, and

(b) the *appliance* is located not less than 4.5 m from an egress doorway or an *exit* from the portable classroom.

(4) Fuel-fire *appliances* with sealed combustion located in a portable classroom are not required to be separated from the remainder of the classroom

(a) if there are not more than four portable classrooms in a group, and

(b) if the *appliance* is located not less than 4.5 m from an egress doorway or an *exit* from the portable classroom.

3.9.3.8. Washroom Facilities

(1) Washroom facilities need not be provided in a portable classroom where the facilities in the main school *building* comply with the requirements of Subsection 3.7.4. for the total *occupant load* of the main school *building* and the portable classrooms.

3.9.3.9. Barrier-Free Access

(1) The requirements of Section 3.8. for *barrier-free* access need not be provided for a portable classroom provided that the main school *building* complies with the requirements of Section 3.8.

Section 3.10. Self-Service Storage Buildings

3.10.1. Scope

3.10.1.1. Application

(1) Except as provided in this Section, the requirements in this Division apply to *self-service storage buildings*.

3.10.2. Requirements for All Buildings

3.10.2.1. Occupancy Classification

(1) A *self-service storage building*

(a) shall comply with the requirements for a Group F, Division 2 *major occupancy*, and

(b) shall not contain a Group F, Division 1 *occupancy*.

3.10.2.2. Occupant Load

(1) The requirements based on *occupant load* shall not apply.

3.10.2.3. Structural Fire Protection

(1) Except as provided in Sentence 3.10.4.2.(1), the requirements in Subsections 3.2.1. and 3.2.2. shall apply.

(2) The *first storey* shall be subdivided into areas not more than 500m^2 by a masonry or reinforced concrete *fire separation* having a *fire-resistance rating* not less than 1 h, or it shall be *sprinklered*.

3.10.2.4. Safety Requirements Within Floor Areas

(1) Except as provided in Sentences (2) to (12), the requirements in Section 3.3. shall apply.

(2) A corridor need not be constructed as a *public corridor* where the travel distance, measured from inside the rental space to the nearest *exit*, is not more than 15 m provided that the corridor walls

(a) are of *noncombustible construction*,

(b) have no openings other than doors and the doors are of solid construction, and

(c) are continuous from the floor to the underside of the floor above, the ceiling or the roof.

(3) Where the *building* is *sprinklered* throughout, doors in a *public corridor* do not require to be equipped with self-closing devices and latches provided that the travel distance is measured from inside the rental space to the nearest *exit*.

(4) Egress doors from a rental space are not required to swing in the direction of *exit* travel or swing on a vertical axis provided

(a) the area of the rental space is not more than $50m^2$, and

(b) the distance of travel within the rental space is not more than 10 m.

(5) Where egress doors from a rental space open onto a corridor and swing in the direction of *exit* travel, the corridor shall not be less than 1 500 mm wide, and the doors shall be not more than 914 mm wide.

(6) Where egress doors from a rental space open onto a corridor and do not swing in the direction of *exit* travel, the corridor shall be not less than 1 100 mm in width.

(7) Dead-end corridors are not permitted.

(8) Corridors shall be provided with

(a) natural lighting that shall be uniformly distributed and be at least 4% of the corridor area, or

(b) emergency lighting, conforming to Sentences 3.2.7.4.(1) and (2), that shall provide average levels of illumination not less than 10 1x at floor level.

(9) Not more than two *dwelling units* shall be contained within one of the *buildings* on the property.

(10) Except as provided in Sentence (11), *dwelling units* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 2 h.

(11) A *fire separation* is not required between a *dwelling unit* and an office where the office is not more than 50 m^2 in area.

(12) The *fire separations* required in Sentence 3.3.1.1.(1) need not be provided between individual rental spaces.

3.10.2.5. Exit Requirements

(1) Except as provided in Sentences (2) and (3), the requirements in Section 3.4. shall apply.

(2) The clear width of an *exit* stair shall be not less than 1 100 mm.

(3) *Exit* doors from rental spaces are not required to swing on a vertical axis provided

(a) the area of the rental space is not more than $50m^2$, and

(b) the travel distance within the rental space is not more than 10 m.

3.10.2.6. Service Facilities

(1) Except as provided in Sentence (2), the requirements in Section 3.6. shall apply.

(2) Except where located in and serving only the *dwelling units*, a fuel-fired *appliance* shall be located in a *service room* separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

3.10.2.7. Sanitary Facilities

(1) Except as provided in Sentence (2), the requirements in Subsection 3.7.4. shall apply.

(2) Except as permitted in Sentence 3.7.4.1.(2) and (3), two washrooms, each containing a water closet and a lavatory, shall be provided within one of the *buildings* on the property.

3.10.3. Additional Requirements for Buildings Containing more than 1 Storey

3.10.3.1. Application

(1) The requirements in this Subsection apply to all *buildings* except a 1 *storey building* that does not contain a *basement* or *mezzanine*.

3.10.3.2. Spatial Separations

(1) Except as provided in Sentence (2), the requirements in Subsection 3.2.3. shall apply.

(2) The distance between *buildings* shall be not less than 9 m.

3.10.3.3. Fire Alarm Systems

(1) Except as provided in Sentence (2) and (3), the requirements in Subsection 3.2.4. shall apply.

(2) A fire alarm system shall be installed.

(3) Within the *first storey*, manual stations are required only in corridors.

3.10.3.4. Provisions for Firefighting

(1) Except as provided in Sentences (2) and (3), the requirements in Subsection 3.2.5. shall apply.

(2) Access routes for fire department vehicles shall be provided and shall be not less than 9 m wide.

(3) Hydrants shall be located in the access routes required in Sentence (2) so that

(a) for a *building* provided with a fire department connection for a standpipe system or a sprinkler system,

(i) a fire department pumper vehicle can be located adjacent to a hydrant, and

(ii) the unobstructed path of travel for the firefighter from the vehicle to the fire department connection is not more than 45 m, and

(b) for a *building* that is not *sprinklered* throughout, a fire department pumper vehicle can be located in the access route so that the unobstructed path of travel for the firefighter is not more than

(i) 45 m from the hydrant to the vehicle, and

(ii) 45 m from the vehicle to every opening in the *building*.

3.10.3.5. Standpipe Systems

(1) Except as provided in Sentence (2), the requirements in Articles 3.2.5.8. to 3.2.5.11. shall apply.

(2) Hose stations are not required in the *first storey*.

3.10.4. Additional Requirements for 1 Storey Building

3.10.4.1. Application

(1) The requirements in this Subsection apply to 1 *storey buildings* that do not contain a *basement* or *mezzanine*.

3.10.4.2. Building Area

(1) For the purpose of Subsection 3.2.2., *building area* means

(a) the *building area* of each *building*,

(b) the total of the *building areas* of all *buildings* as a group, or

(c) the total of the *building areas* of any number of group of *buildings*.

3.10.4.3. Spatial Separations

(1) Except as provided in Sentences (2) to (4), the requirements in Subsection 3.2.3. shall apply.

(2) Where the *building area* conforms to Clause 3.10.4.2.(1)(b), *the limiting distance* requirements shall not apply between individual *buildings*.

(3) Where the *building area conforms* to Clause 3.10.4.2.(1)(c)

(a) the *limiting distance* requirements shall apply between each group of *buildings*, but not between individual *buildings* within a group, and

(b) the distance between each group of *buildings* shall be not less than 9 m.

(4) The distance between individual *buildings* within a group shall be not less than 6 m.

3.10.4.4. Fire Alarm Systems

(1) Except as provided in Sentence (2), the requirements in Subsection 3.2.4. shall not apply.

(2) The requirements for *smoke alarms* in Article 3.2.4.20. shall apply to a *dwelling unit*.

3.10.4.5. Provisions for Firefighting

(1) Except as provided in Sentence (2) to (7), the requirements in Subsection 3.2.5. shall not apply.

(2) Access routes for fire department vehicles shall be provided and shall be not less than 9 m wide.

(3) Hydrants shall be located in the access routes required in Sentence (2) so that the locations conform to Sentence 3.10.3.4.(3).

(4) The access routes required in Sentence (2) shall conform to the requirements in Sentence 3.2.5.6.(1).

(5) An adequate water supply for firefighters shall be provided for every *building*.

(6) Where a sprinkler system is installed, the system shall conform to the requirements in Articles 3.2.5.12., 3.2.5.15. and 3.2.5.17.

(7) Where *combustible* sprinkler piping is installed, it shall conform to the requirements in Article 3.2.5.13.

Section 3.11. Public Pools

3.11.1. General

3.11.1.1. Application

(1) This Section applies to every *public pool*.

(2) This Section applies to the design and *construction* of site assembled and manufactured pools that are intended for use as *public pools*.

(3) Where material alterations to a *public pool* or the equipment installed in a *public pool* affect the bottom slope, the water volume or the capacity of the recirculation system, the adversely affected portions shall comply with the requirements of this Division.

(4) Where material alterations or repairs concern any pool fitting passing water and/or air in or out of the pool tank, the affected fitting shall comply with Sentences 3.11.8.1.(14) to (20).

3.11.2. Designations of Public Pools

3.11.2.1. Pool Designations

(1) Every *public pool* shall be designated as being either a Class A pool or a Class B pool in accordance with Sentence (2) or (3).

(2) A Class A pool is a *public pool* to which the general public is admitted or that is

(a) operated in conjunction with or as a part of a program of an educational, instructional, physical fitness or athletic institution or association, supported in whole or in part by public funds or public subscription, or

(b) operated on the premises of a *recreational camp*, for use by campers and their visitors and camp personnel.

(3) A Class B pool is a *public pool* that is

(a) operated in conjunction with six or more *dwelling units*, *suites*, single family residences, or any combination of them for the use of occupants or residents and their visitors,

(b) operated in conjunction with a mobile home park for the use of residents or occupants and their visitors,

(c) operated on the premises of a *hotel* for the use of its guests and their visitors,

(d) operated on the premises of a *campground* for the use of its tenants and their visitors,

(e) operated in conjunction with a club for the use of its members and their visitors, or

(f) operated in conjunction with an establishment or institution classified in Table 3.1.2.1. as

(i) Group B, Division 1, *major occupancy*, or

(ii) Group B, Division 2 or 3, *major occupancy*, for the use of residents or occupants and their visitors.

3.11.3. Pool and Pool Deck Design and Construction Requirements for All Class A and Class B Pools

3.11.3.1. Construction Requirements

(1) Except as otherwise required in Subsections 3.11.4., 3.11.5., 3.11.6. and 3.11.7. or otherwise exempted in Sentences (2) and (3), Class A pools and Class B pools shall be designed and constructed to comply with Sentences (2) to (28) and Articles 3.11.3.2. and 3.11.3.3.

(2) Where a Class B pool is constructed for use solely in conjunction with a club, child care facility, *day camp* or establishment or institution for the care of persons who are infirm, aged or in custodial care, the pool shall be exempt from the requirements of Clause (9)(a) and Sentences (13) and (14).

(3) Where a Class B pool is constructed for use solely in conjunction with an establishment or institution for the treatment of persons with disabilities or persons who are ill, the pool shall be exempt from the requirements of Sentences (6) and (7), Clause (9)(a) and Sentences (13) and (14).

(4) A *public pool* shall be constructed to have a water depth of not less than 750 mm except for

(a) a *modified pool*,

(b) a *wave action pool*,

(c) a pool for therapeutic use,

(d) a beach entry *ramp*, and

(e) a pool described in Sentence 3.11.5.2.(1).

(5) The beach entry *ramp* permitted in Clause (4)(d) shall be protected with permanent barriers between 900 mm to 1 200 mm along the *pool deck* to prevent entry into the pool until the minimum water pool depth is 750 mm.

(6) Except for a *modified pool*, a *wave action pool* and a pool used exclusively for scuba diving, the slope of the bottom of any portion of a *public pool* shall not exceed

(a) 8% where the water depth is 1 350 mm or less,

(b) 33% where the water depth is more than 1 350 mm and less than 2 000 mm, and

(c) 50% where the water depth is 2 000 mm or more.

(7) Except for a *modified pool* and *wave action pool*, where the slope of any portion of the bottom of a public pool is more than 8%, the walls of the pool shall be equipped with recessed fittings to which a safety line supported by buoys can be attached across the surface of the water and the recessed fittings shall be installed at a horizontal distance of at least 300 mm measured from the vertical projection of the top of the slope in the direction of the shallow end of the pool.

(8) Except for a *modified pool*, *wave action pool* and a pool described in Sentence 3.11.5.2.(1), the side and end walls of a *public pool* shall be vertical from the top of the walls to within 150 mm of the bottom except at steps or recessed ladders or in water depths of 1 350 mm or more.

(9) Except for a *modified pool* and *wave action pool* and except as provided in Sentence (11), a *public pool* shall be surrounded by a hard-surfaced *pool deck* that shall

(a) except for a pool described in Sentence 3.11.5.2.(1), be not less than 1 800 mm wide, with at least 1 100 mm of that width being a *barrier-free* path of travel described in Article 3.8.1.3.,

(b) in the case of an *outdoor pool*, be sloped away from the pool to waste drains or to adjacent lower ground at a slope of between 2% and 4%, and

(c) in the case of an *indoor pool*, be impervious and sloped away from the pool to waste drains at a slope of between 1% and 4%.

(10) Where a *public pool* is constructed with a ledge, the ledge shall

(a) be placed only in parts of the pool where the water depth is 1 350 mm or more,

(b) be not more than 200 mm wide,

(c) be at least 1 000 mm below the water surface,

(d) where located on the side of the pool, be gradually tapered towards the shallow end of the pool in such a manner as to prevent a harmful obstruction, and

(e) have a band of contrasting colour along the entire juncture of the side and top of the ledge.

(11) Notwithstanding Sentences (12) to (17), where a *public pool* is constructed on any level surface with walls rising above that surface and has a constant water depth not exceeding 1 100 mm and a water surface area not exceeding 100 m^2, the *pool deck* may be an elevated platform surrounding the pool if it has

(a) an unobstructed width of not less than 900 mm,

(b) a height of at least 75 mm above *grade* or pavement elevation,

(c) 6 mm wide openings for drainage, and

(d) a non-slip surface that is capable of being kept clean and disinfected.

(12) Except for a *modified pool* and *wave action pool*, where a *pool deck* projects over the water surface, the projection shall not exceed 50 mm.

(13) Except for a *modified pool* and *wave action pool*, the *pool deck* shall be separated from any adjacent spectator area or gallery and from any spectator access to such area or gallery by a gate or other barrier.

(14) Except for a *modified pool* and *wave action pool*, the perimeter of the *pool deck* shall be clearly delineated by a tactile attention indicator conforming to Article 3.8.3.18. and located where any area contiguous to the *pool deck* may be confused with the deck.

(15) Except for a *modified pool* and *wave action pool*, the perimeter of the *pool deck* shall be clearly delineated by painted lines or other means where any area contiguous to the *pool deck* may be confused with the deck.

(16) Perimeter drainage shall be provided where necessary to prevent surface run-off from draining onto the *pool deck*.

(17) Except for a *modified pool*, one or more hose bibbs shall be installed near the perimeter of the *pool deck* in locations convenient for flushing the *pool deck*.

(18) Except for a *modified pool* and *wave action pool*, where access to the pool enclosure is over any surface that is not subject to regular cleaning and sanitizing, a foot spray to wash feet by means of a spray running freely to waste shall be provided at each such access.

(19) Except for a *modified pool* and *wave action pool*, at least

(a) one ladder or set of steps shall be provided in both the deep and shallow areas of a *public pool* for entry into and egress from the pool water, and

(b) one *barrier-free* access shall be provided for entry into and egress from the water of a *public pool* as required by Article 3.11.3.3.

(20) The *pool deck,* the submerged parts of a *public pool*, the walls or partitions adjacent to a *pool deck* and the pavement or floor adjacent to a *pool deck* shall have surfaces that permit thorough cleaning.

(21) Except for markings for safety or competition purposes, submerged surfaces in *public pools* shall be finished white or light in colour.

(22) Except in a *modified pool*, a black disc 150 mm in diameter on a white background shall be affixed to the bottom of a public pool within the area of its greatest depth.

(23) A *public pool* shall be equipped with lockable doors or other barriers capable of preventing public access to the *pool deck*.

(24) Except for a *modified pool*, *wave action pool* or a pool installed at a *recreational camp*, a Class A pool shall be provided with

(a) where the water surface area is greater than 150 m^2 but not greater than 230 m^2, at least one lifeguard control station, and

(b) where the water surface area is greater than 230 m^2, at least two lifeguard control stations.

(25) Except for a *modified pool*, every *public pool* shall display on the deck clearly marked figures, not less than 100 mm high, that set out

(a) the water depths indicating the deep points, the breaks between gentle and steep bottom slopes and the shallow points,

(b) the words **SHALLOW AREA** at one or more appropriate locations, and

(c) where the water depth exceeds 2 500 mm, the words **DEEP AREA** at one or more appropriate locations.

(26) Except for a *modified pool* and a pool to which Sentence 3.11.5.2.(2) applies, every *public pool* having a maximum water depth of 2 500 mm or less shall display a warning notice posted in a location clearly visible to divers on which are printed in letters at least 150 mm high the words **CAUTION — AVOID DEEP DIVES or SHALLOW WATER — NO DIVING**.

(27) Except where no space is provided between ladder treads and the pool wall, the space between the pool wall and submerged portions of any treads of a ladder for entry into and egress from the water shall be not more than 150 mm and not less than 75 mm.

(28) If a set of steps is provided for entry into and egress from *public pools* in Sentence (19), the steps shall

(a) be equipped with a handrail,

(b) have a non-slip surface, and

(c) have a band of contrasting colour along the entire juncture of the side and top of the edges.

3.11.3.2. Barrier-Free Path of Travel for Outdoor Pool Deck

(1) Where an *outdoor pool* is provided, a *barrier-free* path of travel shall be provided to and throughout the normally occupied portions of the *pool deck.*

3.11.3.3. Access into Public Pools

(1) Access for entry into and egress from the water of a *public pool* provided in a *storey* that is required by Article 3.8.2.1. to have a *barrier-free* path of travel shall be *barrier-free* and shall be provided by

(a) a *ramp* conforming to

(i) Article 3.11.5.1., and

(ii) Article 3.11.5.2., in the case of a pool described in Sentence 3.11.5.2.(1), or

(b) a pool lift conforming to the manufacturer's specifications and installation instructions and conforming to Sentences (2) to (6).

(2) Except where the entire pool depth is greater than 1 220 mm, where a pool lift is installed, at least one lift shall be located where the water level does not exceed 1 220 mm.

(3) The centre line of the seat for the pool lift shall be located over the deck and a minimum of 400 mm from the edge of the pool when in the raised position.

(4) A clear deck space located parallel with the seat for the pool lift and on the side of the seat opposite the water shall

(a) be at least 915 mm wide, and

(b) extend forward not less than 1 220 mm from a line located 305 mm behind the rear edge of the seat.

(5) The pool lift shall be

(a) designed to be operable without assistance from both the deck and water, and

(b) designed so that, when in use, its controls and operating mechanisms are unobstructed.

(6) The pool lift shall

(a) have a weight capacity of at least 135 kg, and

(b) be capable of sustaining a static load of at least 1.5 times the rated load.

3.11.4. Public Pools Equipped with Diving Boards or Diving Platforms

3.11.4.1. Diving Boards or Platforms

(1) No *diving board* or *diving platform* shall be installed in a *public pool* unless the requirements of Sentences (5) to (17) are met but the requirements for a *diving platform* do not apply to a *starting platform*.

(2) No *diving board* or *diving platform* shall be installed in a *modified pool* or a *wave action pool*.

(3) Where a *public pool* is equipped with a *diving board* or a *diving platform*, the board or platform shall have a non-slip surface.

(4) Where a *diving board* or a *diving platform* in a *public pool* is more than 600 mm above the water surface, the board or platform shall be equipped with one or more adjacent handrails.

(5) Where a *public pool* is equipped with a *diving board* or a *diving platform* not more than 3 m in height above the water surface, the pool shall be designed and constructed in conformance with Sentences (6) to (15).

(6) The depth of water in the area directly below a horizontal semi-circle in front of a *diving board* or *diving platform* having a radius of 3 m measured from any point on the front end of the board or platform shall not be less than

(a) 2 750 mm, where a board is 600 mm or less in height above the water surface,

(b) 3 m, where a board or platform is greater than 600 mm but not more than 1 000 mm in height above the water surface, and

(c) 3.65 m, where a board or platform is greater than 1 000 mm but not more than 3 m in height above the water surface.

(7) Except as permitted in Sentence (8), the water depth in a *public pool* shall be at least 1 350 mm at the horizontal arc having a radius of 9 m measured from any point on the front end of the *diving board* or *diving platform* and intersecting the vertical projections of the walls of the pool.

(8) Where a Class B pool is equipped with a *diving board* 600 mm or less in height above the water

(a) the water depth shall be at least 1 350 mm at the horizontal arc having a radius of 7.5 m measured from any point on the front end of *the diving board*, and

(b) a warning notice, on which is printed in letters at least 150 mm high, the words **DANGER — AVOID DEEP OR LONG DIVES**, shall be posted in a location clearly visible to divers.

(9) The slope of the bottom of a *public pool* having a *diving board* or *diving platform* shall not change by more than 17% where the water depth is less than the applicable depth set out in Sentence (6) and greater than the depth set out in Sentence (7) or (8), as applicable.

(10) The horizontal distance between the vertical projection of the centre line of a *diving board* or *diving platform* and the vertical projection of the centre line of another board or platform shall be at least 2 750 mm.

(11) The horizontal distance between the centre line of a *diving board* or *diving platform* and the vertical projection of the closest side or any ledge on the closest side of a *public pool* shall be at least

(a) 3 m, where a *diving board* or *diving platform* is 1 000 mm or less in height above the water surface, and

(b) 3.6 m, where a *diving board* or *diving platform* is greater than 1 000 mm in height above the water surface.

(12) A *diving board* or a *diving platform* 600 mm or less in height above the water surface shall project over the water a horizontal distance of at least 900 mm from the vertical projection of a pool wall under it.

(13) A *diving board* greater than 600 mm in height above the water surface shall project over the water a horizontal distance of at least 1 500 mm from the vertical projection of the pool wall under it.

(14) A *diving platform* greater than 600 mm in height above the water surface shall project a horizontal distance of at least 1 200 mm from the vertical projection of the pool wall under it.

(15) The space above a *diving board* or *diving platform* shall be unobstructed and shall consist of at least

(a) a space having a width of 2 500 mm on each side of the centre line of the board or platform, a length equal to the sum of the horizontal distance the board or platform projects over the water plus 3 m, and a height of

(i) 3.65 m above a *diving board* 3.65 m or less in length,

(ii) 5 m above a *diving board* greater than 3.65 m in length, or

(iii) 3 m above a *diving platform*, and

(b) the space below the planes originating from the front and sides of the uppermost horizontal plane of the space determined under Clause (a) and sloping downwards at 30° from the horizontal.

(16) A *diving board* or *diving platform* greater in height than 3 m above the water surface shall be equipped with a gate, barrier or other device capable of preventing access to the *diving board* or *diving platform*.

(17) Where a *public pool* is to be equipped with *diving boards* or *diving platforms* greater than 3 m in height above the water surface, the design of the *diving boards* or *diving platforms* and the corresponding water depths and clearances shall be in accordance with FINA, “Rules and Regulations - FINA Facilities Rules 2021-2025 - FR3 Diving”.

3.11.5. Ramps into Public Pools

3.11.5.1. Ramps into Public Pools

(1) Where *barrier-free* access for entry into and egress from the water of a *public pool* is provided by a *ramp* as required by Clause 3.11.3.3.(1)(a), the pool shall be designed and constructed in accordance with Sentences (2) to (4).

(2) A *ramp* shall have

(a) along each side a handrail that

(i) has a height of not less than 865 mm and not more than 965 mm, and

(ii) runs parallel to the slope of the *ramp*,

(b) a width of at least 1 100 mm,

(c) a curb or other means to prevent a wheelchair from falling off the side of the *ramp*,

(d) surface finishes capable of being kept clean, sanitary and free from slipperiness, and

(e) a landing at the bottom at least 1 500 mm in length and the same width as the *ramp*.

(3) Where a *ramp* that is not submerged is adjacent to the pool wall and is used for access to the water, the pool shall be constructed so that

(a) the landing at the bottom of the *ramp* is at least 450 mm but not more than 550 mm below the top of the wall separating the *ramp* from the pool,

(b) the landing is equipped with a floor drain at its lowest point,

(c) the top of the wall between the pool and the *ramp* is at least 250 mm and not more than 300 mm in width,

(d) the *pool deck* is capable of accommodating a movable barrier separating the deck from the *ramp,*

(e) the water depth at the landing is accurately and clearly marked at the landing in figures at least 100 mm high on the top of the wall separating the pool from the *ramp*, and

(f) the *ramp* has a slope not exceeding 1 in 12.

(4) Where a submerged *ramp* is adjacent to the pool wall and is used for access to the water, the pool shall be constructed so that

(a) the water depth at the bottom of the *ramp* is at least 600 mm and not greater than 900 mm,

(b) a hard-surfaced area that is at least 900 mm wide is contiguous to the entire length of the part of the submerged *ramp* that pierces any part of the deck,

(c) the area described in Clause (b) is capable of accommodating a movable barrier separating the area from the deck,

(d) the finishes in submerged portions of the *ramps* and curbs are different in colour or shade from each other and from that of the pool walls and bottom, and

(e) the submerged *ramp* has a slope not exceeding 1 in 9.

3.11.5.2. Public Pools in Group B, Division 2 or 3 Major Occupancies

(1) Despite Sentences 3.11.3.1.(4) and (8) and Clause 3.11.3.1.(9)(a), where a *public pool* is constructed in a *building* containing a Group B, Division 2 or 3 *major occupancy* and has a water depth not exceeding 1 500 mm and a water surface area not exceeding 100 m^2, the *pool deck* contiguous to not more than 50% of the total perimeter of the pool

may be replaced by one or more *ramps* that will permit a bather seated in a wheelchair to enter the water with or without the wheelchair.

(2) Despite Sentence 3.11.3.1.(26), a warning notice, on which are printed in letters at least 150 mm high the words **CAUTION — NO DIVING**, shall be posted conspicuously on each wall or fence line enclosing a pool described in Sentence (1).

(3) There shall be a curb along the perimeter of a pool described in Sentence (1) except at steps, ladders and *ramp* entrances.

(4) The curb required by Sentence (3) shall have

(a) a height of 50 mm,

(b) rounded edges,

(c) a coved base, and

(d) a raised nosing at the top to serve as a fingerhold for a bather in the water.

3.11.6. Modified Pools

3.11.6.1. Construction Requirements

(1) A *modified pool* is exempt from Sentences 3.11.3.1.(4) to (9), (12), (13), (14), (17), (18), (19), (22), (24), (25) and (26), and Sentence 3.11.8.1.(12) and Article 3.11.3.3.

(2) A *modified pool* shall be designed and constructed to comply with Sentences (3) to (9).

(3) A *modified pool* and its *pool deck* shall be constructed of hard-surfaced material that permits thorough cleaning.

(4) The slope of the bottom of any portion of a *modified pool* shall not exceed 1 in 12.

(5) The depth of the water in any portion of a *modified pool* shall not be more than 1 800 mm.

(6) A *modified pool* shall be surrounded on all sides by a hard-surfaced *pool deck* that shall

(a) be at least 3 m wide,

(b) have a continuous crest surrounding the pool at least 100 mm above the pool water surface, and

(c) be sloped to shed water from the crest to the outer perimeter of the *pool deck*.

(7) A *modified pool* shall be provided with two or more drain fittings covered with protective grilles with openings having an aggregate area of at least 10 times the internal

cross-sectional area of the outlet pipe or pipes connected to the *recirculation system* that is capable of completely draining the pool.

(8) Provision shall be made for lifeguard control stations adjacent to the edge of the water at intervals of not more than 60 m.

(9) The bottom of a *modified pool* shall be marked with continuous black contour lines

(a) 150 mm wide located where the water depth is 600 mm, and

(b) 300 mm wide located where the water depth is 1 200 mm.

3.11.7. Wave Action Pools

3.11.7.1. Construction Requirements

(1) A *wave action pool* is exempt from Sentences 3.11.3.1.(4) to (9), (12), (13), (14), (18), (19) and (24), Sentence 3.11.8.1.(12) and Article 3.11.3.3.

(2) A *wave action pool* shall be designed and constructed to comply with Sentences (3) to (11).

(3) The slope of the bottom of any portion of a *wave action pool*

(a) shall not exceed 1 in 12 where the still water depth is less than 1 000 mm, and

(b) shall not exceed 1 in 9 where the still water depth is 1 000 mm or more.

(4) The walls of a *wave action pool* shall be vertical from the water surface to within 150 mm of the bottom.

(5) There shall be a hard-surfaced *pool deck* at least 3 m wide immediately adjacent to the pool wall at the shallow end of the pool and at least 1 500 mm wide immediately adjacent to all walls of the pool.

(6) Provision shall be made for two or more lifeguard control stations on each side of the *pool deck* adjacent to which the still water depth exceeds 1 000 mm.

(7) Sets of steps or ladders recessed into pool side walls and having continuous vertical grab bars on each side of them shall be located at intervals of not more than 7.5 m along portions of the pool where the still water depth exceeds 1 000 mm, except that no steps or ladders shall be located within 3 m of the corners at the deep end of the pool.

(8) Except at recessed steps or ladders, the *pool deck* along each side of a *wave action pool* adjacent to which the water depth is 2 300 mm or less shall be equipped with a barrier supported by posts or a wall that

(a) is 1 000 mm in height,

(b) is located 1 000 mm or less from the side of the pool, and

(c) has warning notices affixed to the barrier or wall at intervals not exceeding 7.5 m signifying clearly that jumping and diving are prohibited along the sides of the pool.

(9) Skimming devices shall be designed and suitably located to remove surface film when no waves are induced in a *wave action pool*.

(10) A system capable of deactivating the wave-making equipment shall be installed with readily accessible push buttons located on the *pool deck* not more than 30 m apart, adjacent to each side and the deep end of the pool.

(11) A *wave action pool* shall be equipped with a first-aid room located within 50 m of the pool.

3.11.8. Recirculation for Public Pools

3.11.8.1. Recirculation Systems

(1) Every *public pool* shall be equipped with a *recirculation system*.

(2) For the purposes of this Subsection, the water in a *public pool* and its *recirculation system* is deemed not to be *potable water*.

(3) The water in a *public pool* and its *recirculation system* shall be separated from the *potable water* supply and from the sewer or drainage system into which it drains by *air gaps* or other devices that prevent

(a) the water in the pool or its *recirculation system* from flowing back into the *potable water* supply, and

(b) the water in the sewer or drainage system from flowing back into the pool or its *recirculation system*.

(4) The *recirculation system* of a *public pool* shall be designed, constructed and equipped to comply with Sentences (5) to (20).

(5) The *recirculation system* of a *public pool* shall be capable of filtering, disinfecting and passing through the pool each day a volume of water of at least

(a) in the case of a Class A pool, other than a *modified pool* or a *wave action pool*, six times the total water volume of the pool,

(b) in the case of a Class B pool, other than a *wave action pool*, four times the total water volume of the pool,

(c) in the case of a *modified pool*, three times the total water volume of the pool, and

(d) in the case of a *wave action pool*, six times the total water volume of the pool.

(6) A *recirculation system* shall be equipped with a flow meter registering the rate of water flow.

(7) All pools shall be provided with automatic *make-up water* devices and provided with water meters to register the volume of all *make-up water* added to a public pool or its *recirculation system*.

(8) Equipment shall be installed to continuously disinfect the water in a *public pool* by means of

(a) a chlorination or hypochlorination system provided with a chemical controller for regulating the dosage of chlorine and capable of providing not less than,

(i) in the case of an *outdoor pool*, other than a *wave action pool*, 300 g of chlorine per day per 10 000 L of total pool capacity,

(ii) in the case of an *indoor pool*, other than a *wave action pool*, 200 g of chlorine per day per 10 000 L of total pool capacity,

(iii) in the case of an outdoor *wave action pool*, 1 200 g of chlorine per day per 10 000 L of total pool capacity, and

(iv) in the case of an indoor *wave action pool*, 800 g of chlorine per day per 10 000 L of total pool capacity, or

(b) a bromination system capable of maintaining in the pool water a total bromine residual of 3 mg/L.

(9) Chlorination equipment for a *public pool* shall contain a mechanism whereby the chlorine feed shall automatically terminate whenever the *recirculation system* ceases to supply clean water to the pool.

(10) All exposed *potable water* piping and chlorine piping within a *public pool* water treatment service room shall be colour coded by means of

(a) painting the entire outer surface of the piping, or

(b) coloured bands at least 25 mm in width that are spaced along the piping at intervals of not more than 1 200 mm.

(11) The colour coding referred to in Sentence (10) shall be yellow for chlorine and green for *potable water*.

(12) Except for a *modified pool* and *wave action pool*, a *public pool* shall be equipped with overflow gutters or surface skimmers connected to *the recirculation system* that are capable of removing surface film from the surface of the water and

withdrawing each day and discharging to the waste drains up to 15% of the total volume of pool water.

(13) A *public pool* shall be equipped with clean water inlets arranged in conjunction with surface skimmers or overflow gutters to provide uniform distribution and circulation of clean water.

(14) Except as permitted in Sentence (19), all fittings at or below the water surface that allow water and/or air to be passed to or from the *public pool* shall

(a) have a maximum opening of 7 mm in one direction, and

(b) be securely held in place by corrosion resistance fastening that require a tool for removal and are galvanically compatible with the fittings and grilles or covers.

(15) Except as provided in Sentence 3.11.6.1.(7) for a *modified pool*, all fittings below the water surface that provide suction or gravity flow in a *public pool* shall

(a) be provided with a minimum of two suction or gravity outlets interconnected to a full size manifold, and

(b) be separated by a clear distance of not less than 1 200 mm.

(16) Except as provided in Sentence 3.11.6.1.(7) for a *modified pool*, water in all *public pools* shall be capable of being emptied through the pool drains in 12 hours or less.

(17) Except as provided in Sentence 3.11.6.1.(7) for a *modified pool*, openings in suction or gravity fittings shall

(a) be such that the flow of water does not exceed 0.45 m/s and the velocity is calculated assuming all possible sources of suction flow are present at one time, and

(b) be such that every suction fitting located within 1 000 mm of the water surface, except for skimmers and gutter fittings, contain openings with a minimum aggregate area of 0.2 m^2.

(18) Except for skimmers and gutters, all submerged suction and gravity fittings shall be clearly and permanently marked with a 50 mm wide band in a contrasting colour.

(19) Fittings returning water and/or air to the pool tank that are located within 300 mm of the water surface are permitted to have openings with one dimension more than 7 mm but shall contain no openings more than 25 mm in diameter.

(20) Submerged skimmer equalizer fittings and vacuum fittings are not permitted in *public pools*.

3.11.9. Dressing Rooms, Locker Facilities and Plumbing Facilities for All Public Pools

3.11.9.1. Dressing Rooms and Sanitary Facilities

(1) Except as otherwise permitted in Sentences (2) and (3), every *public pool* shall be equipped with dressing rooms, locker rooms, shower heads, water closets, urinals, lavatories and drinking fountains that shall be designed, constructed and equipped to comply with Sentences (4) to (14).

(2) Where a Class A pool is installed on the premises of a *recreational camp*, dressing rooms, locker rooms, shower heads, water closets, urinals, lavatories and drinking fountains are not required if

(a) dressing, water closet and shower facilities are conveniently available for bathers elsewhere on the premises, and

(b) foot sprays are provided in accordance with Sentence 3.11.3.1.(18).

(3) Where a Class B pool is installed, dressing rooms, locker rooms, shower heads, lavatories, water closets, drinking fountains and urinals are not required if

(a) dressing, water closet and shower facilities are conveniently available elsewhere on the premises for bathers when the pool is open for use, and

(b) foot sprays are provided in accordance with Sentence 3.11.3.1.(18).

(4) The minimum number of water closets, urinals and lavatories shall be determined from Article 3.7.4.3. and Table 3.7.4.3.-C for an *occupant load* based on

(a) the formula in Sentence 3.1.17.3.(1) for all *public pools*, except a *wave action pool*, or

(b) the formula in Sentence 3.1.17.3.(2) for a *wave action pool*.

(5) A minimum of one shower head shall be provided for every 40 bathers.

(6) Where dressing and locker rooms, water closets and urinals are provided in conjunction with a *public pool*, they shall be located in such a manner that bathers, after using them, shall pass through or by a shower area to reach the *pool deck*.

(7) All shower heads shall be supplied with *potable water* at a pressure of at least 140 kPa.

(8) The shower water system shall have one or more tempering devices capable of being adjusted to ensure that water supplied to shower heads does not exceed 40°C.

(9) Floors in washrooms, shower areas and passageways used by bathers shall slope to waste drains at not less than 1% and shall be of hard surfaced materials that do not become slippery when wet.

(10) Joints between floors and walls shall be coved in areas described in Sentence (9) and in dressing and locker rooms.

(11) Hose bibbs shall be provided in safe locations convenient for flushing down the walls and floors in washrooms, shower areas and passageways used by bathers.

(12) Partitions or walls shall be provided to ensure privacy of dressing rooms, washrooms and shower areas.

(13) The bottom of interior partitions in dressing rooms and washrooms shall be between 250 mm and 350 mm above the floor.

(14) Dressing and locker room floors shall have non-slip surfaces that permit convenient and thorough cleaning and disinfecting.

3.11.10. Emergency Provisions for All Public Pools

3.11.10.1. Lighting and Emergency Provisions

(1) Except as provided in Sentences (2) and (3), rooms and spaces used by the public in conjunction with a *public pool* shall be capable of illumination to levels in compliance with Subsection 3.2.7.

(2) Dressing rooms, locker rooms, shower rooms, washrooms and passageways shall have an illumination level of at least 200 lx at floor level.

(3) An *indoor pool* or an *outdoor pool* that is intended to be open for use after sundown shall be equipped with a lighting system

(a) that will maintain at any point on the *pool deck* and on the pool water surface an illumination level of at least

(i) 200 lx in the case of an *indoor pool*, and

(ii) 100 lx in the case of an *outdoor pool*, and

(b) that makes the underwater areas of the pool clearly visible from any point on the *pool deck*.

(4) An *outdoor pool* that is intended to be open for use after sundown and an *indoor pool* shall be equipped with an independent emergency lighting system that automatically operates whenever the normal electrical power supply to a *public pool* lighting system fails.

(5) The independent emergency lighting system required in Sentence (4) shall be capable of illuminating the *pool deck*, washroom, shower, locker areas, pool water surface and all means of egress to a level of at least 10 lx.

(6) An emergency power supply for the emergency lighting system required in Sentence (4) shall comply with Sentences 3.2.7.4.(1) and 3.2.7.7.(1) and Article 3.2.7.5.

(7) An emergency telephone directly connected to an emergency service or to the local telephone utility shall be installed adjacent to the *pool deck* of every Class A pool.

(8) A telephone accessible for emergency use shall be installed for every Class B pool within 30 m of the pool.

(9) Every *wave action pool* shall have a public address system that shall be clearly audible in all portions of the pool.

(10) Every *wave action pool* shall have a communication system for the use of persons engaged in supervision or operation of the pool that shall be interconnected with each lifeguard control station, the first-aid room and the bather admission control centre.

(11) The public address system and the communication system described in Sentences (9) and (10) shall be interconnected.

(12) All recirculating pumps used in a *public pool* shall be capable of being deactivated by an emergency stop button clearly labelled and located at

(a) a Class A pool beside the telephone that is required in Sentence (7), and

(b) a Class B pool on the deck area.

(13) The emergency stop button in Sentence (12) shall, when used, activate an audible and a visual signal located by the emergency stop.

(14) An emergency sign containing the words **IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY STOP BUTTON AND USE EMERGENCY PHONE, AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE** shall be in letters at least 25 mm high with a 5 mm stroke and posted above the emergency stop button.

3.11.11. Service Rooms and Storage for All Public Pools

3.11.11.1. Service Rooms and Storage Facilities

(1) In addition to the requirements of this Subsection, *service rooms* shall comply with the requirements of Sentences 3.6.2.1.(5), 3.6.2.1.(7) and 3.6.2.1.(8) and Articles 3.5.3.3. and 3.6.2.2.

(2) Where compressed chlorine gas is used as a pool water disinfectant, the cylinders or containers of gas shall be located in a *service room* that

(a) except as provided in Sentences 3.1.9.4.(4), (5), (7) to (9), is separated from the remainder of the *building* by a 1 h *fire separation* that is substantially gas tight,

(b) is designed for the sole purpose of containing all installed pressurized chlorine gas apparatus and piping and storing all chlorine gas containers or chlorine gas cylinders that are individually secured against toppling,

(c) is located at or above ground level,

(d) is provided with an *exit* door opening to the outdoors,

(e) has screened openings to the outdoors with at least one opening located within 150 mm from the floor and at least one opening located within 150 mm from the ceiling, each opening being 2% of the area of the floor,

(f) is equipped with emergency mechanical ventilation capable of producing at least 30 air changes per hour, taking suction at a maximum of 900 mm above the floor level and discharging at least 2 500 mm above ground level directly to the outdoors, and

(g) contains a platform weigh scale of at least 135 kg capacity for each chlorine cylinder in use.

(3) Storage facilities shall be provided for the safe storage of all chemicals required in pool operations.

(4) The storage facilities shall be ventilated and shall be equipped with a water hose connection and a floor drain.

(5) *Service rooms* and storage facilities, including rooms and facilities that contain electrical or mechanical equipment or chemicals or chemical feeders, shall be equipped with a secure locking device.

Section 3.12. Public Spas

3.12.1. General

3.12.1.1. Application

(1) This Section applies to the design and *construction* of site-assembled *public spas* and factory-built *public spas*.

(2) If material alterations to a *public spa* or the equipment installed in a *public spa* affect the bottom slope, the water volume or the capacity of the water circulation system, the adversely affected portions shall comply with the requirements of this Division.

(3) Except as provided in Sentence (4), if material alterations or repairs concern any pool fitting that passes water or air, or both, in or out of the pool tank, the affected fitting shall comply with Sentences 3.11.8.1.(20) and 3.12.4.1.(4) to (10).

(4) If the material alterations or repairs concern a fitting cover or grille, the affected fitting cover or grille shall comply with Sentences 3.12.4.1.(7) to (10).

(5) For the purposes of this Section, every reference to a *public pool* or a *recirculation system* in a definition in Article 1.4.1.2. of Division A, or a Sentence or Clause in Section

3.11. that is made applicable to *public spas* by this Section, is deemed to be a reference to a *public spa* or water circulation system, respectively.

3.12.2. Public Spa and Deck Design and Construction Requirements

3.12.2.1. Construction Requirements

(1) In addition to the requirements of this Subsection, *public spas* shall comply with the requirements of Sentences 3.11.3.1.(13) to (18), (20), (21) and (23) and Clause 3.11.3.1.(25)(a).

(2) A *public spa* shall be constructed to have a water depth of not more than 1 200 mm.

(3) The slope of the bottom of any portion of a *public spa* shall not exceed 8%.

(4) A *public spa* shall be surrounded by a hard-surfaced *pool deck* that

(a) shall have a minimum clear deck space of not less than 1.8 m at the main entrance point,

(b) shall have a clear deck space of 900 mm on all sides, except as required by Clause (a) and permitted by Sentence (5),

(c) shall be sloped away from the pool to waste drains or to adjacent lower ground at a slope of between 2% and 4%, in the case of an outdoor *public spa*, and

(d) shall be impervious and sloped away from the pool to waste drains at a slope of between 1% and 4%, in the case of an indoor *public spa*.

(5) One section of the hard-surfaced *pool deck* that does not exceed 25% of the perimeter of the *public spa* may have a minimum clear deck space of not more than 300 mm if

(a) the *public spa* has an area less than 6 m^2, and

(b) the *public spa* has no interior dimension more than 2.5 m.

(6) The maximum depth of water to a seat or bench in a *public spa* shall be 600 mm.

(7) If a set of steps is provided for entry into and egress from the *public spa* water, the steps

(a) shall be equipped with a handrail,

(b) shall have a non-slip surface, and

(c) shall have a band of contrasting colour along the entire juncture of the side and top of the edges.

(8) Every *public spa* shall be provided with dressing rooms, water closets and shower facilities that are conveniently available on the premises.

(9) Except where no space is provided between ladder treads and the spa wall, the space between the spa wall and submerged portions of any treads of a ladder for entry into and egress from the water shall be not more than 150 mm and not less than 75 mm.

3.12.3. Ramps and Access into Public Spas

3.12.3.1. Ramps into Public Spas

(1) Not more than 50% of the total perimeter of a *public spa* may be replaced by one or more *ramps* that permit a bather seated in a wheelchair to enter the water with or without the wheelchair.

(2) If a *public spa* has one or more *ramps* described in Sentence (1), the *public spa* shall comply with Articles 3.11.5.1. and Sentences 3.11.5.2.(3) and (4).

3.12.3.2. Access into Public Spas

(1) Where more than one *public spa* is provided within a suite located on a storey that is required by Article 3.8.2.1. to have a *barrier-free* path of travel, a *barrier-free* access described in Sentence (2) shall be provided to at least one *public spa*.

(2) *Barrier-free* access for entry into and egress from a *public spa* shall be provided by

(a) a *ramp* conforming to Article 3.12.3.1.,

(b) a pool lift conforming to the manufacturer's specifications and installation instructions and conforming to Sentences 3.11.3.3.(2) to (6), or

(c) a transfer wall conforming to Sentences (3) to (5).

(3) A transfer wall providing *barrier-free* access for entry into and egress from a *public spa* shall

(a) have a height not less than 405 mm and not more than 485 mm measured from the *pool deck*,

(b) have a depth of at least 300mm and not more than 400 mm,

(c) be slip-resistant and have edges that are rounded, and

(d) have at least one grab bar that

(i) is perpendicular to the pool and extends the full depth of the transfer wall,

(ii) is located not less than 100 mm and not more than 150 mm above the transfer wall,

(iii) has a clearance of at least 610 mm on both sides,

(iv) complies with Clauses 3.8.3.8.(7)(a) and (b), and

(v) is made of a slip-resistant material.

(2) The deck area required to make a lateral transfer to the transfer wall shall

(a) be outside and adjacent to the *barrier-free* path of travel described in Sentence (1),

(b) have no obstructions at the side of the transfer wall serving the transfer space,

(c) have a clear space of 900 mm by 2 200 mm, and

(d) have a slope less than 2% provided at the base of the transfer wall surface.

(5) The deck area described in Clause (4)(c) shall be centred on

(a) the grab bar where one grab bar is provided, or

(b) the clear space between the grab bars where more than on grab bar is provided.

3.12.4. Water Circulation for Public Spas

3.12.4.1. Water Circulation Systems

(1) In addition to the requirements of this Subsection, the water circulation system of a *public spa* shall comply with the requirements of Sentences 3.11.8.1.(2), (3), (6), (7), (9), (10), (11), (13) and (20).

(2) A *public spa* shall be equipped with a water circulation system that is capable of filtering, disinfecting and passing the *public spa* water through the *public spa* with turnover period of not more than

(a) 30 minutes for a *public spa* with a volume of water that exceeds 6 m^3,

(b) 20 minutes for a *public spa* with a volume of water that exceeds 4 m^3 but does not exceed 6 m^3, or

(c) 5 minutes for a *public spa* with a volume of water that does not exceed 4 m^3.

(3) If cartridge-type filters are used for a *public spa*, the filters shall be a surface-type that is designed for a maximum flow rate of 0.27 L/s/m^2 effective filter area.

(4) Except as provided in Sentence (6), every circulation system in a *public spa* shall be served by a minimum of two suction or gravity outlets

(a) that are interconnected to a full-size manifold, and

(b) except as provided in Sentence (5), that are separated by a clear distance of not less than 900 mm.

(5) If compliance with Clause (4)(b) is impracticable because of dimensional restrictions at the bottom of the *public spa*, the outlets may be located on two different planes of the *public spa* if

(a) at least one of the outlets through which the *public spa* can be emptied to a full-size manifold is located on the bottom of the *public spa*, and

(b) the bottom of all outlets, other than skimmers, are not more than 75 mm from the floor of the *public spa*.

(6) A circulation system in a factory-built *public spa* may be served by a built-in suction or gravity outlet with multiple openings that are connected to a full-size manifold.

(7) All fittings at or below the water surface that allow water or air or both to be passed to or from the *public spa* shall be securely held in place by corrosion resistant fastening that requires a tool for removal and is galvanically compatible with the fittings and grilles or covers.

(8) Except as provided in Sentence (9), all suction or gravity fittings installed a or below the water line of a *public spa* shall

(a) have a maximum opening of 7 mm in one direction, and

(b) be designed so that the flow of water through the openings does not exceed 0.45 m/s.

(9) Sentence (8) does not apply to suction and gravity outlets that are equipped with anti-entrapment covers that comply with the requirements of ASME A112.19.8, “Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs”.

(10) The calculation of water velocities for the purposes of Clause (8)(b) and Sentences (11) an (12) and the calculation of water flow rates for the purposes of Sentence (9) shall be based on the assumption that all possible sources of suction flow are present at the same time.

(11) The water velocity in a suction pipe shall not exceed 1.8 m/s.

(12) The water velocity in a pressure pipe shall not exceed

(a) 3.0 m/s for plastic pipping, and

(b) 1.8 m/s for copper piping.

(13) Every suction system that serves a *public spa* shall be equipped with a vacuum relief mechanism that shall include

(a) a vacuum release system,

(b) a vacuum limit system, or

(c) other engineered systems that are designed, constructed and installed to conform to good engineering practice appropriate to the circumstances.

(14) Equipment shall be installed to continuously disinfect that water in a *public spa* by means of a chlorination, hypochlorination or bromination system that is capable of regulating the dosage of chlorine or bromine.

(15) If a two-speed pump is utilized for a *public spa*, the filter and heater shall be sized to accommodate the maximum pump output, without exceeding the manufacturer's design flow rate of the filter element or heater and without by-passing the filter element.

(16) A *public spa* equipped with hydro-massage jet fittings shall be provided with a timing device

(a) that controls the period of operation of the jet pump, and

(b) that is placed in a location where the user must exit the *public spa* to reset the timer.

(17) A *public spa* water heater shall be equipped with an upper limit cut-off device

(a) that is independent of the normal *public spa* water temperature thermostat, and

(b) that limits the maximum water temperature of the *public spa* to 40°C.

(18) A *public spa* shall be equipped with a water circulation system that is capable of both completely and partially draining and refilling the *public spa* water.

3.12.5. Emergency Provisions for All Public Spas

3.12.5.1. Lighting and Emergency Provisions

(1) In addition to the requirements of this Subsection, *public spas* shall comply with the requirements of Sentences 3.11.10.1.(1) to (6).

(2) An emergency telephone directly connected to an emergency service or to the local telephone utility shall be installed within 30 m of the *public spa*.

(3) All pumps used in a *public spa* shall be capable of being deactivated by an emergency stop button that is

(a) clearly labelled, and

(b) located at a point that is

(i) readily accessible to and within sight of persons using the *public spa*, and

(ii) within 15 m of the *public spa*.

(4) The emergency stop button required in Sentence (3) shall

(a) be a switch separate from the *public spa's* timing device,

(b) active an audible and a visual signal when used, and

(c) have an emergency sign conforming to Sentence 3.11.10.1.(14).

(5) If a *public spa* and *public pool* are located in the same room or space, the emergency stop button required in Sentences (3) and 3.11.10.1.(12) shall deactivate all pumps serving the *public spa* and *public pool*.

3.12.6. Service Rooms and Storage for All Public Spas

3.12.6.1. Service Rooms and Storage Facilities

(1) *Service rooms* and storage facilities for all *public spas* shall comply with the requirements of Article 3.11.11.1.

Section 3.13. Rapid Transit Stations

3.13.1. Scope and Definitions

3.13.1.1. Scope

(1) Except as provided in this Section the requirements in this Division apply to *rapid transit stations*.

3.13.1.2. Definitions

(1) In this Section:

Ancillary space means the rooms or spaces in the station used only by the transit agency to house or contain operating, maintenance or support equipment and functions, but does not include booths and kiosks used by the transit agency or *service rooms*.

Central supervising station means the operations centre where the transit agency controls and co-ordinates the system-wide movement of passengers and vehicles and from which communication is maintained with supervisory and operating personnel of the transit agency and with participating agencies when required.

Crush load means the total of the seating capacity and the standing capacity of a car where

(a) the seating capacity is the number of seats in a car, and

(b) the standing capacity is 0.2 m^2 per person for the standing area which is measured 300 mm in front of the seats.

Egress capacity means the number of people able to travel from or through a type of egress facility in a specified period of time.

Entraining load means the number of passengers boarding the train at a station.

Fare-paid area means that portion of a *rapid transit station* to which access is gained by a pass or by paying a fare.

Fare-paid area control means the point where passengers enter or leave the *fare-paid area*.

Link load means the number of passengers on board the train(s) travelling between two stations.

Maximum calculated train load means the *crush load* per car multiplied by the maximum number of cars per train in the peak period.

Peak direction means, for each route, the direction of train travel having the largest passenger flow volume based on the sum of the incoming *link load* plus the *entraining load* per peak hour.

Protected route means that portion of a *means of egress* that starts at the point where passengers would not be vulnerable to exposure from a train fire and that leads to the exterior of the station or through an *exit* to an adjacent *building*.

Public area means the public circulation areas in a *rapid transit station* providing pedestrian access to and from trains.

Rapid transit station means a *building* or part thereof used for the purpose of loading and unloading passengers of a *rapid transit system* but does not include open air shelters at street level.

Rapid transit system means an electrified transportation system, utilizing guidance methods involving positive mechanical contact with the fixed way operating on a right-of-way for the mass movement of passengers.

3.13.2. Construction Requirements

3.13.2.1. Requirements for Stations

(1) Except as provided in this Subsection, the requirements in Subsections 3.2.1. and 3.2.2. do not apply to a *rapid transit station*.

(2) The requirements in Sentence (3) shall apply to

(a) a *rapid transit station* erected entirely below the adjoining finished ground level, and

(b) the underground portion of a *rapid transit station*.

(3) Except as permitted in Sentence (4), an underground station or an underground portion of a station in Sentence (2) shall be of *noncombustible construction*, and

(a) floor assemblies shall be *fire separations* having a *fire-resistance* rating not less than 2 h,

(b) roof assemblies below ground level, shall have a *fire-resistance rating* not less than 2 h, but a *fire-resistance rating* is not required where steel tunnel liners are left in place to form part of the assembly and the tunnel liners are in direct contact with *soil*, and

(c) all *loadbearing* walls, columns and arches shall have a *fire-resistance* rating not less than that required for the supported assembly.

(4) An interior stair extending to street level is permitted to be protected by a *combustible* roof.

(5) Where a *rapid transit station* is erected above and below the adjoining finished ground level, the above ground portion of the station shall be of *noncombustible construction* and

(a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

(b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

(c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and

(d) all *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(6) Except as permitted by Sentence (7), where a *rapid transit station* is erected entirely above the adjoining finished ground level and is a stand-alone *building*, the station shall be of *noncombustible construction* and

(a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

(b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

(c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and

(d) all *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(7) A *building* classified as Group A, Division 2 *occupancy* that is not more than 1 *storey* in *building height*, and that has a *building area* not more than 3 200 m^2 if not *sprinklered* throughout or not more than 6 400 m^2 if *sprinklered throughout*, is permitted to be constructed with a roof and columns of *heavy timber construction*.

(8) An *interconnected floor space* is permitted in a *public area* of a *rapid transit station*.

(9) Stairs, escalators and elevators used by passengers are permitted to be included in the *interconnected floor space* in a *rapid transit station*.

(10) Passenger elevators within or adjacent to an *interconnected floor space* need not be enclosed in a hoistway separated from the remainder of the *interconnected floor space* provided the elevator machinery is located in a room separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

(a) 1.5 h, where the floor of the machine room is below *grade*, or

(b) 45 min, where the floor of the machine room is located above *grade*.

(11) Elevator shafts that are not within or adjacent to an *interconnected floor space* are permitted to penetrate the *fire separations* required in Sentences (2) to (6) provided they are enclosed by

(a) a *fire separation* having a *fire-resistance rating* not less than 1 h, or

(b) wired glass assemblies conforming to MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

3.13.3. Safety Requirements Within Stations

3.13.3.1. Application

(1) Except as provided in this Subsection and Subsection 3.13.4., the requirements in Subsections 3.3.1. and 3.6.2. apply to a *rapid transit station*.

(2) A door in a *fire separation* is permitted to be equipped with pivot hinges in conformance with NFPA 80, "Standard for Fire Doors and Other Opening Protectives".

(3) The requirements in Subsection 3.4.4. for *fire separation* of *exits* do not apply in a *rapid transit station*.

(4) Except as provided in Sentence (5), the requirements in Sentence 3.4.6.16.(1) for doors to be readily opened from the inside apply to required *exit* doors in a *rapid transit station*.

(5) Where a group of two or more doors serves as a single *exit* facility, only one door in the group is required to comply with Sentence 3.4.6.16.(1).

(6) A door that is required to be readily opened in Sentence (4) or (5) shall have a sign attached to it that

(a) displays the words **EMERGENCY EXIT** with the letters not less than 25 mm high, and

(b) is visible from the *exit* approach.

3.13.3.2. Booths and Kiosks

(1) Booths and kiosks that are not more than 20 m^2 in area and are used only by the transit agency for fare collection, dissemination of information or similar non-*mercantile occupancies* shall be of *noncombustible construction* and are not required to be separated from the remainder of the *floor area* by a *fire separation*.

(2) Booths and kiosks that are more than 20 m^2 in area and are used only by the transit agency for fare collection, dissemination of information or similar non-*mercantile occupancies* shall be

(a) *sprinklered*, and

(b) separated from the remainder of the *floor area* by a *fire separation* of *noncombustible construction* that is not required to have a *fire-resistance rating*.

(3) A door acting as a *closure* in the *fire separation* in Sentence (2) is not required to be equipped with a self-closing device.

3.13.3.3. Service Rooms and Ancillary Spaces

(1) An *ancillary space* in a *rapid transit station* shall be separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) Except as provided in Sentence (3), a door opening from a *service room* onto a *means of egress* in a *rapid transit station* shall be located not less than 5 m from an escalator balustrade and from the top and bottom riser of a flight of stairs used as a *means of egress* from the *rapid transit station*.

(3) The requirements in Sentence (2) do not apply where

(a) the *service room* is *sprinklered*, or

(b) there is a vestibule between the *service room* and the *means of egress*.

(4) Where a door from a *service room* opens onto a *means of egress* less than 5 m wide

(a) the *service room* shall be *sprinklered*, or

(b) there shall be a vestibule between the *service room* and the *means of egress*.

3.13.3.4. Leased Areas

(1) All leased areas within a *rapid transit station* shall be

(a) *sprinklered*, and

(b) separated from the remainder of the *floor area* by a *fire separation* of *noncombustible construction* that is not required to have a *fire-resistance rating*.

(2) A door acting as a *closure* in the *fire separation* in Clause (1)(b) is not required to be equipped with a self-closing device.

(3) Where leased areas are located on opposite sides of a *means of egress*, the width of the *means of egress* shall not be reduced to less than 5 m.

(4) Except as provided in Sentence (5), where the leased area on any floor level exceeds 15% of the *public area* on that level, the *public area* shall be *sprinklered*.

(5) In a *rapid transit station* that is erected entirely above the adjoining finished ground level and is a stand-alone *building*, where the leased area on any floor level exceeds 20% of the *public area* on that level, the *public area* shall be *sprinklered*.

(6) In determining the leased area in Sentences (4) and (5), it is not necessary to include a leased area that is separated from the *public area* by a *fire separation* having a *fire-resistance rating* not less than

(a) 2 h where the leased area contains a *mercantile* or *medium-hazard industrial occupancy*, or

(b) 1 h where the leased area contains any other *occupancy*.

(7) A leased area is permitted on a platform level provided it is

(a) located not less than 5 m from the platform edge,

(b) located not less than 5 m from an egress facility, and

(c) not located in a dead-end portion of the platform.

3.13.3.5. Vehicle Terminal

(1) Where an enclosed terminal serves vehicles powered by combustible fuels, and the terminal has direct access to a *rapid transit station*

(a) the terminal shall be *sprinklered*, and

(b) the terminal shall be separated from the *rapid transit station*

(i) by a *fire separation* having a *fire-resistance rating* not less than 1 h, or

(ii) by wired glass assemblies conforming to MMAH Supplementary Standard SB-2, “Fire Performance Ratings”, with wired glass doors equipped with self-closing devices.

(2) Doors in the *fire separation* or in the wired glass assembly in Clause (1)(b) are not required to have latches where close spaced sprinkler protection is provided on the station side.

3.13.3.6. Access to Adjacent Building

(1) Where an access is provided between a *rapid transit station* and an adjacent *building*, the station and the *building* shall be separated by a *fire separation* having a *fire-resistance rating* not less than 2 h.

(2) The access in Sentence (1) shall be through a vestibule that is separated from the station and from the *building*

(a) by a *fire separation* having a *fire-resistance rating* not less than 1 h, or

(b) by wired glass assemblies conforming to MMAH Supplementary Standard SB-2, "Fire Performance Ratings", with wired glass doors equipped with self-closing devices.

(3) The vestibule doors in Sentence (2)

(a) are not required to be equipped with latches, and

(b) shall swing in the direction of travel from the *rapid transit station*.

(4) Close spaced sprinkler protection shall be provided on each side of all vestibule doors.

(5) The vestibule

(a) shall not contain an *occupancy*, and

(b) shall be protected against the passage of smoke in accordance with Measure N of MMAH Supplementary Standard SB-4, "Measures for Fire Safety in High Buildings".

(6) Where an access is provided between a *rapid transit station* and an adjacent *building* that is regulated by the provisions of Subsection 3.2.6. or 3.2.8., the requirements of this Article do not apply to the *rapid transit station*, except for the following:

(a) the access shall be through a vestibule that is separated from the station and from the *building*, and

(b) the vestibule shall comply with Sentence (5).

3.13.3.7. Emergency Lighting

(1) Emergency lighting shall be provided to average levels not less than 10 lx at floor or tread level in *public areas* in a *rapid transit station*.

(2) An emergency power supply conforming to Subsection 3.2.7. shall be provided to maintain the emergency lighting required in Sentence (1) for a period of 30 min after a power failure.

3.13.3.8. Guards for Rapid Transit Stations

(1) *Guards* are not required at the guideway side of a platform in a *rapid transit station*.

3.13.4. Means of Egress

3.13.4.1. Occupant Load

(1) The *occupant load* for *public areas* within a *rapid transit station* shall be

(a) determined in conformance with this Subsection, and

(b) based on peak hour patronage as projected for design of the transit system.

(2) The platform *occupant load* for each platform in a *rapid transit station* shall be the greater of the a.m. or p.m. peak period loads calculated in accordance with Sentences (3) to (5).

(3) The a.m. and the p.m. peak period *occupant loads* for each platform shall be based on the simultaneous evacuation of the *entraining load* and the *link load* for that platform.

(4) The *entraining load* for each platform shall be the sum of the *entraining loads* for each track serving that platform and the *entraining load* for each track shall be based on the *entraining load* per train headway multiplied by

(a) a factor of 1.3 to account for surges, and

(b) in the *peak direction* for each route, an additional factor of 2 to account for a missed headway.

(5) The *link load* for each platform shall be the sum of the *link loads* for each track serving that platform and, except as provided in Sentence (6), the *link load* for each track shall be based on the *link load* per train headway multiplied by

(a) a factor of 1.3 to account for surges, and

(b) in the *peak direction* for each route, an additional factor of 2 to account for a missed headway.

(6) The maximum *link load* at each track shall be the *maximum calculated train load*.

3.13.4.2. General Requirements

(1) Except as provided in Sentence (2), escalators conforming to the requirements of Sentences 3.13.4.5.(3) and 3.13.4.6.(1) shall be acceptable as part of a required *means of egress* in a *rapid transit station*.

(2) Escalators forming part of a required *means of egress* shall not comprise more than one-half of the required *egress capacity* from any one level.

(3) *Horizontal exits* conforming to Sentence (4) may provide all of the required *egress capacity* from a *rapid transit station*.

(4) *Horizontal exits* to any one *building* shall not comprise more than one-half of the required *egress capacity* from any area within a *rapid transit station*.

(5) A *protected route* shall be provided with emergency ventilation conforming to Subsection 3.13.7.

(6) In an aboveground unenclosed station, the *protected route* is permitted to begin at the point of leaving the platform.

(7) In an enclosed or underground station, the protection for the *protected route* shall consist of

(a) a *fire separation* having a *fire-resistance rating* not less than 1 h,

(b) construction having a *fire-resistance rating* not less than 1 h, or

(c) wired glass assemblies conforming to MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

3.13.4.3. Number and Location of Means of Egress

(1) Each platform in a *rapid transit station* shall be served by no fewer than two *means of egress* that are independent of and remote from each other from the platform to the exterior of the station.

(2) Where a continuous level walking surface is provided between two adjacent platforms, they may be considered as one platform for the purpose of conforming to this Subsection.

(3) At the platform level, the distance separating the egress facilities in Sentences (1) and (2) shall be the greater of one car length or 25 m.

(4) Except as required in Sentence (1), two or more *means of egress* are permitted to converge in conformance with Sentence 3.13.4.4.(6).

(5) *Means of egress* from platforms shall be located so that the travel time from the most remote point on a platform to a *protected route* does not exceed 4 min based on travel speeds of

(a) 38 m/min for horizontal travel, and

(b) 21 m/min for vertical rise.

3.13.4.4. Egress Capacity

(1) For a *rapid transit station*, the required aggregate *egress capacity* from each platform shall be determined by dividing the platform occupant load determined in accordance with Sentences 3.13.4.1.(2) to (6) by the required platform clearance time determined in accordance with Sentence (3).

(2) Where two platforms are considered as one platform as provided in Sentence 3.13.4.3.(2), the required *egress capacity* for each platform shall be determined separately.

(3) The required platform clearance time shall be 4 min less the travel time between the platform and the entry into the *protected route* based on travel speeds of

(a) 38 m/min for horizontal travel, and

(b) 21 m/min for vertical rise.

(4) For each *means of egress*, the required *egress capacity* at the platform shall be maintained for the entire length of the *means of egress*.

(5) Except as provided in Sentence (6), where two or more *means of egress* converge, the required *egress capacity* beyond that point shall be cumulative.

(6) The *egress capacity* in Sentence (5) need not be cumulative after converging where it can be shown that the platform clearance time in Sentence (3) is not exceeded.

3.13.4.5. Width of Means of Egress

(1) Except as otherwise required in this Subsection, the required width of *means of egress* serving platforms in a *rapid transit station* shall be determined based on

(a) the required *egress capacity* determined in conformance with Article 3.13.4.4., and

(b) the pedestrian flow rate for the type of *means of egress* facility listed in Table 3.13.4.5.

Table 3.13.4.5.
Pedestrian Flow Rates

Forming Part of Sentence 3.13.4.5.(1)

Type of Egress Facility	Flow Rate, pedestrians per minute	Flow Rate, pedestrians per minute per metre width
Platforms	n/a	80
Corridors	n/a	80
Doorways	n/a	80
Gates	n/a	80
Ramps not more than 4%	n/a	80
Ramps more than 4%	n/a	55(1)
Stairs	n/a	55(1)
Escalators moving in direction of egress travel, nominal width		
: 1 200 mm	100	n/a

: 800 mm	80	n/a
: 600 mm	60	n/a
Turnstiles, height of bar		
: not more than 900 mm	45	n/a
: more than 900 mm	25	n/a

Notes to Table 3.13.4.5.:

(1) Flow rate is applied vertically.

(2) In calculating the required width of corridors and *ramps* with a grade of less than 4%, 300 mm at each sidewall shall be added to the width determined based on required *egress capacity*.

(3) In calculating the required width of egress routes, one escalator at each level in a *rapid transit station* is deemed to be out of service and not available for egress purposes.

(4) Except as provided in Sentence (5), the minimum width of *means of egress* facilities serving platforms shall be

(a) 1 750 mm for corridors and *ramps*,

(b) 1 750 mm for stairs,

(c) 600 mm nominal width for escalators, and

(d) 900 mm for a door leaf.

(5) A second *means of egress* as required by Sentence 3.13.4.3.(1) is permitted to be not less than 1 100 mm wide.

(6) The minimum width of platforms shall be

(a) 3.2 m for side platforms, and

(b) 6.4 m for island platforms.

(7) The minimum unobstructed width of platforms measured from the platform edge shall be 2.5 m.

(8) The minimum clear width for fare collection equipment providing *means of egress* from *public areas* in *rapid transit stations* shall be

(a) 420 mm for turnstiles,

(b) 455 mm for fare collection gates with a height of 1 000 mm or less, and

(c) 530 mm for fare collection gates with a height of more than 1 000 mm.

3.13.4.6. Egress Facilities

(1) Escalators forming part of a required *means of egress* shall

(a) where equipped to run reverse to the direction of egress travel, be capable of being stopped remotely and locally, and

(b) have a vertical rise not more than 12 m between floors or landings.

(2) Where electrically operated gates or turnstiles used for fare collection are intended to be used as part of a required *means of egress* from a *rapid transit station*, provision shall be made to release the gates or turnstiles in accordance with Sentence (4) to allow them to operate freely in the direction of egress travel.

(3) Where locked doors that prevent entry into a *fare-paid area* are to be used as part of a required *means of egress* from a *rapid transit station*, provision shall be made to release the doors in accordance with Sentence (4) to allow them to operate freely in the direction of egress travel.

(4) The release device required in Sentences (2) and (3) shall be installed as an ancillary device to the fire alarm system and shall release immediately

(a) upon activation of the fire *alarm signal*,

(b) in the event of a power failure or ground fault, or

(c) upon actuation of a manually operated switch accessible to authorized personnel and located in

(i) a fare collector's booth or kiosk at the station, or

(ii) the *central supervising station*.

(5) After release, the gates or turnstiles in Sentence (2) or the doors in Sentence (3) shall be capable of reactivation only by manual actuation of the switch in Clause (4)(c).

3.13.5. Fire Safety Provisions

3.13.5.1. Fire Alarm System

(1) Except as provided in this Subsection, a fire alarm system conforming to Subsection 3.2.4. shall be installed in a *rapid transit station*.

3.13.5.2. Exceptions

(1) Manual stations need not be installed in a *rapid transit station*.

(2) Audible signal appliances need not be installed in a *rapid transit station*.

3.13.5.3. Fire Detectors

(1) Except where the area is *sprinklered*, *fire detectors* shall be installed in every *service room*, *ancillary space*, leased space, booth and kiosk.

3.13.5.4. Central Supervising Station

(1) Each *rapid transit station* shall be monitored by a *central supervising station* conforming to CAN/ULC-S561, "Standard for Installation and Services for Fire Signal Receiving Centres and Systems".

3.13.5.5. Annunciators

(1) An annunciator shall be installed

(a) in a location that is readily accessible to firefighters entering the *building*, and

(b) in the *rapid transit station*

(i) in a designated collector's booth, or

(ii) within viewing distance of a designated collector's booth.

3.13.5.6. Annunciator Indication

(1) All fire alarm, *fire detectors*, valve switches and water flow indicator signals when activated in a *rapid transit station* shall be indicated on the annunciator at the station.

(2) The annunciator at a *rapid transit station* shall be monitored simultaneously at the *central supervising station*.

(3) Where a *means of egress* from a *rapid transit station* leads through an adjoining *building*, any *alarm signal* originating in the *building* within 2 *storeys* above a connection to the station shall

(a) be indicated on the *rapid transit station* annunciator, and

(b) cause a message to flash a warning on a sign located in conformance with Sentence (4), that the *means of egress* shall not be used as an *exit* from the station.

(3) A sign required in Clause (3)(b) shall be located

(a) at the doors from the *rapid transit station* to the adjoining *building*, and

(b) in the *means of egress* to the adjoining *building*, at the last point where there is a choice of direction to travel to at least one other *exit*.

3.13.5.7. Emergency Power

(1) An emergency power supply conforming to Article 3.2.7.8. shall be provided for the fire alarm system.

3.13.5.8. Communication Systems

(1) In a *rapid transit station*, a public address system shall be installed and shall include loudspeakers that

(a) can be operated from the *central supervising station*,

(b) can be operated from the *rapid transit station* in which they are located, and

(c) designed and located so that voice messages can be heard intelligibly throughout the *public area* in a *rapid transit station*.

(2) A two-way communication system shall be installed in each *rapid transit station* with telephones located at

(a) the collector's booth, and

(b) at each end of each platform.

(3) The telephones in Sentence (2) shall be provided with connections to the *central supervising station*.

3.13.5.9. Emergency Reporting Devices

(1) Emergency reporting devices shall be located on passenger platforms and throughout a *rapid transit station* such that the distance of travel from any point in the *public area* to such a device is not more than 90 m.

(2) The emergency reporting devices required in Sentence (1) are permitted to be public telephones with an emergency no charge capability and their location shall be plainly indicated by appropriate signs.

3.13.5.10. Sprinkler Systems

(1) Sprinkler systems shall conform with the requirements of Articles 3.2.5.12. to 3.2.5.15.

(2) There shall be identification on a fire department connection for a sprinkler system in a *rapid transit station* to indicate that the connection is part of the station system.

3.13.5.11. Standpipe and Hose Systems

(1) A standpipe and hose system conforming to the requirements of Articles 3.2.5.8. to 3.2.5.11. shall be installed in a *rapid transit station*, except as otherwise required or permitted in this Article.

(2) Where a *rapid transit station* includes more than one standpipe riser there shall be a cross-connection pipe having a diameter not less than 100 mm between each standpipe riser so that supplying of water through any fire department connection will furnish water throughout each riser.

(3) There shall be identification on a fire department connection for a standpipe system in a *rapid transit station* to indicate that the connection is part of the station system.

(4) Hose stations shall be located so that every portion of the *rapid transit station* can be reached by a hose stream and is within 3 m of a hose nozzle when the hose is extended.

(5) In addition to the requirements in Sentence (4), hose stations shall be located in each tunnel not more than 20 m from the end of the platform.

(6) Each hose station shall have a 38 mm hose connection and a 65 mm hose connection.

(7) All supply piping shall have a diameter not less than 100 mm.

3.13.6. Required Sanitary Facilities

3.13.6.1. Application

(1) Except as provided in this Subsection, Subsection 3.7.4. applies to a *rapid transit station*.

3.13.6.2. Washrooms Required

(1) Except as provided in Sentences (2) and (3), a washroom for each sex, containing at least one water closet and one lavatory, shall be provided in each *rapid transit station* for use by employees.

(2) Where the number of employees in a *rapid transit station* is not more than five, a washroom containing one water closet and one lavatory is permitted to be used by both sexes provided the door to the room can be locked from the inside.

(3) Where a *rapid transit station* is not staffed during operating hours, a washroom is not required in the station.

(4) In each *rapid transit station* located at the end of a line, a washroom for each sex, containing no fewer than three water closets and two lavatories, shall be provided for use by the public.

3.13.7. Emergency Ventilation

3.13.7.1. Application

(1) Every *rapid transit station* shall be provided with an emergency ventilation system conforming to NFPA 130, “Standard for Fixed Guideway Transit and Passenger Rail Systems”.

3.13.8. Barrier-Free Design

3.13.8.1. Application

(1) Except as provided in this Subsection, the requirements in Section 3.8. apply to *rapid transit stations*.

(2) A *rapid transit station* need not be provided with more than one *barrier-free* entrance described in Article 3.8.1.2.

(3) At least one *barrier-free* path of travel shall be provided from a *barrier-free* entrance

(a) into the *fare-paid area*, and

(b) to each platform.

3.13.8.2. Exception

(1) Where an elevator is used to comply with the requirements of Article 3.3.1.7., the provisions of Clause 3.3.1.7.(1)(a) do not apply where the elevator system complies with Article 3.13.8.3.

3.13.8.3. Elevator Requirements

(1) Except as provided in Sentence (2), the elevator described in Article 3.13.8.2. shall be capable of providing transportation from each platform to a *barrier-free* entrance described in Article 3.8.1.2.

(2) Where it is necessary to change elevators to reach the entrance described in Sentence (1), the elevator system shall be designed so that not more than one change of elevator is required between

(a) a platform and a *fare-paid area control*, and

(b) the *fare-paid area control* and the entrance.

3.13.8.4. Emergency Operation of Elevators

(1) Manual emergency recall operation shall be provided for all elevators.

(2) Key-operated switches for emergency recall described in Sentence (1) shall be provided and shall be located on the outside of each elevator shaft at the level of the *fare-paid area control*.

(3) In-car emergency service switches shall be provided in all elevator cars.

(4) Keys to operate the switches required in Sentences (2) and (3) shall be located at

(a) the annunciator required in Clause 3.13.5.5.(1)(a), and

(b) the collector’s booth designated in Clause 3.13.5.5.(1)(b).

3.13.8.5. Washrooms Required to be Barrier-Free

(1) A *barrier-free* path of travel shall be provided to the washrooms required in Article 3.13.6.2.

(2) Where a washroom required in Sentence 3.13.6.2.(1) contains only one water closet and one lavatory, the washroom shall be designed in conformance with the requirements in Article 3.8.3.12.

(3) Where a washroom required in Sentence 3.13.6.2.(1) contains more than one water closet, the washroom shall be designed in conformance with the requirements in Articles 3.8.3.8. to 3.8.3.11.

(4) The washroom required in Sentence 3.13.6.2.(2) shall be designed in conformance with the requirements in Article 3.8.3.12.

(5) The washrooms required in Sentence 3.13.6.2.(4) shall be designed in conformance with the requirements in Articles 3.8.3.8. to 3.8.3.11.

Section 3.14. Tents and Air-Supported Structures

3.14.1. Tents

3.14.1.1. Application

(1) Except as provided in this Subsection, tents are exempt from complying with the requirements of this Division.

3.14.1.2. General

(1) Except as provided in Sentence (2), the requirements of this Subsection shall apply to all tents.

(2) Articles 3.14.1.3., 3.14.1.7. and 3.14.1.8. do not apply to tents that

(a) do not exceed 225 m^2 in ground area,

(b) do not exceed 225 m^2 in aggregate ground area and are closer than 3 m apart,

(c) do not contain bleachers, and

(d) are not enclosed with sidewalls.

3.14.1.3. Means of Egress

(1) Except as provided in Sentences (2) and (3), tents shall conform to Sections 3.3. and 3.4.

(2) A tent need not conform to Article 3.4.6.12. except where swing type doors are provided.

(3) Where the area between adjacent tents or a tent and the property line is used as a *means of egress*, the minimum width between stake lines shall be the width necessary for *means of egress*, but not less than 3 m.

3.14.1.4. Clearance to Other Structures

(1) Tents shall not be erected closer than 3 m to the property line.

(2) Except as provided in Sentences (3) to (6), tents shall not be erected closer than 3 m to other tents or structures on the same property.

(3) A *walkway* between a *building* and a tent occupied by the public is permitted provided

(a) the tent is not closer than 3 m from the *building*, and

(b) the *walkway* conforms to Article 3.2.3.19.

(4) Tents not occupied by the public need not be separated from one another, and are permitted to be erected less than 3 m from other structures on the same property, where such closer spacing does not create a hazard to the public.

(5) Tents located on fair grounds or similar open spaces, need not be separated from one another provided such closer spacing does not create a hazard to the public.

(6) Where a tent is to be constructed in proximity to existing above ground electrical conductors, the tent shall be constructed in accordance with Article 3.1.20.1.

3.14.1.5. Clearances to Flammable Material

(1) The ground enclosed by a tent and for not less than 3 m outside of such structure shall be cleared of all flammable or *combustible* material or vegetation that will carry fire.

3.14.1.6. Flame Resistance

(1) Every tent, and tarpaulins, decorative materials, fabrics and films used in connection with tents, shall be certified to CAN/ULC-S109, “Standard Method for Flame Tests of Flame-Resistant Fabrics and Films”, or NFPA 701, “Standard Methods of Fire Tests for Flame Propagation of Textiles and Films”.

3.14.1.7. Bleachers

(1) Where bleachers are provided in tents, they shall be designed in conformance with Articles 3.3.2.9., 3.3.2.12. and Subsection 4.1.5.

3.14.1.8. Sanitary Facilities

(1) Except as provided in Sentence (3), the minimum number of water closets for tents shall be determined in accordance with Table 3.7.4.3.-E.

(2) Article 3.7.4.16. applies to sanitary facilities in Sentence (1).

(3) Sanitary privies, chemical closets or other means for the disposal of human waste may be provided in lieu of toilet fixtures.

3.14.1.9. Provision for Firefighting

(1) Access shall be provided to all tents for the purpose of firefighting.

3.14.1.10. Electrical Systems

(1) The electrical system and equipment in a tent, including electrical fuses and switches, shall be inaccessible to the public.

(2) Cables on the ground in areas used by the public in a tent shall be placed in trenches or protected by covers to prevent damage from traffic.

3.14.2. Air-Supported Structures

3.14.2.1. Application

(1) Except as provided in this Subsection, the requirements of this Division apply to *air-supported structures*.

3.14.2.2. General

(1) *Air-supported structures* shall not be used for Groups B, C or Group F, Division 1 *major occupancies* or for classrooms.

(2) Except where no *fire separation* is required between *major occupancies*, *air-supported structures* shall contain not more than one *major occupancy*.

(3) Except as provided in Sentence (5), *air-supported structures* are exempt from complying with Articles 3.2.2.20. to 3.2.2.93., except for maximum *building* size.

(4) *Air-supported structures* may be designed with interior walls, *mezzanines*, or similar *construction*.

(5) Interior construction contained within *air-supported structures* must meet the construction requirements of Articles 3.2.2.20. to 3.2.2.93.

3.14.2.3. Spatial Separation

(1) Except as provided in Sentences (2) to (5), *air-supported structures* shall not be erected closer than 3 m to other structures on the same property or to the property line.

(2) *Air-supported structures* not occupied by the public need not be separated from one another, and are permitted to be erected closer than 3 m from other structures on the same property where such closer spacing does not create a hazard to the *building* occupants or the public.

(3) Except as provided in Sentence (4), an *air-supported structure* is permitted to be attached to another *building* provided the *building* to which it is attached

(a) conforms to the requirements of other Parts of this Division based on the total *building areas* of the *air-supported structure* and the attached *building*,

(b) is *sprinklered* throughout, and

(c) is separated from the *air-supported structure* by a *fire separation* having a *fire-resistance rating* of not less than 1 h.

(4) An *air-supported structure* is permitted to be attached to another *building* provided the *building* to which it is attached

(a) has a *building area* not more than 200 m^2,

(b) conforms to the requirements of other Parts of the Code based on the *building area* of the attached *building*, and

(c) is *sprinklered* or separated from the *air-supported structure* by a *fire separation* having a *fire-resistance rating* of not less than 1 h.

(5) Where an *air-supported structure* is to be constructed in proximity to existing above ground electrical conductors, the *air-supported structure* shall be constructed in accordance with Article 3.1.20.1.

3.14.2.4. Clearances to Flammable Material

(1) The ground enclosed by an *air-supported structure* and for not less than 3 m outside of such structure shall be clear of all flammable or *combustible* material or vegetation that will carry fire.

3.14.2.5. Flame Resistance

(1) *Air-supported structures* shall be constructed of material conforming to CAN/ULC-S109, "Standard Method for Flame Tests of Flame-Resistant Fabrics and Films", or NFPA 701, "Standard Methods of Fire Tests for Flame Propagation of Textiles and Films".

(2) Materials for fabrics used in connection with *air-supported structures* are exempt from compliance with the requirements for *flame-spread ratings* for interior finishes in Subsection 3.1.13.

3.14.2.6. Emergency Air Supply

(1) An *air-supported structure* designed for an *assembly occupancy* with an *occupant load* of more than 200 persons shall have either an automatic emergency engine-generator set capable of powering one blower continuously for 4 h, or a supplementary blower powered by an automatic internal combustion engine.

3.14.2.7. Electrical Systems

(1) The electrical system and equipment in an *air-supported structure*, including electrical fuses and switches, shall be inaccessible to the public.

(2) Cables on the ground in areas used by the public in an *air-supported structure* shall be placed in trenches or protected by covers to prevent damage from traffic.

Section 3.15. Signs

3.15.1. Scope

3.15.1.1. Application

(1) Except as provided otherwise in Article 3.15.1.2. this Section shall apply to the erection of all signs.

3.15.1.2. Exceptions

(1) The following signs shall not be subject to the provisions of this Section

(a) signs for regulating traffic or similar devices, legal notices or warnings at railroad crossings,

(b) signs in display windows including writing, representation, painting or lettering directly on the surface of any window or door, or other signs not affixed to the *building* interior,

(c) small signs displayed for the direction of the public including signs that identify rest rooms, freight entrances and such other similar directional signs,

(d) signs painted directly on a *building*, and

(e) incidental signs or other signs subject to municipal approval.

3.15.2. Alterations

3.15.2.1. Exceptions for Alterations

(1) The changing of movable parts of signs that are designed for changes, or the repainting of display matter shall not be deemed to be alterations.

3.15.3. Structural Requirements

3.15.3.1. Structural Design

(1) Except as provided in this Section, all sign structures shall be designed in accordance with Part 4.

3.15.4. Plastic Sign Facing Materials

3.15.4.1. Combustible Sign Faces

(1) Plastic materials used in the constriction of sign faces shall

(a) have an average burning rate not greater than

(i) 65 mm/min in sheets 1.5 mm thick when tested in accordance with ASTM D635, "Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position", or

(ii) 140 mm/min when tested in accordance with ASTM D3801, "Standard Test Method for Measuring the Comparative Burning Characteristics of Solid Plastics in a Vertical Position", and

(b) have a measurement of material thickness in accordance with Method B-Machinists' Micrometer Without Ratchet of ASTM D374/D374M, "Standard Test Methods for Thickness of Solid Electrical Insulation".

(2) Except as provided in Sentence (3), where the *exterior cladding* of a wall is required to be *noncombustible*, a plastic sign face or a group of contiguous plastic sign faces may be placed over such cladding provided each such sign face or group of contiguous sign faces

(a) does not exceed 30% of the wall area of the *storey* on which it is installed,

(b) does not exceed 15 m^2 in area or 1 200 mm in height at each *storey*, and

(c) when located above the *first storey*, is vertically separated from other plastic sign faces by 1 200 mm of *noncombustible construction* unless separated by a horizontal *noncombustible* projection such as *canopy*, extending the full width of, and projecting at least 900 mm beyond the exterior sign face.

(3) Where a plastic exterior sign is mounted as a face on a metal sign box that is at least 200 mm in depth, the requirements of Sentence (2) need not apply provided the sign box is mounted on a *noncombustible* exterior wall.

(4) Notwithstanding the requirements of Sentence (5), the plastic portion of an interior sign placed over or forming part of an interior wall surface in corridors, covered or enclosed *walkways* at or above *grade* in *buildings* shall

(a) not exceed 15% of the wall area in, or over which it may be installed,

(b) be supported by a device that will not detrimentally affect the *fire-resistance rating* of the interior wall to which it is attached or of which it may form a part, and encase the edges of the plastic sign face in metal,

(c) not be positioned or sized in such a manner that it is less than 600 mm from the vertical line separating two adjacent premises,

(d) be placed so that there is at least 600 mm vertical separation of *noncombustible* material between the top of the plastic sign surface and the ceiling surface,

(e) be permitted to have an increase of 100% in area required in Clause (a) and a decrease of 50% of the separation distances required in Clauses (c) and (d) if the area is *sprinklered*, and

(f) have a *flame-spreading rating* not more than 250.

(5) Signs in *exits* and underground *walkways* shall have a *flame-spread rating* not more than 25.

3.15.5. Location Restrictions

3.15.5.1. Obstructions not Permitted

(1) A sign shall not be located so as to obstruct openings required for light and ventilation, any required *means of egress* or required access for firefighting in accordance with Sentence 3.2.5.3.(2).

3.15.5.2. Clearance for Exterior Signs

(1) An exterior sign shall not be located so as to overhang a sidewalk or other pedestrian *walkway* unless the vertical distance, measured from the bottom of the overhanging portion of the sign to the surface of the sidewalk, is at least 2 400 mm.

(2) Except as provided in Sentence (3), a sign face shall not be located within 600 mm of the vehicular travelled portion of a private lane or roadway, or of a motor vehicle parking area, unless the minimum vertical distance between *grade* and the bottom of the overhanging sign face is at least 4.25 m.

(3) Where the height of all vehicles using any private road or parking area is permanently restricted, the vertical distance in Sentence (2) may be reduced to the amount of the actual height restriction, for as long as the said height restriction is in existence on the premises.

(4) Where a sign is to be constructed in proximity to existing above ground electrical conductors, the sign shall be constructed in accordance with Article 3.1.20.1.

Section 3.16. Shelf and Rack Storage Systems

3.16.1. Scope

3.16.1.1. Application

(1) The requirements of this Section apply to a *shelf and rack storage system*.

(2) The requirements of Subsection 3.2.8. do not apply to a *shelf and rack storage system* conforming to this Section.

(3) The requirements of Subsection 3.16.2. apply to a *shelf and rack storage system* for the storage of Class I, II, III and IV commodities as defined in NFPA 13, "Standard for the Installation of Sprinkler Systems".

(4) The requirements of Subsection 3.16.3. apply to a *shelf and rack system* for the storage of Group A, B and C plastics and rubber tires as defined in NFPA 13, "Standard for the Installation of Sprinkler Systems".

3.16.1.2. General

(1) A *shelf and rack storage system* shall not be designed for production, manufacturing, assembling, disassembling or ancillary administrative functions.

(2) A *shelf and rack storage system* may be designed for the storage, accessing, retrieval, packing and distribution of commodities.

(3) A *high hazard-industrial occupancy* shall not contain a *shelf and rack storage system*.

(4) Except as required by Sentence 3.16.3.2.(3), a *shelf and rack storage system* shall not exceed 24 m in height.

3.16.1.3. Construction

(1) All structural components of a *shelf and rack storage system*, including posts, beams, decks, walkways, connections and their support such as concrete slabs and *foundations*, shall be designed in accordance with Part 4.

(2) Except as required by Sentence 3.16.3.2.(2), platform and walkway levels shall be of

(a) solid construction consisting of steel plate or steel roof decking with a top substrate that forms a serviceable floor area, or

(b) open construction consisting of steel grating or open steel floor planking.

(3) *Guards* and toe-boards shall be provided in accordance with Articles 3.3.1.18. and 3.3.5.11.

(4) Every platform or walkway level shall be provided with fire extinguishers installed in conformance with the Fire Code made under the *Fire Protection and Prevention Act, 1997.*

3.16.1.4. Signs

(1) A permanent sign shall be posted in a conspicuous location to indicate the maximum permissible *design loads* for each *shelf and rack storage system*.

(2) Permanent signs shall be posted in conspicuous location with

(a) the words **NO SMOKING** in black lettering not less than 50 mm high with a stroke not less than 12 mm on a yellow background, or

(b) a non-smoking symbol having a size not less than 150 mm by 150 mm.

3.16.1.5. Lighting

(1) Walkways and platforms shall be equipped to provide illumination to an average level not less than 50 lx at floor or tread level and at angles and intersections at changes of level where there are stairs or *ramps.*

(2) Emergency lighting on walkways, platforms, unenclosed egress stairs and *exits* providing *means of egress* shall conform to not less than

(a) the illumination level in Sentences 3.2.7.3.(2) and (3), and

(b) the duration in Sentence 3.2.7.4.(1).

3.16.1.6. Sprinkler System

(1) An automatic sprinkler system conforming to this Article shall be installed in a *floor area* containing a *shelf and rack storage system*.

(2) The automatic sprinkler system shall be designed, constructed, installed and tested in conformance with NFPA 13, “Standard for the Installation of Sprinkler Systems” or the appropriate NFPA sprinkler standard for the most severe hazard to which the storage system is exposed.

(3) Sprinkler protection shall be provided under all platforms and walkways.

(4) Except where the platforms or walkways are of open construction, any openings for egress stairs shall be protected by *noncombustible* draft stops not less than 450 mm below the floors above.

(5) The automatic sprinkler system shall be electrically supervised to indicate a trouble signal on the *building* fire alarm, system annunciator where the *building* does not have a fire alarm system, to notify the person controlling the operation of the *building* for each of the situations listed in Sentence 3.2.4.9.(3).

(6) The automatic sprinkler system shall be designed to notify the fire department that a waterflow switch has been activated.

(7) The notification to the person controlling the *building* and the fire department referred to in Sentences (5) and (6) shall be provided in accordance with Sentence 3.2.4.7.(4).

(8) A permanent sign shall be posted, at or near the sprinkler control valve, containing

(a) the word **NOTICE** in contrasting letters,

(b) a description of the commodity class as defined in NFPA 13, "Standard for the Installation of Sprinkler Systems", and

(c) the sprinkler design criteria used for the *shelf and rack storage system*.

3.16.1.7. Exits and Means of Egress

(1) Except as permitted in Sentences (2) and (3), every walkway or platform level shall be provided with no fewer than two *exits* conforming to Section 3.4.

(2) An *access to exit* from an elevated platform level may be provided by means of open unenclosed stairs serving

(a) not more than four platform levels, the highest of which shall be not more than 12 m above the main floor, where the *shelf and rack storage system* is intended for the storage of Class I, II, III and IV commodities, as defined in NFPA 13, "Standard for the Installation of Sprinkler Systems", and

(b) not more than two platform levels, where the *shelf and rack storage system* is intended for the storage of Group A, B and C plastics and rubber tires, as defined in NFPA 13, "Standard for the Installation of Sprinkler Systems".

(3) Any single platform or walkway in a *shelf and rack storage system* may be served by a single unenclosed stair leading to the platform or walkways level immediately below provided

(a) the platform or walkway does not exceed 200 m^2 in area,

(b) the travel distance on the platform or walkway to the level below, including the travel distance along the single unenclosed egress stair, does not exceed 25 m, and

(c) the platform of walkway below is provided with two separate egress stairs or *exits*.

(4) The maximum travel distance on an elevated platform to the ground floor level, including the travel distance along unenclosed stairs, shall not exceed 45 m.

(5) The maximum travel distance on an elevated platform to an *exit* serving that platform shall not exceed 45 m.

(6) Except as permitted in Sentence (7), the maximum travel distance from the bottom of an unenclosed stair to an *exit* along a main aisle on the ground floor level shall not exceed 45 m.

(7) Where the travel distance in Sentence (6) exceeds 45 m

(a) an egress system serving the *shelf and rack storage system* shall be designed on the basis of a time-based egress analysis using the following criteria:

(i) occupant egress speed of 1 m/sec shall be used for horizontal egress routes within the *shelf and rack storage system*,

(ii) occupant egress speed of 0.6 m/sec shall be used for vertical egress routes within the *shelf and rack storage system*, measured on the diagonal along the nosing of the stairs,

(iii) occupant egress speed of 1.3 m/sec shall be used for horizontal egress routes along a main aisle on the ground floor level,

(iv) each lift-gate shall be accorded an egress time of 10 seconds,

(v) each at-level conveyor cross-over shall be accorded a time of 5 seconds, and

(vi) a safety factor of 1.5 shall be used in calculating the total egress time,

(b) the total egress time shall be calculated using the following formula:

$$\text{Total Egress Time} = (H_p + V_p/0.6 + H_m/1.3 + 10N_{lg} + 5N_{lc}) \cdot 1.5 \text{ (in seconds)}$$

where:

H_p = horizontal travel distance on the *shelf and rack storage system*, in metres,

V_p = vertical travel distance on the *shelf and rack storage system*, in metres,

H_m = horizontal travel distance on the main floor, in metres,

N_{lg} = number of lift gates in the *means of egress*,

N_{lc} = number of at-level cross overs in the *means of egress*,

(c) the total egress time from any point in the *shelf and rack storage system* shall be a maximum of 4 minutes,

(d) a fire alarm and detection system conforming to Subsection 3.2.4. shall be installed in the *building*,

(e) *smoke detectors* shall be provided under all solid decking and walkways,

(f) clearly identified and easily accessible pull stations shall be provided at egress stairs, conveyor cross-overs or lift-gates located along egress paths, and

(g) the *occupant load* on each level of the *shelf and rack storage system* shall not exceed 10 persons per egress stair.

(8) A dead-end aisle shall not exceed 9 m where the platform or walkway is provided with two or more egress facilities.

(9) An aisle serving *shelf and rack storage system* shall have a clear-aisle width of not less than 760 mm.

(10) Conveyors, trolleys, tracks or any other similar mode of product transportation within the aisle or walkway shall not reduce the clear-aisle width required in Sentence (9).

(11) Where *exits* are provided to comply with Sentence 3.4.2.5.(2), main aisles serving the *shelf and rack storage system* on the ground floor, leading from egress stairs directly to an *exit*, shall be clearly demarcated and have a minimum unobstructed, clear-aisle width of 2.4 m.

(12) Where a lift-gate is incorporated along an egress route

(a) a maximum of two lift-gates may be within a single egress route,

(b) each lift-gate shall be equipped with a positive lock when open, and

(c) it shall be designed to automatically stop the conveyor belt that it serves when the lift-gate is open.

(13) Where an at-level conveyor cross-over is incorporated along an egress route

(a) not more than two at-level conveyor cross-overs shall be within a single egress route,

(b) handrails spaced not more than 1 m apart and parallel to the direction of egress shall be provided on both sides of the at-level cross-over,

(c) flat, metal inserts shall be placed between each roller over the required egress width at each at-level conveyor cross-over to provide a walking surface,

(d) at least two inserts, not less than 100 mm wide shall be arranged symmetrically between the handrails serving the at-level cross-over,

(e) inserts shall be sized to support loads specified in Part 4,

(f) a clearly identified and easily accessible switch that will stop the conveyor shall be located at each at-level cross-over, and

(g) stairs approaching at-level conveyor cross-overs shall be marked to indicate that they are readily identifiable as part of the egress route.

3.16.2. Storage of Class I, II, III and IV Commodities

3.16.2.1. Application

(1) The requirements in this Subsection apply to a *shelf and rack storage system* intended for the storage of Class I, II, III and IV commodities as defined in NFPA 13, "Standard for the Installation of Sprinkler Systems".

3.16.2.2. Construction

(1) Where the height of a *shelf and rack storage system*, measured from the floor supporting the system to the topmost portion of the shelf, exceeds 18 m

(a) a fire alarm and detection system conforming to Subsection 3.2.4. shall be installed with

(i) manual stations located at all *exits* doors including *exits* doors serving elevated decks and walkways, and

(ii) *smoke detectors* located, at the ceiling of all rooms and areas containing the *shelf and rack storage system*, within *exit* stairs enclosures at the top, and at every third level of elevated deck or walkway, and

(b) the fire alarm and detection system required by Clause (a), shall be designed to notify the fire department upon activation, and

(c) the *shelf and rack storage system* shall be designed only for the storage of Class I, II and III commodities as defined in NFPA 13, "Standard for the Installation of Sprinkler Systems".

3.16.3. Storage of Group A, B and C Plastics and Rubber Tires

3.16.3.1. Application

(1) The requirements in this Subsection apply to a *shelf and rack storage system* intended for the storage of Group A, B and C plastics and rubber tires as defined in NFPA 13, "Standard for the Installation of Sprinkler Systems".

3.16.3.2. Construction

(1) A *shelf and rack storage system* intended for the storage of rubber tires shall conform to

(a) Article 3.3.6.5., and

(b) the Fire Code made under the *Fire Protection and Prevention Act, 1997*.

(2) Platform and walkway levels shall not be of open construction.

(3) A *shelf and rack storage system* shall not exceed 7 m in height.

Section 3.17. Demountable Stages and Demountable Support Structures

3.17.1. Scope

3.17.1.1. Application

(1) This Section applies to the design, erection, assembly and installation of a *demountable stage* where

(a) the aggregate area of all platforms of the *demountable stage* is more than 60 m^2 and any part of its platforms is more than 3 m in height above adjacent ground level,

(b) the aggregate area of all platforms of the *demountable stage* is more than 225 m^2, or

(c) any part of the platforms or any roof, wall or structure attached to or located on any of the platforms of the *demountable stage* is 5 m or more in height above adjacent ground level.

(2) This Section applies to the design, erection, assembly and installation of a *demountable support structure* where the *demountable support structure*

(a) is more than 3 m in height above adjacent ground level,

(b) is designed to carry a superimposed specified load greater than 115 kg, or

(c) would create a hazard to the public.

(3) Except as provided in this Section, *demountable stages* and *demountable support structures* are exempt from complying with the requirements of this Division.

3.17.2. Construction

3.7.2.1. Occupant Load

(1) A *demountable stage* shall be considered a *floor area* for the purpose of determining the *occupant load* in accordance with Clause 3.1.17.1.(1)(c).

3.17.2.2. Means of Egress

(1) A platform of a *demountable stage* shall be considered a *floor area* for purposes of this Article.

(2) Except as provided in Sentence (3), access to at least two *means of egress* shall be provided from every platform of a *demountable stage*.

(3) A platform of a *demountable stage* may be served by one *means of egress* where

(a) the total *occupant load* of the *demountable stage* is less than 60 persons, and

(b) the aggregate area of the *demountable stage* is less than 150 m^2 or the travel distance from any point on the platform to the *exit* is less than 30 m.

(4) Except as provided in Sentence (5), where at least two *means of egress* are required from a platform of a *demountable stage*, the maximum travel distance to an *exit* shall be not more than 45 m.

(5) Sentence (4) need not apply where *exits* are located at not more than 60 m apart, measured along the perimeter of the platform.

(6) The least distance between two required *exits* on a platform of a *demountable stage* shall be one-half the maximum diagonal dimension of the platform.

(7) Except as provided in Sentence (8) and unless it can be shown that they do not present a hazard, stairs, *ramps* and handrails in an *exit* from a platform of a *demountable stage* shall conform to the dimensional and slip-resistance requirements in Section 3.4.

(8) The maximum slope of a fixed *ramp* serving a platform of a *demountable stage* shall be 1 in 6.

3.17.2.3. Guards

(1) Except as provided in Sentences (2) and (3) and unless it can be shown that the platform does not present a hazard, a *guard* not less than 1 070 mm high shall be provided for a platform of a *demountable stage* where the difference in elevation between the platform and the adjacent surface is more than 1 500 mm.

(2) Sentence (1) need not apply at the edges of a platform of a *demountable stage* that face an audience.

(3) The height of *guards* for stairs shall be

(a) not less than 920 mm measured vertically to the top of the *guard* from a line drawn through the outside edges of the stair nosings, and

(b) not less than 1 070 mm around landings.

(4) *Guards* shall be designed to withstand loads specified in Part 4.

(5) Required *guards* shall be provided with a top rail and one or more intermediate rails spaced such that openings through the *guard* are of a size that prevents the passage of a spherical object having a diameter of 535 mm.

3.17.2.4. Clearance to Other Structures

(1) Except as provided in Sentence (2), a *demountable stage* shall not be erected, assembled or installed closer than 3 m to

(a) another *demountable stage*, or

(b) another structure, other than a *demountable support structure*.

(2) Sentence (1) need not apply to *demountable stages* that are located on fair grounds or similar open spaces provided it can be shown that such closer spacing does not create a hazard to the public.

3.17.2.5. Flame Resistance

(1) Tarpaulins, decorative materials, fabrics and films attached to *demountable stages* or *demountable support structures* shall conform to CAN/ULC-S109, "Standard Method for Flame Tests of Flame-Resistant Fabrics and Films" or NFPA 701, "Standard Method for Fire Tests for Flame Propagation of Textiles and Films".

3.17.2.6. Provision for Firefighting

(1) Access shall be provided to *demountable stages* for the purpose of firefighting.

3.17.2.7. Electrical Systems

(1) The electrical system and equipment associated with a *demountable stage* or a *demountable support structure*, including electrical fuses and switches, shall be inaccessible to the public.

(2) Cables on the ground in areas used by the public and adjacent to a *demountable stage* or *demountable support structure* shall be placed in trenches or protected by covers to prevent damage from traffic.

(3) Where a *demountable stage* or *demountable support structure* is to be erected, assembled or installed in proximity to existing above ground electrical conductors, the *demountable stage* or *demountable support structure* shall be erected, assembled or installed in accordance with Article 3.1.20.1.

3.17.2.8. Structural Provisions

(1) Except as provided in Sentences (2) and (4), *demountable stages* and *demountable support structures* and their structural members shall be designed, erected, assembled and installed,

(a) in conformance with Part 4, or

(b) to conform to good engineering practice appropriate to the circumstances such as that described in ANSI E1.21, "Entertainment Technology - Temporary Structures Used for Technical Production of Outdoor Entertainment Events".

(2) The reference velocity pressure shall be the appropriate value determined in conformance with Subsection 1.1.2. based on a probability of being exceeded in any one year of 1-in-10 with a 2.5 gust factor.

(3) For purposes of Clause (1)(a), *demountable stages* and *demountable support structures* shall be assigned a Normal Importance Category as described in Table 4.1.2.1.

(4) Footings shall be designed in accordance with Clause 9.4.4.1.(1)(b).

3.17.2.9. Barrier-Free Design

(1) If a *demountable stage* is intended for limited public occupancy, a *barrier-free* path of travel conforming to Articles 3.8.1.3. and 3.8.3.4. shall be provided to and throughout at least one platform of the *demountable stage*.

Section 3.18. Additional Requirements for Existing Buildings

3.18.1. Scope

3.18.1.1. Application

(1) This Section applies where proposed *construction*

(a) in respect of an existing *building* will result in any of the following changes of use of all or part of the *building*:

(i) a change of the *major occupancy* of all or part of a *building* that is designated with a "Y" in Table 1.3.1.4. of Division C,

(ii) a *suite* of a Group C *major occupancy* is converted into more than one *suite* of a Group C *major occupancy*,

(iii) a *suite* or part of a *suite* of a Group A, Division 2 or a Group A, Division 4 *major occupancy* is converted to a *gaming premises*,

(iv) a *farm building* or part of a *farm building* is changed to a *major occupancy*,

(v) a *building* or part of a *building* is changed to a *post-disaster building*,

(vi) a *building* or part of a *building* is changed to a *retirement home*, or

(vii) the use of a *building* or part of a *building* is changed and the previous *major occupancy* of the *building* or part of the *building* cannot be determined, or

(b) in respect of an existing *building* of *combustible construction* will extend the *building* by adding a *storey* or *storeys* such that the extended *building* will be more than four *storeys* in *building height*.

(2) For the purposes of this Section and Sentences 11.4.2.1.(1) and 11.4.2.5.(4), the changes of use set out in Subclauses (1)(a)(ii) to (iv) and (vi) shall also be deemed to constitute a change in *major occupancy*.

(3) The requirements of this Section are in addition to the requirements of other Parts of this Division as they apply to the proposed *construction*.

3.18.2. Additional Construction

3.18.2.1. Change of Use and Compensating Construction

(1) Where proposed *construction* will result in a change of use described in Subclauses 3.18.1.1.(1)(a)(i) to (iv) and (vi), additional *construction* shall be required in order that the *building* or part of a *building* subject to the change of use conforms to the requirements of Subsection 3.2.6. and Sections 3.7., 3.11. and 3.12. as they apply to the new *major occupancy* that the *building* or part of a *building* is to support.

(2) For the purposes of this Article, existing *buildings* shall be classified as to their *construction* and *occupancy* as provided for in Sentence 11.2.1.1.(1).

3.18.2.2. Performance Level and Compensating Construction

(1) The *performance level* of a *building* after *construction* shall not be less than the *performance level* of the *building* prior to *construction*.

(2) For the purposes of Sentence (1), reduction of *performance level* shall be determined in accordance with Articles 11.4.2.1., 11.4.2.3., 11.4.2.5. and 11.4.2.6.

(3) Where proposed *construction* would reduce the *performance level* of an existing *building*, compensating *construction* shall be required in conformance with Articles 11.4.3.1., 11.4.3.2., 11.4.3.4., 11.4.3.6. and 11.4.3.7.

(4) Section 11.5. applies in respect of the requirements of Sentences 11.4.3.4.(1), (3) and (4).

Part 4

227. Sentence 4.1.1.3.(4) of Division B is revoked and the following substituted:

(4) Reserved.

228. Article 4.1.1.4. of Division B is revoked and the following substituted:

4.1.1.4. Reserved

229. Sentence 4.1.3.1.(1) of Division is revoked and the following substituted:

(1) In this Subsection, the term

(a) "limit states" means those conditions of a *building* structure that result in the *building* ceasing to fulfill the function for which it was designed. (Those limit states concerning safety are called ultimate limit states (ULS) and include exceeding the load-carrying capacity, overturning, sliding and fracture; those limit states that restrict the intended use and *occupancy* of the *building* are called serviceability limit states (SLS) and include deflection, vibration, permanent deformation and local structural damage such as cracking; and those limit states that represent failure under repeated loading are called fatigue limit states),

(b) "specified loads" (**C**, **D**, **E**, **H**, **L**, **P**, **S**, **T** and **W**) means those loads defined in Article 4.1.2.1.,

(c) "principal load" means the specified variable load or rare load that dominates in a given load combination,

(d) "companion load" means a specified variable load that accompanies the principal load in a given load combination,

(e) "service load" means a specified load used for the evaluation of a serviceability limit state,

(f) "principal-load factor" means a factor applied to the principal load in a load combination to account for the variability of the load and load pattern and the analysis of its effects,

(g) "companion-load factor" means a factor that, when applied to a companion load in the load combination, gives the probable magnitude of a companion load acting simultaneously with the factored principal load,

(h) "importance factor, I," means a factor applied in Subsections 4.1.6., 4.1.7. and 4.1.8. to obtain the specified load and take into account the

consequences of failure as related to the limit state and the use and *occupancy* of the *building*,

(i) "factored load" means the product of a specified load and its principal-load factor or companion-load factor,

(j) "effects" refers to forces, moments, deformations or vibrations that occur in the structure,

(k) "nominal resistance, R," of a member, connection or structure, is based on the geometry and on the specified properties of the structural materials,

(l) "resistance factor, φ," means a factor applied to a specified material property or to the resistance of a member, connection or structure, and that, for the limit state under consideration, takes into account the variability of dimensions and material properties, workmanship, type of failure and uncertainty in the prediction of resistance, and

(m) "factored resistance, ΦR," means the product of nominal resistance and the applicable resistance factor.

230. Sentence 4.1.4.1.(4) of Division B is revoked and the following substituted:

(4) *Partition* loads used in design shall be shown on the drawings.

231. Table 4.1.5.3. of Division B is revoked and the following substituted:

Table 4.1.5.3.
Specified Uniformly Distributed Live Loads on an Area of Floor or Roof

Forming Part of Sentence 4.1.5.3.(1)

Use of Area of Floor or Roof	Minimum Specified Load, kPa
Assembly Areas	4.8
a) Except for the areas listed under b), c), d) and e), assembly areas with or without fixed seats including	
Arenas[1] (areas without fixed seats that have backs)	
Auditoria	
Churches (areas without fixed seats that have backs)	
Dance floors	
Dining areas[2]	
Foyers and entrance halls	

Grandstands[1] (areas without fixed seats that have backs), reviewing stands and bleachers	
Gymnasia	
Lecture halls[1] (areas without fixed seats that have backs)	
Museums	
Promenade	
Rinks	
Stadia[1] (areas without fixed seats that have backs)	
Stages	
Theatres (areas without fixed seats that have backs)	
Other areas with similar uses	
b) Classrooms and courtrooms with or without fixed seats[1]	2.4
c) Portions of assembly areas with fixed seats that have backs for the following uses:	2.9
Arenas[1]	
Grandstands[1]	
Stadia[1]	
d) Portions of assembly areas with fixed seats that have backs for the following uses:	2.4
Churches	
Lecture halls[1]	
Theatres	
e) Vomitories, *exits*, lobbies and corridors[1]	4.8
Attics[1]	
Accessible by a stairway in *residential occupancies* only	1.4
Having limited accessibility so that there is no storage of equipment or material	0.5
Balconies	
Exterior	4.8
Interior and *mezzanines* that could be used by an assembly of people as a viewing area[1]	4.8
Interior and *mezzanines* other than above	[3]
Corridors, lobbies and aisles[1]	
Other than those listed below	4.8
Not more than 1 200 mm in width, and all upper floor corridors of residential areas only of apartments, *hotels* and motels (that cannot be used by an assembly of people as a viewing area)	[3]

In a Group B, Division 3 *occupancy* that contains sleeping accommodation for not more than 10 persons and not more than 6 occupants require assistance in evacuation in case of an emergency	2.4
Equipment areas and *service rooms* including	
Generator rooms	3.6[4]
Mechanical equipment exclusive of elevators	
Machine rooms	
Pump rooms	
Transformer vaults	
Ventilating or *air-conditioning* equipment	
Exits and fire escapes	4.8
Factories	6.0[4]
Footbridges	4.8
Garages for	
Vehicles not exceeding 4 000 kg gross weight	2.4
Vehicles exceeding 4 000 kg but not exceeding 9 000 kg gross weight	6.0
Vehicles exceeding 9 000 kg gross weight[1]	12.0
Kitchens (other than residential)	4.8
Libraries	
Stack rooms	7.2
Reading and study rooms	2.9
Office areas[1] (not including record storage and computer rooms) located in	
Basements, and floors, including *mezzanines*, with direct access to the exterior at ground level	4.8
Other floors	2.4
Operating rooms and laboratories	3.6
Patients' bedrooms	1.9
Recreation areas that cannot be used for assembly purposes including	3.6
Billiard rooms	
Bowling alleys	
Pool rooms	
Residential areas (within the scope of Article 1.3.3.2. of Division A)	1.9
Sleeping and living quarters in apartments, *hotels*, motels, boarding schools and colleges	
Work areas within *live/work* units	2.4
Residential areas (within the scope of Article 1.3.3.3. of Division A)	1.9

Bedrooms	
Other areas	
Stairs within *dwelling units*	
Retail and wholesale areas	4.8
Roofs[1]	1.0[5]
Sidewalks and driveways over areaways and *basements*[1]	12.0[5]
Storage areas, including locker rooms in apartment *buildings*	4.8[4]
Toilet areas	2.4
Underground slabs with earth cover	[5]
Warehouses	4.8[4]

Notes to Table 4.1.5.3.:

[1] See Note A-Table 4.1.5.3.

[2] See Article 4.1.5.6.

[3] See Article 4.1.5.4.

[4] See Sentence 4.1.5.1.(1).

[5] See Article 4.1.5.5.

232. Sentence 4.1.5.13.(1) of Division B is revoked and the following substituted:

(1) Helicopter landing areas on roofs shall be constructed in conformance with the requirements for heliports contained in Part III of the *Canadian Aviation Regulations* made under the *Aeronautics Act* (Canada).

233. Sentence 4.1.7.8.(4) of Division B is revoked and the following substituted:

(4) For the design of the main structural system, C_g shall be calculated as follows:

$$C_g = 1 + g_p \frac{\sigma}{\mu}$$

where

g_p = peak factor calculated as $\sqrt{2\ln(\nu T)} + \frac{0.577}{\sqrt{2\ln(\nu T)}}$, and

$\sigma/\mu = \sqrt{\frac{K}{C_{eH}}\left(B + \frac{sF}{\beta}\right)}$, where

ν = average fluctuation rate calculated as $f_{nD}\sqrt{\frac{sF}{sF+\beta B}}$,

T = 3 600 s,

K = 0.08 for open terrain and 0.10 for rough terrain, C_{eH} = exposure factor evaluated at reference height h = H,

B = background turbulence factor, a function of w/H determined from Figure 4.1.7.8.,

s = size reduction factor calculated as $\frac{\pi}{3}\left[\frac{1}{1+\frac{8f_{nD}H}{3V_H}}\right]\left[\frac{1}{1+\frac{10f_{nD}W}{V_H}}\right]$,

F = gust energy ratio calculated as $\frac{x_2^0}{(1+x_2^0)^{4/3}}$, where $x_0 = (1\ 220 f_{nD}/V_H)$, and

β = damping ratio, which shall be determined by a rational method, or may be taken to be 0.01 for steel structures, 0.02 for concrete structures, and 0.015 for composite structures,

where

f_{nD} = natural frequency of vibration of the *building* in the along-wind direction, in Hz,

f_n = lowest natural frequency of the *building,* in Hz, as described in Sentences 4.1.7.2.(2) and (3),

H = height of the *building*,

w = effective width of windward face of the *building* calculated as $\frac{\sum h_i w_i}{\sum h_i}$, where

w_i = width normal to wind direction at height h_i, and

V_H = mean wind speed at the top of the structure, in m/s, calculated as $\overline{V}\sqrt{C_{eH}}$,

where

$\overline{V}$ = reference wind speed at a height of 10 m, in m/s, calculated as $\sqrt{\frac{2I_W q}{\rho}}$,

where

I_W = importance factor for wind load, as provided in Table 4.1.7.3.,

q = reference velocity pressure, in Pa, and

ρ = air density = 1.2929 kg/m^3. (See Note A-4.1.7.8.(4).)

234. The heading to Article 4.1.8.9. of Division B is revoked and the following substituted:

4.1.8.9. Force Reduction Factors, System Overstrength Factors, and General Restrictions

235. Sentence 4.1.8.22.(7) of Division B is revoked and the following substituted:

(7) Supplemental energy dissipation devices and other components of the supplemental energy dissipation system shall be designed in accordance with Sentence (1) with consideration of the following:

(a) low-cycle, large-displacement degradation due to seismic loads,

(b) high-cycle, small-displacement degradation due to wind, thermal, or other cyclic loads,

(c) forces or displacements due to gravity loads,

(d) adhesion of device parts due to corrosion or abrasion, biodegradation, moisture, or chemical exposure,

(e) exposure to environmental conditions, including, but not limited to, temperature, humidity, moisture, radiation (e.g., ultraviolet light), and reactive or corrosive substances (e.g., salt water),

(f) devices subject to failure due to low-cycle fatigue must resist wind forces without slip, movement, or inelastic cycling,

(g) the range of thermal conditions, device wear, manufacturing tolerances, and other effects that cause device properties to vary during the design life of the device, and

(h) connection points of devices must provide sufficient articulation to accommodate simultaneous longitudinal, lateral, and vertical displacements of the supplemental energy dissipation system.

236. Article 4.2.2.2. of Division B is revoked and the following substituted:

4.2.2.2. Reserved

237. Sentence 4.2.2.3.(2) of Division B is revoked and the following substituted:

(2) The review required by Sentence (1) shall be carried out

(a) on a continuous basis

(i) during the *construction* of all *deep foundation units* with all pertinent information recorded for each *foundation unit*,

(ii) during the installation and removal of retaining structures and related backfilling operations, and

(iii) during the placement of engineered *fills* that are to be used to support the *foundation units*, and

(b) as required, unless otherwise directed by the *chief building official*

(i) in the *construction* of all *shallow foundation units*, and

(ii) in excavating, dewatering and other related works.

238. Sentence 4.2.5.2.(1) of Division B is revoked and the following substituted:

(1) Every *excavation* shall be undertaken in such a manner as to prevent movement that would cause damage to adjacent *buildings* at all phases of *construction*.

239. Sentence 4.2.6.3.(1) of Division B is revoked and the following substituted:

(1) Where a *shallow foundation unit* has not been placed or located as indicated on the drawings

(a) the error shall be corrected, or

(b) the design of the *foundation unit* shall be recalculated for the altered conditions by the *designer*.

240. Sentence 4.2.6.4.(1) of Division B is revoked and the following substituted:

(1) If a *shallow foundation unit* is damaged

(a) it shall be repaired, or

(b) the design of the *foundation unit* shall be recalculated for the damaged conditions by the *designer*.

241. Sentence 4.2.7.4.(1) of Division B is revoked and the following substituted:

(1) Where a *deep foundation unit* has not been placed within the permissible deviations referred to in Article 4.2.7.3., the condition of the *foundation* shall be assessed by the *designer*.

242. Sentence 4.2.7.6.(1) of Division B is revoked and the following substituted:

(1) Where inspection shows that a *deep foundation unit* is damaged or not consistent with design or good engineering practice

(a) such a unit shall be reassessed by the *designer*, and

(b) any necessary changes shall be made and action taken as required.

243. Sentence 4.4.1.1.(1) of Division B is revoked and the following substituted:

(1) The structural design of *air-supported structures* or cable- and frame-supported membrane structures shall conform to CSA S367, "Air-, cable-, and frame-supported membrane structures" using the loads stipulated in Section 4.1., in accordance with limit states design in Subsection 4.1.3.

244. Section 4.4. of Division B is amended by adding the following Subsections:

4.4.4. Guards over Retaining Walls

4.4.4.1. Guards over Retaining Walls

(1) Every retaining wall that is designated in Sentence 1.3.1.2.(2) of Division A shall be protected by *guards* on all open sides where the public has access to open space at the top of the retaining wall.

4.4.5. Anchor Systems on Building Exterior

4.4.5.1. Anchor Systems on Building Exterior

(1) Where suspended maintenance and window cleaning operations are intended to be carried out on the exterior of a *building* described in Article 1.3.3.2. of Division A, anchor systems shall be provided where any portion of the roof is more than 8 m above adjacent ground level.

(2) Except as provided in Sentence (3), the anchor systems in Sentence (1) shall be designed, installed and tested in conformance with CSA-Z271, "Design of suspended access equipment".

(3) Other anchor systems may be used where such systems provide an equal level of safety.

(4) The anchor system material shall be made of stainless steel, or other corrosion resistant base material, or from steel that is hot dipped galvanized, in accordance with CAN/CSA-G164-M, “Hot dip galvanizing of irregularly shaped articles”.

245. Section 4.5. of Division B is revoked.

Part 5

246. Sentence 5.1.4.1.(1) of Division B is revoked and the following substituted:

(1) *Building* materials, components and assemblies that separate dissimilar environments or are exposed to the exterior shall be designed and constructed to provide sufficient capacity and integrity to resist or accommodate

(a) all environmental loads, and effects of those loads, that may reasonably be expected having regard to

(i) the intended use of the *building*, and

(ii) the environment to which the materials, components and assemblies are subject, and

(b) all structural loads, and effects of those loads, that may be reasonably expected.

247. Article 5.1.4.2. of Division B is revoked and the following substituted:

5.1.4.2. Resistance to Deterioration (See Note A-5.1.4.2.)

(1) Except as provided in Sentence (2), materials used in *building* components and assemblies that separate dissimilar environments, or in assemblies exposed to the exterior, shall be

(a) compatible with adjoining materials, and

(b) resistant to any mechanisms of deterioration that may reasonably be expected, given

(i) the nature and function of the materials, and

(ii) the exposure of the materials, and

(iii) the climatic conditions in which the materials will be installed.

(2) Material compatibility and deterioration resistance are not required where it can be shown that incompatibility or uncontrolled deterioration will not adversely affect any of

(a) the health or safety of *building* users,

(b) the intended use of the *building*, or

(c) the operation of *building* services.

(3) Design and construction of assemblies separating dissimilar environments and assemblies exposed to the exterior shall be in accordance with good practice, such as described in CSA S478, “Durability in buildings”, except that the prescribed minimum

design service life of a *building* and the prescribed minimum design service life of *building* elements need not comply with Table 1 and Table 2 of that Standard.

(4) The design service life of a *building* and the design service life of a *building* element shall be considered by the designer in consultation with the *building* owner.

248. Sentence 5.1.5.1.(1) of Division B is revoked and the following substituted:

(1) Structural and fire safety requirements in other Parts of the Code shall apply.

249. Sentence 5.2.1.2.(1) of Division B is revoked and the following substituted:

(1) Interior environmental loads shall be determined in accordance with good engineering practice as described in Sentence 6.2.1.1.(1) based on the intended use of the space. (See Note A-5.2.1.2.(1))

250. Sentence 5.2.1.3.(1) of Division B is revoked and the following substituted:

(1) Calculations related to the transfer of heat, air and moisture and the transmission of sound shall conform to good engineering practice such as that described in the ASHRAE Handbooks.

251. Sentences 5.2.1.1.(1) and (2) of Division B are revoked and the following substituted:

(1) Above ground climatic loads shall be determined according to MMAH Supplementary Standard SB-1, “Climatic and Seismic Data”.

(2) Except as provided in Sentence (3), below ground exterior environmental loads not described in MMAH Supplementary Standard SB-1, “Climatic and Seismic Data”, shall be determined from existing geological and hydrological data or from site tests.

252. Sentence 5.2.2.1.(3) of Division B is revoked and the following substituted:

(3) Where materials, components or assemblies that separate dissimilar environments or are exposed to the exterior, or their connections, can be expected to be subject to loads or other effects not otherwise described in this Subsection or in Part 4, such loads or other

effects shall be taken into account in the design based on the most current and applicable information available.

253. Sentence 5.3.1.1.(2) of Division B is revoked and the following substituted:

(2) The installation of materials to resist heat transfer in accordance with this Subsection is not required where it can be shown that uncontrolled heat transfer will not adversely affect any of

(a) the health or safety of *building* users,

(b) the intended use of the *building*, or

(c) the operation of *building* services.

254. Sentences 5.5.1.2.(2) and (3) of Division B are revoked and the following substituted:

(2) Coatings applied to gypsum wallboard to provide required resistance to vapour diffusion shall conform to the requirements of Sentence (1) when tested in accordance with CAN/CGSB-1.501-M, "Method for Permeance of Coated Wallboard."

(3) Coatings applied to materials other than gypsum wallboard to provide required resistance to vapour diffusion shall conform to the requirements of Sentence (1) when tested in accordance with ASTM E96/E96M, "Standard Test Methods for Water Vapor Transmission of Materials," by the desiccant method (dry cup).

255. Sentence 5.6.1.2.(2) of Division B is revoked and the following substituted:

(2) Where protective materials described in Sentence (1) are part of a vegetative roofing system, they shall be resistant to root and rhizome penetration when tested in accordance with ANSI/GRHC/SPRI VR-1, "Procedure for Investigating Resistance to Root or Rhizome Penetration on Vegetative Roofs." (See Note A-5.6.1.2.(2))

256. Sentence 5.6.2.2.(2) of Division B is revoked and the following substituted:

(2) Where precipitation can accumulate on sloped or horizontal assemblies, provision shall be made for drainage conforming with Section 7.4.

257. Subsection 5.6.2. of Division B is amended by adding the following Article:

5.6.2.3. Solar Collector Systems

(1) A solar collector system is permitted to be installed above roofing materials conforming to Table 5.9.1.1.

258. Sentence 5.7.1.1.(1) of Division B is revoked and the following substituted:

(1) This Subsection applies to the location of *buildings*, the grading of *building* sites, the directing of surface water away from *building* assemblies, and the provision of means for drainage.

259. Article 5.7.1.2. of Division B is revoked and the following substituted:

5.7.1.2. Required Protection

(1) The *building* shall be located, the *building* site shall be graded, or surface water shall be directed away from *building* assemblies so as to

(a) minimize the accumulation of surface water against the *building* in a manner that does not adversely affect adjacent *buildings* or properties, or

(b) accommodate the accumulation of surface water on the property in a manner that does not adversely affect against the *building* or adjacent *buildings* or properties.

(2) Drainage shall be provided to direct surface water away from *building* assemblies separating interior space from the ground, except

(a) where the *building* assembly is designed in accordance with Subsection 5.7.2. to withstand continuous hydrostatic pressure, or

(b) where it can be shown that the lack of drainage will not adversely affect any of

(i) the health or safety of *building* users,

(ii) the intended use of the *building*, or

(iii) the operation of *building* services. (See Note A-5.7.1.2.(2))

260. Article 5.7.3.2. of Division B is revoked and the following substituted:

5.7.3.2. Required Protection

(1) Except as provided in Sentence (2) and Article 5.7.3.4., *building* assemblies described in Article 5.7.3.1. shall be protected by waterproofing in accordance with Article 5.7.3.3. so as to minimize the ingress of water into the *building* or the accumulation of water against the *building*.

(2) Waterproofing is not required where it can be shown that

(a) a *building* is designed to accommodate the ingress or accumulation of ground water, or

(b) the ingress or accumulation of ground water will not negatively affect

(i) the health or safety of *building* users,

(ii) the intended use of the *building*, or

(iii) the operation of *building* services.

261. Articles 5.8.1.3. to 5.8.1.5. of Division B are revoked and the following substituted:

5.8.1.3. Compliance with Required Ratings

(1) Compliance with the required *STC* ratings shall be demonstrated through

(a) measurements carried out in accordance with Sentence 5.8.1.2.(1), or

(b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance Tables," as applicable.

(2) Compliance with the required *ASTC* ratings shall be demonstrated through

(a) measurements or calculations carried out in accordance with Sentence 5.8.1.2.(2), or

(b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3 "Fire and Sound Resistance Tables as applicable, that have an *STC* rating of not less than 50 in conjunction with flanking assemblies constructed in accordance with Article 9.11.1.4.

5.8.1.4. Detailed Method for Calculating ASTC (See Note A-5.8.1.4.)

(0.1) This Article sets out the detailed method for calculating the *ASTC* ratings of separating assemblies and adjoining construction referred to in Subclause 5.8.1.2(2)(b)(i).

(1) The sound transmission loss measured in accordance with ASTM E90, "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements," shall be used in lieu of the sound reduction index

required in ISO 15712-1, “Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms.”

(2) The vibration reduction index for the junctions between separating assemblies shall be

(a) determined using the equations presented in Annex E of ISO 15712-1, “Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms,” or

(b) measured in accordance with Parts 1 to 4 of ISO 10848-1, “Acoustics – Laboratory measurement of the flanking transmission of airborne and impact sound between adjoining rooms.”

(3) The normalized flanking level difference shall be measured in accordance with Parts 1 to 4 of ISO 10848, “Acoustics – Laboratory measurement of the flanking transmission of airborne and impact sound between adjoining rooms.”

(4) The direct sound reduction index for the separating assembly in situ shall be determined from sound transmission loss in accordance with Clause (a) or (b), depending on the type of construction:

(a) for a lightweight separating wall or floor assembly with wood or steel framing, the index shall be taken as equal to the sound transmission loss, without correction, or

(b) for a heavyweight separating wall or floor assembly of concrete or masonry, the index shall be determined in accordance with the detailed method for structure-borne transmission presented in ISO 15712-1, “Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms.” (See Note A-5.8.1.4.(4)(b))

(5) The flanking sound reduction index for each flanking path at each edge of the separating assembly shall be determined in accordance with Clause (a), (b) or (c), depending on the type of construction:

(a) for a lightweight separating wall or floor assembly with wood or steel framing and connected lightweight flanking assemblies with wood or steel framing, the index shall be taken as equal to the normalized flanking level difference re-normalized for the ASTC field situation in accordance with Annex F of ISO 15712-1, “Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms,”

(b) for a heavyweight separating wall or floor assembly of concrete and masonry and connected flanking assemblies of concrete and masonry, the index shall be determined in accordance with the detailed method for structure-borne transmission presented in ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms" (See Note A-5.8.1.4.(4)(b)), or

(c) for a mixture of lightweight framed assemblies and heavyweight concrete or masonry assemblies, the index shall be determined in accordance with Clause (a) or (b). (See Note A-5.8.1.4.(4)(b))

(6) Once the pertinent indices and measurements referred to in Sentences (1) to (5) have been determined based on the type of construction, the apparent sound reduction index shall then be determined in accordance with ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms."

(7) The *ASTC* rating shall be calculated in accordance with ASTM E413, "Classification for Rating Sound Insulation," using the apparent sound reduction index determined in Sentence (6), which shall be treated as equivalent to the values of apparent sound transmission loss measured in accordance with ASTM E336, "Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings."

5.8.1.5. Simplified Method for Calculating ASTC (See Note A-5.8.1.4.)

(0.1) This Article sets out the simplified method for calculating *ASTC* ratings of separating assemblies and adjoining construction referred to in Subclause 5.8.1.2(2)(b)(ii).

(1) The *STC* rating shall be used in lieu of the weighted sound reduction index required in ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms."

(2) The vibration reduction index for the junctions between separating assemblies shall be

(a) determined using the equations presented in Annex E of ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms," or

(b) measured in accordance with Parts 1 to 4 of ISO 10848, "Acoustics – Laboratory measurement of the flanking transmission of airborne and impact sound between adjoining rooms."

(3) The weighted normalized flanking level difference shall be determined in accordance with ASTM E413, "Classification for Rating Sound Insulation," using the results from measurements carried out in accordance with Parts 1 to 4 of ISO 10848, "Acoustics – Laboratory measurement of the flanking transmission of airborne and impact sound between adjoining rooms."

(4) The direct weighted sound reduction index for the separating assembly shall be taken as equal to the *STC*, without correction.

(5) The weighted flanking sound reduction index for each flanking path at each edge of the separating assembly shall be determined in accordance with Clause (a) or (b), depending on the type of construction:

(a) for a lightweight separating wall or floor assembly with wood or steel framing and connected lightweight flanking assemblies with wood or steel framing, the index shall be taken as equal to the weighted normalized flanking level difference re-normalized for the *ASTC* field situation in accordance with Annex F of ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms," or

(b) for a heavyweight separating wall or floor assembly of concrete or masonry and connected flanking assemblies of concrete or masonry, the index shall be determined in accordance with the simplified method for structure-borne transmission presented in ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms" (See Note A-5.8.1.4.(4)(b)).

(6) Once the pertinent indices and measurements referred to in Sentences (1) to (5) have been determined based on the type of construction, the *ASTC* shall then be calculated in accordance with ISO 15712-1, "Building Acoustics - Estimation of Acoustic Performance of Buildings From the Performance of Elements - Part 1: Airborne Sound Insulation Between Rooms."

262. Table 5.9.1.1. of Division B is revoked and the following substituted:

Table 5.9.1.1.
Standards Applicable to Environmental Separators and Assemblies Exposed to the Exterior

Forming Part of Sentence 5.9.1.1.(1)

Issuing Agency	Document Number	Title of Document
ANSI	A135.6	Engineered Wood Siding

ASME	B18.6.1	Wood Screws (Inch Series)
ASTM	A123/A123M	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM	A153/A153M	Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM	A653/A653M	Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM	C4	Standard Specification for Clay Drain Tile and Perforated Clay Drain Tile
ASTM	C73	Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)
ASTM	C126	Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units
ASTM	C212	Standard Specification for Structural Clay Facing Tile
ASTM	C412M	Standard Specification for Concrete Drain Tile
ASTM	C444M	Standard Specification for Perforated Concrete Pipe
ASTM	C553	Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications
ASTM	C612	Standard Specification for Mineral Fiber Block and Board Thermal Insulation
ASTM	C700	Standard Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated
ASTM	C726	Standard Specification for Mineral Wool Roof Insulation Board
ASTM	C834[(1)]	Standard Specification for Latex Sealants
ASTM	C840	Standard Specification for Application and Finishing of Gypsum Board
ASTM	C920[(1)]	Standard Specification for Elastomeric Joint Sealants
ASTM	C991	Standard Specification for Flexible Fibrous Glass Insulation for Metal Buildings
ASTM	C1002	Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs
ASTM	C1177/C1177M	Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
ASTM	C1178/C1178M	Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel
ASTM	C1184[(1)]	Standard Specification for Structural Silicone Sealants
ASTM	C1280	Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing
ASTM	C1311[(1)]	Standard Specification for Solvent Release Sealants
ASTM	C1330[(1)]	Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants
ASTM	C1396/C1396M[(2)]	Standard Specification for Gypsum Board
ASTM	C1658/C1658M[(3)]	Standard Specification for Glass Mat Gypsum Panels
ASTM	D1227/D1227M	Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing
ASTM	D2178/D2178M	Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing
ASTM	D3019/D3019M[(4)]	Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, and Fibered
ASTM	D4479/D4479M	Standard Specification for Asphalt Roof Coatings – Asbestos-Free
ASTM	D4637/D4637M	Standard Specification for EPDM Sheet Used In Single-Ply Roof Membrane
ASTM	D4811/D4811M	Standard Specification for Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing
ASTM	D6878/D6878M	Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing

ASTM	E2190	Standard Specification for Insulating Glass Unit Performance and Evaluation
BNQ	BNQ 3624-115	Polyethylene (PE) Pipe and Fittings for Soil and Foundation Drainage
CGSB	CAN/CGSB-11.3-M	Hardboard
CGSB	CAN/CGSB-12.1	Safety Glazing
CGSB	CAN/CGSB-12.2-M	Flat, Clear Sheet Glass
CGSB	CAN/CGSB-12.3-M	Flat, Clear Float Glass
CGSB	CAN/CGSB-12.4-M	Heat Absorbing Glass
CGSB	CAN/CGSB-12.8	Insulating glass units
CGSB	CAN/CGSB-12.9-M	Spandrel glass
CGSB	37-GP-9Ma	Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing
CGSB	CAN/CGSB-37.50-M	Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing
CGSB	CAN/CGSB-37.54	Polyvinyl Chloride Roofing and Waterproofing Membrane
CGSB	CAN/CGSB-37.58-M	Membrane, Elastomeric, Cold-Applied Liquid, for Non-Exposed Use in Roofing and Waterproofing
CGSB	CAN/CGSB-51.32-M	Sheathing, Membrane, Breather Type
CGSB	CAN/CGSB-51.33-M	Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction
CGSB	CAN/CGSB-51.34-M	Vapour Barrier, Polyethylene Sheet for Use in Building Construction
CGSB	CAN/CGSB-93.1-M	Sheet, Aluminum Alloy, Prefinished, Residential
CGSB	CAN/CGSB-93.2-M	Prefinished Aluminum Siding, Soffits, and Fascia, for Residential Use
CSA	A23.1	Concrete materials and methods of concrete construction
CSA	CAN/CSA-A82	Fired masonry brick made from clay or shale
CSA	CAN3-A93-M	Natural Airflow Ventilators for Buildings
CSA	CAN/CSA-A123.2	Asphalt-Coated Roofing Sheets
CSA	A123.3	Asphalt Saturated Organic Roofing Felt
CSA	CAN/CSA-A123.4	Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems
CSA	A123.5	Asphalt shingles made from glass felt and surfaced with mineral granules
CSA	CAN/CSA-A123.16	Asphalt-coated glass-base sheets
CSA	A123.17	Asphalt Glass Felt Used in Roofing and Waterproofing
CSA	A123.23	Product specification for polymer-modified bitumen sheet, prefabricated and reinforced
CSA	A123.51	Asphalt shingle application on roof slopes 1:6 and steeper
CSA	A165.1	Concrete block masonry units
CSA	A165.2	Concrete brick masonry units
CSA	A165.3	Prefaced concrete masonry units
CSA	CAN/CSA-A179	Mortar and Grout for Unit Masonry
CSA	CAN/CSA-A220 Series	Concrete Roof Tiles
CSA	CAN/CSA-A371	Masonry Construction for Buildings
CSA	A3001	Cementitious Materials for Use in Concrete
CSA	B182.1	Plastic drain and sewer pipe and pipe fittings
CSA	G40.21	Structural quality steel
CSA	CAN/CSA-G401	Corrugated steel pipe products
CSA	CAN/CSA-O80 Series	Wood preservation
CSA	O118.1	Western Red Cedar Shakes and Shingles

CSA	O118.2	Eastern White Cedar Shingles
CSA	O121	Douglas fir plywood
CSA	O141	Softwood Lumber
CSA	O151	Canadian softwood plywood
CSA	O153	Poplar plywood
CSA	O325	Construction sheathing
CSA	O437.0	OSB and Waferboard
CSA	S478	Durability in buildings
HPVA	ANSI/HPVA HP-1	American National Standard for Hardwood and Decorative Plywood
ULC	CAN/ULC-S701.1	Standard for Thermal Insulation, Polystyrene Boards
ULC	CAN/ULC-S702.1	Standard for Mineral Fibre Thermal Insulation for Buildings, Part 1: Material Specification
ULC	CAN/ULC-S703	Standard for Cellulose Fibre Insulation (CFI) for Buildings
ULC	CAN/ULC-S704.1	Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced
ULC	CAN/ULC-S705.1	Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material Specification
ULC	CAN/ULC-S705.2	Standard for Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Application
ULC	CAN/ULC-S706.1	Standard for Wood Fibre Insulating Boards for Buildings
ULC	CAN/ULC-S710.1	Standard for Bead-Applied One Component Polyurethane Air Sealant Foam, Part 1: Material Specification
ULC	CAN/ULC-S711.1	Standard for Bead-Applied Two Component Polyurethane Air Sealant Foam, Part 1: Material Specification
ULC	CAN/ULC-S717.1	Standard for Flat Wall Insulating Concrete Form (ICF) Units – Material Properties

Notes to Table 5.9.1.1.:

(1) See Note A-Table 5.9.1.1.

(2) The *flame-spread rating* of gypsum board shall be determined in accordance with CAN/ULC-S102, "Test for Surface Burning Characteristics of Building Materials and Assemblies," in lieu of ASTM E84 "Surface Burning Characteristics of Building Materials", as indicated in ASTM C1396 / C1396M "Gypsum Board."

(3) The *flame-spread rating* of glass mat gypsum panels shall be determined in accordance with CAN/ULC-S102 "Test for Surface Burning Characteristics of Building Materials and Assemblies," in lieu of ASTM E84, "Surface Burning Characteristics of Building Materials," as indicated in ASTM C1658 / C1658M "Glass Mat Gypsum Panels."

(4) For the purpose of compliance with Part 5, ASTM D3019 / D3019M, "Lap Cement used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered," applies only with respect to non-fibered and non-asbestos-fibered (Types I and II) of asphalt roll roofing.

263. Article 5.9.3.1. of Division B is revoked and the following substituted:

5.9.3.1. Definition

(1) In this Subsection, "other fenestration assemblies" means curtain walls, window walls, storefronts and glazed architectural structures. (See Note A-5.9.3.1.(1))

264. Section 5.10. of Division B is revoked.

Part 6

265. Article 6.1.1.1. of Division B is amended by adding the following Sentence:

(2) Where the method of operation of an existing heating, ventilating or *air-conditioning* system is altered, the repair or component replacements that change the capacity or extent of safety of the system shall conform to this Code.

266. Subsection 6.1.3. of Division B is revoked.

267. The heading to Section 6.2. of Division B is revoked and the following substituted:

Section 6.2. Design and Installation

268. Subsection 6.2.1. of Division B is amended by adding the following Article:

6.2.1.1A. Design Indoor Air Temperatures

(1) *Buildings* classified as Group B, Division 2 or 3 *occupancies* or Group C *residential occupancies* that are intended for use in the winter months on a continuing basis shall be insulated and be equipped with heating facilities that are capable of maintaining an indoor air temperature of 22°C at the outside winter design temperature referred to in Article 6.2.1.2.

(2) All other *buildings* intended for occupancy in the winter months on a continuing basis should be insulated and shall be equipped with heating facilities to maintain a minimum indoor air temperature of 18°C or commensurate with the use of the *building* at the outside winter design temperature described in Article 6.2.1.2.

269. Article 6.2.1.2. of Division B is revoked and the following substituted:

6.2.1.2. Outdoor Design Conditions

(1) The outdoor conditions to be used in designing heating, ventilating and *air-conditioning* systems shall be determined in conformance with MMAH Supplementary Standard SB-1, “Climatic and Seismic Data”.

270. Article 6.2.1.5. of Division B is revoked and the following substituted:

(1) The installation of solid fuel-burning *appliances* for central heating systems shall comply with CSA B365, "Installation code for solid-fuel-burning appliances and equipment" and the manufacturer's installation instructions.

(2) The solid fuel-fired *appliances* in Sentence (1) shall conform to CSA B366.1, "Solid-fuel-fired central heating appliances".

(3) The design and installation of earth energy systems shall conform to CAN/CSA-C448.2, "Design and installation of earth energy systems for residential and other small buildings", where such systems use groundwater, submerged heat exchangers or ground heat exchangers to serve

(a) a house with or without a *secondary suite*, or

(b) a *building*, other than a house with or without a *secondary suite*, where the *conditioned space* is not more than 1 400 m^2.

(4) Except for a house with or without a *secondary suite*, the design and installation of earth energy systems shall conform to CAN/CSA-C448.1, "Design and installation of earth energy systems for commercial and institutional buildings", where such systems use groundwater, submerged heat exchangers or ground heat exchangers to condition a floor space area more than 1 400 m^2.

(5) The design and installation of solid fuel-burning *stoves*, ranges and *space heaters*, including the requirements for combustion air, shall conform to the requirements of CSA B365, "Installation code for solid-fuel-burning appliances and equipment" and the manufacturer's installation instructions.

(6) The design and installation of hydronic heating systems shall conform to

(a) CSA B214, "Installation code for hydronic heating systems", or

(b) good engineering practice appropriate to the circumstances such as described in Article 6.2.1.1.

(7) Solid fuel-burning *stoves*, *furnaces* and hydronic heating systems designed to burn solid fuels, other than coal, shall conform to the particulate emission limits of

(a) CSA B415.1, "Performance Testing of Solid-Fuel-Burning Heating Appliances", or

(b) the "Standards of Performance for New Residential Wood Heaters", set out in Subpart AAA of Part 60 of Title 40 of the Code of Federal Regulations, published by the United States Environmental Protection Agency, as it read on March 16, 2015.

271. Sentence 6.2.1.7.(1) of Division B is revoked and the following substituted:

(1) Asbestos shall not be used in heating, ventilating or *air-conditioning* systems or equipment.

272. Subsection 6.2.1. of Division B is amended by adding the following Article:

6.2.1.8. Combustible Tubing

(1) *Combustible* tubing for pneumatic controls may be used in *buildings* required to be of *noncombustible construction* provided it has an outside diameter not exceeding 10 mm.

273. Article 6.3.1.1. of Division B is revoked and the following substituted:

6.3.1.1. Required Ventilation

(1) Except as provided in Sentence (4), all *buildings* shall be ventilated in accordance with this Section.

(2) Except in *storage garages* and *repair garages* covered by Article 6.3.1.3., outdoor air shall be supplied to *buildings* for ventilation purposes in accordance with one of the following Sections of ANSI/ASHRAE 62.1, "Ventilation for Acceptable Indoor Air Quality":

(a) Section 6.2, Ventilation Rate Procedure, excluding the exception stated in Section 6.2.7.1.2 and note H of Table 6.2.2.1,

(b) Section 6.3, Indoor Air Quality Procedure, or

(c) Section 6.4, Natural Ventilation Procedure, excluding *residential occupancies*.

(3) Except in *storage garages* and *repair garages* covered by Article 6.3.1.3., exhaust ventilation shall be provided in accordance with Section 6.5, Exhaust Ventilation, of ANSI/ASHRAE 62.1, "Ventilation for Acceptable Indoor Air Quality," as a minimum.

(4) Self-contained heating-season mechanical ventilation systems serving only one *dwelling unit* shall comply with

(a) this Part, or

(b) Subsection 9.32.3.

(5) *Live/work units* shall be mechanically ventilated in accordance with the requirements of Sentence (1).

6.3.1.1A. Natural Ventilation

(1) Except as permitted by Sentence (2), the ventilation required by Article 6.3.1.1. shall be provided by mechanical ventilation except that it can be provided by natural ventilation or a combination of natural and mechanical ventilation in

(a) *buildings* of other than *residential occupancy* having an *occupant load* of not more than one person per 40 m^2 during normal use,

(b) *buildings* of *industrial occupancy* where the nature of the process contained in them permits or requires the use of large openings in the building envelope even during the winter, or

(c) seasonal *buildings* not intended to be occupied during the winter.

(2) Where climatic conditions permit, *buildings* containing *occupancies* other than *residential occupancies*, may be ventilated by natural ventilation methods in lieu of mechanical ventilation where engineering data demonstrates that such a method will provide the required ventilation for the type of *occupancy*.

274. (1) The heading to Article 6.3.1.3. of Division B is revoked and the following substituted:

6.3.1.3. Ventilation of Storage and Repair Garages

(2) Sentence 6.3.1.3.(4) of Division B is revoked and the following substituted:

(4) In *storage garages* subject to the requirements of Sentence (1), where motor vehicles are parked by mechanical means, the ventilation requirements may be reduced by one half.

(3) Article 6.3.1.3. of Division B is amended by adding the following Sentences:

(7) A *repair garage* shall have a mechanical ventilation system designed to limit the exposure of workers to

(a) carbon monoxide to below the time weighted average concentration of 25 parts per million for a normal 8 hour workday or 40 hour work week, and

(b) nitrogen dioxide from diesel powered vehicles to below 0.72 parts per million for a normal 8 hour workday or 40 hour work week.

(8) In a *repair garage*, when a repair bay is not immediately adjacent to an outside garage door opening, a system capable of providing continuous general ventilation of not less than 700 L/s per internal bay shall be provided.

(9) The general ventilation system described in Sentence (8) shall be designed to

(a) operate continuously, or

(b) be controlled automatically by carbon monoxide monitoring devices, located so as to provide full protection throughout the *repair garage*.

(10) The general ventilation system described in Sentence (8) is not required when tail pipes of vehicles are directly connected to local mechanical exhaust systems that terminate outdoors.

275. (1) Sentence 6.3.1.5.(1) of Division B is revoked and the following substituted:

(1) Air contaminants of concern within *buildings* shall

(a) be removed insofar as is possible at their points of origin, and

(b) not be permitted to accumulate in concentrations greater than those permitted by good engineering practice such as that described in the publications listed in Sentence 6.2.1.1.(1), measured using the methodology described therein.

(2) Article 6.3.1.5. of Division B is amended by adding the following Sentence:

(4) Mechanical rooms containing refrigeration equipment shall be ventilated in accordance with CSA B52, "Mechanical refrigeration code".

276. Sentence 6.3.1.6.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Article 3.6.3.5., all commercial cooking equipment shall be provided with ventilation systems designed, constructed and installed to conform to NFPA 96, "Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations".

277. Sentence 6.3.2.2.(1) of Division B is revoked and the following substituted:

(1) HVAC systems that generate condensate or introduce liquid water into the airstream in the ducts shall be equipped with drain pans that are

(a) designed in accordance with Section 5.10, Drain Pans, of ANSI/ASHRAE 62.1, "Ventilation for Acceptable Indoor Air Quality,"

(b) provided with an outlet that is piped to the outside of the airstream in a location where condensate can be safely disposed of,

(c) installed so that water does not stagnate and drains from the pan, and

(d) provided with a drain line that is *indirectly connected* to a *drainage system* in accordance with Article 7.4.2.1.

278. Subsection 6.3.2. of Division B is amended by adding the following Article:

6.3.2.6A. Construction and Installation of Ducts and Plenums

(1) Rectangular panels in *plenums* and ducts more than 300 mm wide shall be shaped to provide sufficient stiffness.

(2) Where the installation of heating *supply ducts* in walls and floors creates a space between the duct and construction material, the space shall be fire stopped with *noncombustible* material at each end.

(3) Ducts shall be securely supported by metal hangers, straps, lugs or brackets, except that where zero clearance is permitted, wooden brackets may be used.

(4) All round duct joints shall be tight-fitting and lapped not less than 25 mm.

(5) Rectangular duct connections shall be made with S and drive cleats.

(6) Trunk *supply ducts* shall not be nailed directly to wood members.

(7) Branch ducts shall be supported at suitable spacings to maintain alignment and prevent sagging.

(8) Ducts in or beneath concrete slabs-on-ground shall be watertight, corrosion-, decay- and mildew-resistant.

(9) Where a *supply* or *return duct* is not protected by an insulated exterior wall or where the duct is exposed to an unheated space it shall be insulated to prevent condensation.

279. (1) Sentence 6.3.2.7.(1) is revoked and the following substituted:

(1) In a *residential occupancy*, air from one *suite* shall not be circulated to any other *suite* or to a *public corridor*.

(2) Article 6.3.2.7. is amended by adding the following Sentences:

(4) Except for corridors conforming to Sentence 3.3.1.4.(4) or as permitted in Sentences (5) and (6), a *public corridor* or corridor serving the public shall not be used as a portion of a supply, return or exhaust air system serving adjoining areas, other than as part of a supply air system serving toilet rooms, bathrooms, shower rooms and similar auxiliary spaces opening directly to the *public corridor* or corridor used by the public.

(5) A *public corridor* may be used as part of an engineered smoke control system.

(6) Infiltration due to corridor pressurization is permitted into a *residential occupancy* from a *public corridor*.

280. Table 6.3.2.9. of Division B is revoked and the following substituted:

Table 6.3.2.9.
Minimum Distances of Air Intakes from Sources of Contaminants

Forming Part of Sentence 6.3.2.9.(2)

Source of Contaminants	Minimum Distance of Outdoor Air Intake, m
Garage entry of a garage for 5 or more motor vehicles, automobile loading area and drive-in queue	4.5
Truck loading area or dock, and bus parking	7.6
Driveway, parking space, lane, road and similar locations that carry a low volume of traffic	1.5
Thoroughfare, arterial road, freeway, highway and similar locations that carry a high volume of traffic	7.6
Garbage storage/pick-up area and dumpsters	4.5
Discharge from evaporative heat rejection systems	7.6
Sanitary vent	3.5
Kitchen exhaust outlet	3.0
Vent for combustion products from solid fuel-burning *appliances*	3.0

281. (1) Sentence 6.3.2.10.(7) of Division B is revoked and the following substituted:

(7) Exhaust ducts connected to laundry-drying equipment shall be

(a) independent of other *exhaust ducts*,

(b) designed and installed so that the entire duct can be cleaned, and

(c) constructed of a smooth corrosion-resistant material. (See Note A-6.3.2.10.(7) and (8))

(2) Article 6.3.2.10. of Division B is amended by adding the following Sentences:

(14) Except as provided in Sentence (15), exhaust air shall be provided at a rate not less than 24 L/s for each water closet, urinal, shower or slop sink.

(15) Except as provided in Sentence 6.3.3.1.(4) exhaust air shall be provided for *fixtures* in *dwelling units* in accordance with ANSI/ASHRAE 62.1, "Ventilation for Acceptable Indoor Air Quality".

(16) Except for wash basins (lavatories), sanitary facilities in a *food premises* shall be mechanically ventilated and shall be capable of exhausting air at the rate of not less than 24 L/s for each sanitary fixture listed in Sentence (17).

(17) The mechanical ventilation described in Sentence (16) applies to rooms containing water closets, urinals, basins, showers or slop sinks.

282. Article 6.3.2.11. of Division B is amended by adding the following Sentences:

(4) The return-air system shall be designed to handle the entire air supply.

(5) The return-air system shall be designed so that the negative pressure from the circulating fan cannot affect the *furnace* combustion air supply nor draw combustion products from joints or openings in the *furnace* or *flue pipe*.

(6) Return-air inlets shall not be installed in an enclosed room or crawl space that provides combustion air to a fuel-fired *appliance*.

283. Sentence 6.3.2.14.(1) of Division B is revoked and the following substituted:

(1) Reserved.

284. (1) Sentence 6.3.2.15.(8) of Division B is revoked and the following substituted:

(8) Make-up water connections shall be equipped with backflow prevention devices that conform to Article 7.2.10.10. (See Note A-6.3.2.15.(8) and (9))

(2) Sentence 6.3.2.15.(10) of Division B is revoked and the following substituted:

(10) Drains, overflows and blow-downs shall be connected to the *building*'s drainage system in accordance with Clause 7.4.2.1.(1)(d).

285. Sentence 6.3.2.16.(6) of Division B is revoked and the following substituted:

(6) Make-up water connections shall be equipped with *backflow* prevention devices that conform to Article 7.2.10.10. (See Note A-6.3.2.16.(6))

286. Sentence 6.3.4.2.(3) of Division B is revoked and the following substituted:

(3) A ventilation system required by this Subsection shall be maintained in conformance with Section 4.12. of the Fire Code made under the *Fire Protection and Prevention Act, 1997*.

287. Article 6.3.4.3. of Division B is revoked and the following substituted:

6.3.4.2A. Power-Ventilated Enclosure

(1) A power-ventilated enclosure required by the Fire Code made under the *Fire Protection and Prevention Act, 1997* shall be designed and constructed to conform to Articles 6.3.4.3. and 6.2.4.4.

6.3.4.3. Enclosure Exhaust Ventilation

(1) The ventilation system for a power-ventilated enclosure referred to in Article 6.3.4.2A. shall

(a) conform to NFPA 91, "Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Particulate Solids,"

(b) provide continuous exhaust ventilation at an air velocity sufficient to prevent the accumulation of *combustible* or reactive deposits in the power-ventilated enclosure and its *exhaust duct* system,

(c) confine *dangerous goods* vapours and particles to the area where they are generated and exhaust them to the outdoors,

(d) not return the exhausted air to the *building*, and

(e) be provided with well identified control switches that are

(i) located outside of the power-ventilated enclosure, and

(ii) readily accessible in case of an emergency.

288. Sentences 6.3.4.4.(1) and (2) of Division B are revoked and the following substituted:

(1) The power-ventilated enclosure referred to in Article 6.3.4.2A. and its *exhaust duct* system shall

(a) except as provided in Sentences (2) and (3), be constructed of *noncombustible* materials compatible with and chemically resistant to the *dangerous goods* vapours and particles being exhausted, and

(b) be provided with access doors to permit inspection and maintenance of the fan assembly and *exhaust ducts*.

(2) *Combustible* materials are permitted in the power-ventilated enclosure described in Sentence (1) and its *exhaust duct* systems if

(a) such materials are required by the corrosive or reactive properties of the *dangerous goods* being used, and

(b) their *flame-spread rating* is not more than 25.

289. Sentence 6.4.1.2.(1) of Division B is revoked and the following substituted:

(1) Fuel-fired *appliances* installed outside a *building* shall be

(a) designed and constructed for outdoor use,

(b) installed not less than 1 200 mm from the property line, measured horizontally, and

(c) installed not less than 3 m from an adjacent wall of the same *building* when such wall contains an opening or openings within 3 *storeys* above and 5 m horizontally from the *appliance*, unless such openings are protected by a *closure* assembly having a 45 min *fire-protection rating* determined in conformance with Article 3.1.8.4., or by wired glass conforming to Article 3.1.8.14.

290. Sentence 6.9.1.2.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Subsection 6.3.4., systems serving spaces that contain hazardous gases, dusts or liquids shall be designed, constructed and installed in conformance with the provisions of the Fire Code made under the *Fire Protection and Prevention Act, 1997*, or in the absence of requirements pertinent to such systems in the Fire Code, to good engineering practice such as that described in the publications of the National Fire Protection Association and in the CCBFC NRCC-CONST-56437E, "National Fire Code of Canada". (See Note A-6.9.1.2.(1))

291. Article 6.9.2.4. of Division B is amended by adding the following Sentence:

(2) Duct penetration of *fire separations* separating *exits* from the remainder of the *building* is permitted if the duct

(a) is designed for the purposes of Subsection 3.2.6., or

(b) only serves the *exit* from a dedicated rooftop air make-up unit.

292. Subsection 6.9.3. of Division B is revoked and the following substituted:

6.9.3. Carbon Monoxide Alarms

6.9.3.1. Application

(1) Article 6.9.3.2. applies to every *building* that

(a) contains a *residential occupancy*, a *care occupancy* with individual *suites*, or a *care occupancy* containing sleeping rooms not within a *suite*, and contains a *fuel-burning appliance* or a *storage garage*, or

(b) contains a *residential occupancy* and is served by a forced-air fuel-burning *appliance* not contained within the *building*.

(2) Articles 6.9.3.3. and 6.9.3.4. apply to every *building*.

6.9.3.2. Location of Carbon Monoxide Alarms

(1) A *carbon monoxide alarm* shall be installed in a *suite* of *residential occupancy* or *care occupancy* where

(a) a fuel-burning *appliance* or a *flue* is installed in the *suite*,

(b) a forced-air fuel-burning *appliance* provides heated air directly to the *suite*,

(c) a fuel-burning *appliance* or a *flue* is located in a room, *suite* or area that shares a common wall or floor or ceiling assembly with the *suite*, or

(d) a *storage garage* shares a common wall or floor or ceiling assembly with the *suite*.

(2) Where a *carbon monoxide alarm* is required by Sentence (1) to be installed in a *suite* of *residential occupancy* or *care occupancy*, other than a *suite* that consists of a combined living and sleeping area, a *carbon monoxide alarm* shall be installed

(a) adjacent to each sleeping room in the *suite*, and

(b) on each *storey* without a sleeping room in the *suite*.

(3) Where a *carbon monoxide alarm* is required by Sentence (1) to be installed in a *suite* of *residential occupancy* or *care occupancy* that consists of a combined living and sleeping area, a *carbon monoxide alarm* shall be installed in the combined living and sleeping area.

(4) In addition to the *carbon monoxide alarms* required to be installed in a *suite* of *residential occupancy* or *care occupancy* in accordance with Sentence (2), a *carbon monoxide alarm* shall be installed in each sleeping room within the *suite* where the sleeping room

(a) contains a fuel-burning *appliance* or a *flue*, or

(b) shares a common wall or floor or ceiling assembly with

(i) a room, *suite* or area that is located outside the *suite* and contains a fuel-burning *appliance* or a *flue*, or

(ii) a *storage garage*.

(5) *Carbon monoxide alarms* shall be installed in public corridors serving *suites* of *residential occupancy* where the corridor is directly heated by a forced-air fuel-burning *appliance*.

(6) Where ca*rbon monoxide alarms* are required by Sentence (5) to be installed in a public corridor, the *carbon monoxide alarms* shall be installed such that

(a) there is at least one *carbon monoxide alarm* in each portion of a divided corridor, and

(b) each *carbon monoxide alarm* in an undivided portion of a corridor is spaced not more than 25 m apart.

6.9.3.3. Location of Carbon Monoxide Alarms in All Buildings

(1) A *carbon monoxide alarm* shall be installed in *service rooms* or other areas of a *building* where the *service room* or other area

(a) contains a fuel-burning *appliance* used for *building* services or laundry drying equipment, and

(b) is not located within a *suite* of *residential occupancy*.

6.9.3.4. Installation and Conformance to Standards

(1) The *carbon monoxide alarms* required by Articles 6.9.3.2. and 6.9.3.3. shall

(a) except as permitted in Sentence (2), be permanently connected to an electrical circuit and shall have no disconnect switch between the overcurrent device and the *carbon monoxide alarm*,

(b) in case the regular power supply to the *carbon monoxide alarm* is interrupted, be provided with a battery as an alternative power source that can continue to provide power to the *carbon monoxide alarm* for a period of not less than 8 h in the standby condition, followed by the operation of the *carbon monoxide alarm* for an alarm signal for at least 12 h,

(c) be wired so that

(i) activation of one *carbon monoxide alarm* within a *suite* of *residential occupancy* will activate all *carbon monoxide alarms* within the *suite*, and

(ii) activation of one *carbon monoxide alarm* located in a *public corridor* serving *suites* of *residential occupancy* will activate all *carbon monoxide alarms* within the corridor,

(d) be audible within sleeping rooms when the intervening doors are closed, where located adjacent to a sleeping room in a *suite* of *residential occupancy*, and

(e) conform to

(i) CAN/CSA-6.19, "Residential Carbon Monoxide Alarming Devices", or

(ii) UL 2034, "Single and Multiple Station Carbon Monoxide Alarms".

(2) Where the *building* is not supplied with electrical power, *carbon monoxide alarms* are permitted to be battery operated.

(3) Except as permitted in Sentence (4), the *carbon monoxide alarms* required by Articles 6.9.4.2. and 6.9.4.3. shall have a visual signalling component conforming to the requirements in 18.5.3. (Light, Color and Pulse Characteristics) of NFPA 72, "National Fire Alarm and Signaling Code".

(4) Where the *building* is not supplied with electrical power, *carbon monoxide alarms* need not have a visual signalling component.

(5) The luminous intensity for visual signalling components required by Sentence (3) that are installed in sleeping rooms or combined living and sleeping areas shall be a minimum of 175 cd.

(6) The visual signalling component required by Sentence (3) need not

(a) be integrated with the *carbon monoxide alarm* provided it is interconnected to it,

(b) be on battery backup, or

(c) have synchronized flash rates, when installed in a *dwelling unit*.

(7) The carbon *monoxide alarms* required by Articles 6.9.3.2. and 6.9.3.3. shall be installed

(a) at the manufacturer's recommended height, or

(b) in the absence of specific instructions, on or near the ceiling.

Part 7

293. Part 7 of Division B is revoked and the following substituted:

Part 7

Plumbing

Section 7.1. General

7.1.0. Scope

7.1.0.1. Scope

(1) The scope of this Part shall be as described in Subsection 1.3.3. of Division A.

7.1.1. Application

7.1.1.1. Application

(1) Except as provided in Sentence (2), this Part applies to the design and *construction* of *plumbing*.

(2) This Part does not apply to industrial process systems unless the industrial process system is interconnected with the *plumbing system*, in which case the interconnection shall be so designed and installed so that the *plumbing system* is protected against contamination or malfunction that may be caused by the industrial system.

7.1.1A. Definitions

7.1.1A.1. Definitions

(1) Except as provided in Sentence (2), words that are appeared in italics are defined in 1.4.1.2. of Division A and in the *Building Code Act, 1992*.

(2) In this Part,

Storey means the interval between two successive floor levels including *mezzanine* floors that contain *plumbing fixtures* or between a floor level and roof.

7.1.1B. Plumbing Facilities

7.1.1B.1. Facilities Required

(1) *Plumbing* facilities shall be provided in accordance with Subsection 3.7.4. and Section 9.31.

7.1.1B.2. Floor Drains

(1) Where gravity drainage to a *sanitary drainage system* is possible, a floor drain shall be installed in a *basement* forming part of a *dwelling unit*.

(2) Where gravity drainage to a *sanitary drainage system* is not possible, the floor drain required by Sentence (1) may be connected to a *storm drainage system*, dry well or drainage ditch provided it is located where it can receive only *clear water waste* or *storm sewage*.

(3) A floor drain shall be provided in a public laundry room, garbage room, incinerator room, *boiler* or heating room that is not located within a *dwelling unit*.

7.1.2. Service Connections

7.1.2.1. Sanitary Drainage Systems

(1) Except as provided in Section 7.7., *sanitary drainage systems* shall be connected to a public *sanitary sewer*, a public *combined sewer* or a *private sewage disposal system*.

(2) A *combined building drain* or a *combined building sewer* shall not be installed. (See Note A-7.1.2.1.(2))

7.1.2.2. Storm Drainage Systems

(1) Except as provided in Section 7.7., *storm drainage systems* and *private sewers* conveying *storm sewage* shall be connected to a public *storm sewer*, a *public combined sewer* or a designated *storm water* disposal location.

7.1.2.3. Water Distribution Systems

(1) Except as provided in Section 7.7. and Sentences (2) and (3), *water distribution systems* shall be connected to a public water main, *drinking water system* or a *potable private water supply system*.

(2) *Storm sewage* or *greywater* that is free of solids and treated to conform to Article 7.7.3.1. is permitted to be used as a water supply for

(a) water closets,

(b) urinals,

(c) sub-surface irrigation, or

(d) the priming of *traps*.

(3) *Rainwater* that is free of solids and treated to conform to Article 7.7.3.1. is permitted to be used as a water supply for

(a) clothes washers,

(b) laundry trays,

(c) mop sinks,

(d) bedpan washers,

(e) water closets,

(f) urinals,

(g) hose bibbs,

(h) sub-surface irrigation, or

(i) the priming of *traps*.

(4) Piping conveying the non-*potable* water described in Sentence (2) shall be installed in conformance with Section 7.7.

7.1.2.4. Separate Services

(1) Except as provided in Sentences (2) and (3), piping in any *building* connected to the public services shall be connected separately from piping of any other *building*, except that an ancillary *building* on the same property may be served by the same service. (See Note A-7.1.2.4.(1))

(2) No *plumbing* serving a *dwelling unit* shall be installed in or under another unit of the *building* unless the piping is located in a tunnel, pipe corridor, common *basement* or parking garage, so that the piping is *accessible* for servicing and maintenance throughout its length without encroachment on any private living space, but this Sentence does not prevent *plumbing* serving a unit located above another unit from being installed in or under the lower unit.

(3) *Water service pipes* or *building sewers* serving *buildings* located on the same property may connect into a *private water supply* or a *private sewer* conforming to Article 7.1.2.5.

7.1.2.5. Private Sewers and Private Water Supply

(1) *Private water supply* pipes shall be designed and installed according to MOE PIBS 6881e, “Design Guidelines for Drinking-Water Systems.”

(2) *Private sewers* shall be designed and installed according to MOE PIBS 6879, “Design Guidelines for Sewage Works.”

7.1.3. Location of Fixtures

7.1.3.1. Lighting and Ventilation Requirements

(1) *Plumbing fixtures* shall not be installed in a room that is not lighted and ventilated in accordance with the appropriate requirements in Parts 3, 6 and 9.

7.1.3.2. Accessibility

(1) Every *fixture*, *plumbing appliance, interceptor, cleanout,* valve, device or piece of equipment shall be located so that it is readily *accessible* for use, cleaning and maintenance.

7.1.3A. Accommodating Movement

7.1.3A.1. Structural Movement

(1) *Plumbing* shall be designed and installed to accommodate the maximum relative structural movement provided for in the *construction* of the *building*.

7.1.4. Seismic Design

7.1.4.1. Seismic Restraints and Design

(1) *Plumbing systems* in *buildings* constructed in accordance with Part 3 shall be designed and installed to accommodate the seismic forces addressed in Subsection 4.1.8.

Section 7.2. Materials and Equipment

7.2.1. General

7.2.1.1. Exposure of Materials

(1) Where unusual conditions exist, such as excessively corrosive *soil* or water, only materials suited for use in such locations shall be used**.**

(2) Materials and equipment use in a *drainage system* where excessively corrosive wastes are present shall be suitable for the purpose.

7.2.1.2. Restrictions and Re-Use

(1) Materials and equipment that have been used for a purpose other than the distribution of *potable water* shall not be subsequently used in a *potable water system*.

(2) Used materials and equipment, including *fixtures*, shall not be reused unless they meet the requirements of this Part for new materials and equipment and are otherwise satisfactory for their intended use.

7.2.1.3. Identification

(1) Every length of pipe and every fitting shall

(a) have cast, stamped or indelibly marked on it the maker's name or mark and the weight or class or quality of the product, or

(b) be marked in accordance with the relevant standard.

(2) Markings required in Sentence (1) shall be visible after installation.

(3) The lack of certification markings on a product or *plumbing* component shall be regarded as proof, in the absence of evidence to the contrary, that no certification exists.

(4) If a component of a *plumbing system* is required to be certified to a standard, the certification shall be made by a testing agency accredited for that purpose by the Standards Council of Canada.

7.2.1.4. Pipe or Piping

(1) Where the term pipe or piping and fittings is used, it shall also apply to tube or tubing and fittings unless otherwise stated.

7.2.1.5. Withstanding Pressure

(1) Piping, fittings, and joints used in pressure sewer, forcemain or sump pump discharge applications shall be capable of withstanding at least one and one-half times the maximum potential pressure.

7.2.1.6. Working Pressure of a Water Service Pipe

(1) The working pressure rating of a *water service pipe* shall not be less than the maximum water main pressure at their point of connection as established by the water supply authority.

7.2.2. Fixtures

7.2.2.1. Surface Requirements

(1) Every *fixture* shall have a smooth, hard, corrosion-resistant surface free of flaws and blemishes that may interfere with cleaning.

7.2.2.2. Conformance to Standards

(0.1) Water closets and urinals shall conform to the requirements in Article 7.6.4.2.

(1) Except as provided in Article 7.2.2.3.

(a) Reserved,

(b) vitreous china fixtures shall conform to ASME A112.19.2 / CSA B45.1, “Ceramic Plumbing Fixtures,”

(c) enamelled cast iron fixtures shall conform to ASME A112.19.1 / CSA B45.2, “Enamelled Cast Iron and Enamelled Steel Plumbing Fixtures,”

(d) porcelain enamelled steel fixtures shall conform to ASME A112.19.1 / CSA B45.2, “Enamelled Cast Iron and Enamelled Steel Plumbing Fixtures,”

(e) stainless steel fixtures shall conform to ASME A112.19.3 / CSA B45.4, "Stainless Steel Plumbing Fixtures,"

(f) plastic fixtures shall conform to CSA B45.5 / IAPMO Z124, "Plastic Plumbing Fixtures,"

(g) hydromassage bathtubs shall conform to ASME A112.19.7 / CSA B45.10, "Hydromassage Bathtub Systems,"

(h) macerating toilet systems shall conform to ASME A112.3.4 / CSA B45.9, "Macerating toilet systems and waste-pumping systems for plumbing fixtures," and

(i) personal hygiene devices for water closets shall conform to ASME A112.4.2/CSA B45.16, "Personal hygiene devices for water closets."

7.2.2.3. Showers

(1) Shower receptors shall be constructed and arranged so that water cannot leak through the walls or floor. (See Note A-7.2.2.3.(1))

(2) Not more than 6 shower heads shall be served by a single shower drain.

(3) Where 2 or more shower heads are served by a shower drain, the floor shall be sloped and the drain located so that water from one head cannot flow over the area that serves another head. (See Note A-7.2.2.3.(3))

(4) Except for column showers, where a battery of shower heads is installed, the horizontal distance between 2 adjacent shower heads shall be not less than 750 mm.

7.2.2.4. Concealed Overflows

(1) A dishwashing sink and a food preparation sink shall not have concealed overflows. (See Note A-7.2.2.4.(1))

7.2.2.5. Water Closets in Public Washrooms

(1) Except for Eastern-Style toilets, where a water closet is installed in a washroom for *public use*, it shall be of the elongated type and provided with a seat of the open front type.

7.2.2.6. Lavatories

(1) A lavatory that does not have an overflow shall be equipped with a centre outlet waste fitting. (See Note A-7.2.2.6.(1))

7.2.2.7. Trough Urinals

(1) No trough urinal shall be used as part of a *plumbing system*.

7.2.3. Traps and Interceptors

7.2.3.1. Traps

(1) Except as provided for in Sentence (2), *traps* shall

(a) have a *trap seal depth* of not less than 38 mm,

(b) be so designed that failure of the seal walls will cause exterior leakage, and

(c) have a water seal that does not depend on the action of moving parts. (See Note A-7.2.3.1.(1) and (3))

(2) The *trap seal depth* on *fixtures* draining to an acid waste system shall be a minimum of 50 mm.

(3) Except for a floor-mounted service sink, every *trap* that serves a lavatory, a sink or a laundry tray shall

(a) be provided with a *cleanout* plug located at the lowest point of the *trap* and of the same material as the *trap*, except that a cast-iron *trap* shall be provided with a brass *cleanout* plug, or

(b) be designed so that part of the trap can be removed for cleaning purposes.

(4) A bell *trap* shall not be installed in a *drainage system*. (See Note A-7.2.3.1.(4))

(5) A drum *trap* shall not be installed in a *drainage system*.

(6) Except as permitted in Sentence (7), no *bottle trap* shall be used in a *plumbing system*.

(7) A *bottle trap* may be used on a laboratory sink or other *fixture* equipped with corrosion resistant fittings.

(8) No running *trap* shall be installed in a *plumbing system* unless an *accessible* handhole is provided for cleaning of the *trap*, and where the *trap* is too small to accommodate a handhole, a *cleanout* shall be provided.

7.2.3.2. Interceptors

(1) *Interceptors* shall be designed so that they can be readily cleaned.

(2) Grease *interceptors* shall be designed so that they do not become air bound.

(3) Grease *interceptors* shall be selected and installed in conformance with

(a) CSA B481.0, “Material, design, and construction requirements for grease interceptors,” and

(b) CSA B481.3, “Sizing, selection, location, and installation of grease interceptors.” (See Note A-7.2.3.2.(3))

(4) Where a grease *interceptor* is required by Sentence 7.4.4.3.(1), the interceptor shall conform to

(a) CSA B481.1, "Testing and Rating of Grease Interceptors Using Lard," or

(b) CSA B481.2, "Testing and Rating of Grease Interceptors Using Oil."

7.2.3.3. Tubular Trips

(1) Tubular metal or plastic *traps* conforming to ASME A112.18.2/CSA B125.2, "Plumbing Waste Fittings," shall be used only in *accessible* locations.

7.2.4. Pipe Fittings

7.2.4.1. T and Cross Fittings (See Note A-7.2.4.1.)

(1) A T fitting shall not be used in a *drainage system*, except to connect to a *vent pipe*.

(2) A cross fitting shall not be used in a *drainage system*.

7.2.4.2. Sanitary T Fittings (See Note A-7.2.4.2.)

(1) A double sanitary T fitting shall not be used to connect the *fixture drains* of two urinals where no *cleanout* fitting is provided above the connection.

(2) No pipe fitting, joint or connection that would tend to intercept solids or reduce the flow through a pipe by more than 10 per cent shall be used in a *plumbing system.*

7.2.4.3. 90° Elbows

(1) Except as permitted in Sentences (2) and (3), 90° elbows of *NPS* 4 or less whose centre-line radius is less than the *NPS* of the pipe shall not be used to join 2 sanitary drainage pipes.

(2) For *sanitary drainage systems* of *NPS* 4 or less, 90° elbows described in Sentence (1) shall only be permitted

(a) to change the direction of piping from horizontal to vertical, in the direction of flow,

(b) where a *trap* arm enters a wall, or

(c) to connect *trap* arms as permitted by Sentence 7.5.6.3.(2).

(3) A 90° elbow that is part of the pre-engineered wastewater heat recovery system is permitted to have a centre-line radius that is less than the *size* of the pipe.

7.2.4.4. Fittings Restricted in Use

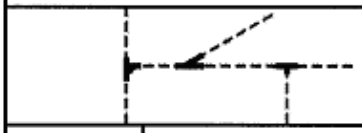
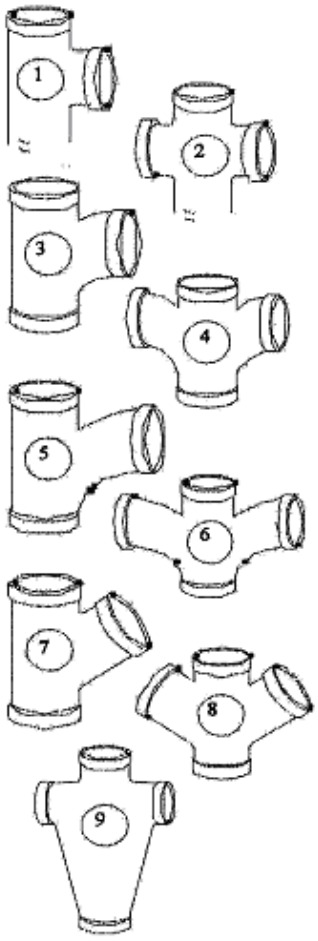
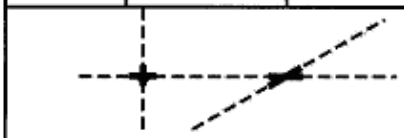
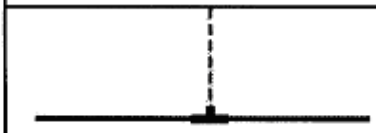
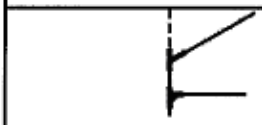
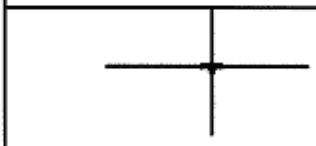
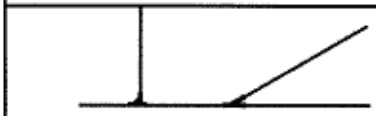
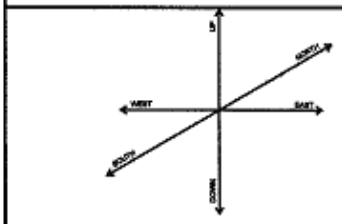
(1) No double Y, double TY, double T or double waste fitting shall be installed in a *nominally horizontal soil* or *waste pipe*.

7.2.4.5. Assembled Pipe or Tubing

(1) Pipe or tubing assembled to comprise a standard drain waste and venting system shall be connected with drain, waste and vent fittings in conformance with Table 7.2.4.5.

Table 7.2.4.5.
Pipe Arrangement for DWV Fittings

Forming Part of Sentence 7.2.4.5.(1)

Pipe Arrangement	Fittings	
	Acceptable	Type
	①③⑤⑦	
	②④⑥⑧⑨	
	①③⑤⑦	
	③⑤⑦	
	④*⑥⑧⑨*	
	⑤⑦	
	LEGEND (DWV BRANCH FITTINGS) Vent pipe ---------- Drainage pipe _____ * Acceptable only if vertical run is of 3 inches size or larger and horizontal branches are of 1 ¼, 1 ½, or 2 inches size	

1. Straight T
2. Double T or Cross
3. Sanitary T or Short Turn TY
4. Double Sanitary T or Short Turn Double TY
5. Combination Y & 1/8 Bend or Long Turn TY
6. Double Combination Y & 1/8 Bend or Double Long Turn TY
7. Y
8. Double Y
9. Double Waste Fitting

7.2.5. Non-Metallic Pipe and Fittings

7.2.5.1. Fibrocement Pipe and Fittings

(1) Fibrocement pipe and fittings for use in a drain, waste or vent system shall conform to CAN/CSA-B127.3, "Fibrocement drain, waste, and vent pipe and pipe fittings."

7.2.5.2. Concrete Pipe and Fittings

(1) Concrete pipe shall conform to

(a) CSA A257.1, "Non-reinforced circular concrete culvert, storm drain, sewer pipe, and fittings," or

(b) CSA A257.2, "Reinforced circular concrete culvert, storm drain, sewer pipe, and fittings."

(2) Joints with internal elastomeric gaskets shall conform to CSA A257.3, "Joints for circular concrete sewer and culvert pipe, manhole sections, and fittings using rubber gaskets."

(3) Concrete fittings fabricated on the site from lengths of pipe shall not be used. (See Note A-7.2.5.2.(3))

(4) Concrete pipe shall not be used above ground inside a *building*.

(5) Precast reinforced circular concrete manhole sections, catch basins and fittings shall conform to CSA A257.4, "Precast reinforced circular concrete manhole sections, catch basins, and fittings."

7.2.5.3. Vitrified Clay Pipe and Fittings

(1) Vitrified clay pipe and fittings shall conform to CSA A60.1-M, "Vitrified Clay Pipe."

(2) Couplings and joints for vitrified clay pipe shall conform to CSA A60.3-M, "Vitrified Clay Pipe Joints."

(3) Vitrified clay pipe and fittings shall not be used except for an underground part of a *drainage system*.

7.2.5.4. Polyethylene Pipe and Fittings

(1) Polyethylene water pipe, tubing and fittings shall conform to, and have a pressure rating meeting the requirements of, Series 160 or a higher series of CSA B137.1, "Polyethylene (PE) pipe, tubing and fittings for cold water pressure services."

(2) Except as permitted in Sentence 7.2.5.7.(1), Polyethylene water pipe shall not be used except for a *water service pipe*.

(3) Butt fusion fittings for polyethylene pipe shall conform to ASTM D3261, "Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing."

7.2.5.5. Polyethylene Pipe Used Underground

(1) Polyethylene pipe used underground in a drainage system for rehabilitation of existing systems using trenchless technology shall conform to ASTM F714, "Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter" and shall be HDPE 3408, SDR 17 or heavier. (See Note A-7.2.5.5.(1))

7.2.5.6. Crosslinked Polyethylene Pipe and Fittings

(1) Crosslinked polyethylene pipe and manufacturer-approved fittings used in hot and cold *potable water systems* shall conform to CSA B137.5, "Crosslinked polyethylene (PEX) tubing systems for pressure applications." (See Note A-7.2.5.6.(1))

7.2.5.7. PVC Pipe and Fittings

(1) PVC water pipe, fittings and solvent cement shall

(a) conform to CSA B137.3, "Rigid polyvinylchloride (PVC) pipe and fittings for pressure applications," or CSA B137.2, "Polyvinylchloride (PVC) injection-moulded gasketed fittings for pressure applications," and

(b) have a pressure rating of not less than 1 100 kPa.

(2) PVC water pipe fittings shall conform to

(a) ASTM D2466, "Standard Specification for Poly(Vinyl Chloride) (PVC)

(b) Plastic Pipe Fittings, Schedule 40," or

(c) ASTM D2467, "Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80."

(3) PVC water pipe and fittings in Sentences (1) and (2) shall not be used in a hot *water system*.

7.2.5.8. CPVC Pipe, Fittings and Solvent Cements

(1) CPVC hot and cold water pipe, fittings and solvent cements shall conform to CSA B137.6, "Chlorinated polyvinylchloride (CPVC) pipe, tubing, and fittings for hot- and cold-water distribution systems."

(2) The design temperature and design pressure of a CPVC piping system shall conform to Table 7.2.5.8.

Table 7.2.5.8.
Maximum Permitted Pressure for CPVC Piping at Various Temperatures

Forming Part of Sentence 7.2.5.8.(2)

Maximum Temperature of Water, °C	Maximum Permitted Pressures, kPa
10	3 150
20	2 900
30	2 500
40	2 100
50	1 700
60	1 300
70	1 000
82	690

7.2.5.9. Plastic Pipe, Fittings and Solvent Cement Used Underground (See Note A-7.2.5.9. to 7.2.5.11.)

(1) Plastic pipe, fittings and solvent cement used underground outside a *building* or under a *building* in a *drainage system* shall conform to

(a) ASTM F628, "Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe With a Cellular Core,"

(b) CSA B181.1, "Acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent pipe and pipe fittings,"

(c) CSA B181.2, "Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings,"

(d) CSA B182.1, "Plastic drain and sewer pipe and pipe fittings,"

(e) CSA B182.2, "PSM type polyvinylchloride (PVC) sewer pipe and fittings," with a pipe stiffness not less than 320 kPa,

(f) CSA B182.4, "Profile polyvinylchloride (PVC) sewer pipe and fittings,"

(g) CSA B182.6, "Profile polyethylene (PE) sewer pipe and fittings for leak-proof sewer applications," or

(h) CSA B182.8, "Profile polyethylene (PE) storm sewer and drainage pipe and fittings," for Type 1 joints and non-perforated pipes.

(i) CSA B137.2, "Polyvinylchloride (PVC) Injection-Moulded Gasketed Fittings for Pressure Applications", or

(j) CSA B137.3, "Rigid Polyvinylchloride (PVC) Pipe and Fittings for Pressure Applications".

(2) Except as permitted in Clauses (i) and (j), plastic pipe used as described in Sentence (1) shall have a stiffness equal or greater than 320 kPa.

7.2.5.10. Transition Solvent Cement (See Note A-7.2.5.9. to 7.2.5.11.)

(1) Solvent cement for transition joints shall conform to

(a) CSA B181.1, "Acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent pipe and pipe fittings," or

(b) CSA B181.2, "Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings."

(2) Transition solvent cement shall only be used for joining an ABS *drainage system* to a PVC *drainage system*.

7.2.5.11. Plastic Pipe, Fittings and Solvent Cement Used in Buildings (See Note A-7.2.5.9. to 7.2.5.11.)

(1) Plastic pipe, fittings and solvent cement used inside or under a *building* in a *sanitary drainage system* or venting system shall conform to

(a) ASTM F628, "Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe With a Cellular Core,"

(b) CSA B181.1, "Acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent pipe and pipe fittings," or

(c) CSA B181.2, "Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings."

(1.1) Plastic pipe, fittings and solvent cement used inside a *building* in a storm drainage system shall conform to

(a) ASTM F628, "Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe With a Cellular Core",

(b) CAN/CSA-B181.1, "Acrylonitrile-Butadiene-Styrene (ABS) Drain, Waste, and Vent Pipe and Pipe Fittings",

(c) CAN/CSA-B181.2, "Polyvinylchloride (PVC) and Chlorinated Polyvinylchloride (CPVC) Drain, Waste, and Vent Pipe and Pipe Fittings",

(d) CAN/CSA-B182.1, "Plastic Drain and Sewer Pipe and Pipe Fittings", or

(e) CAN/CSA-B182.2, "PSM Type Polyvinylchloride (PVC) Sewer Pipe and Fittings".

(1.2) Plastic pipe used as described in Sentence (1.1) shall have a pipe stiffness equal or greater than 320 kPa.

(2) Requirements for *combustible* piping in relation to fire safety shall conform to Sentence 3.1.5.19.(1) and Articles 3.1.9.4. and 9.10.9.7. to 9.10.9.9.

(3) Where *noncombustible* piping pierces a *fire separation* or a *fire block*, the requirements for firestopping of Subsection 3.1.9., Sentence 9.10.9.6.(1) and Article 9.10.16.4.

7.2.5.12. Polyethylene/Aluminum/Polyethylene Composite Pipe and Fittings

(1) PE/AL/PE composite pipe and fittings used for *potable water systems* shall conform to CSA B137.9, "Polyethylene/aluminum/polyethylene (PE-AL-PE) composite pressure-pipe systems." (See Note A-7.2.5.12.(1))

(2) Except as provided in Sentences (3) and (4), PE/AL/PE pipe and fittings shall not be used in hot *water systems*.

(3) PE/AL/PE pipe with a pressure rating of 690 kPa or greater at 82°C shall be permitted for hot *water systems*.

(4) PE/AL/PE pipe with a pressure rating of 690 kPa or greater at 82°C shall be used with fittings that conform to CSA B137.10, "Crosslinked polyethylene/aluminum/ crosslinked polyethylene (PEX-AL-PEX) composite pressure-pipe systems," in hot *water systems*.

7.2.5.13. Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe and Fittings

(1) PEX/AL/PEX composite pipe and fittings used in hot and cold *potable water systems* shall conform to CSA B137.10, "Crosslinked polyethylene/aluminum/ crosslinked polyethylene (PEX-AL-PEX) composite pressure-pipe systems." (See Note A-7.2.5.13.(1))

7.2.5.14. Polypropylene Pipe and Fittings

(1) Polypropylene pipe and fittings used for hot and cold *potable water systems* shall conform to CSA B137.11, "Polypropylene (PP-R) pipe and fittings for pressure applications." (See Note A-7.2.5.14.(1))

7.2.5.15. Polyethylene of Raised Temperature Tube and Fittings

(1) Polyethylene of raised temperature (PE-RT) tube and manufacturer-approved fittings used in hot and cold *potable water systems* shall conform to CSA B137.18, "Polyethylene of raised temperature resistance (PE-RT) tubing systems for pressure applications." (See Note A-7.2.5.15.(1).)

(2) The use of PE-RT tube shall conform to Table 7.2.5.15.

Table 7.2.5.15.
Permitted Uses of Polyethylene of Raised Temperature (PE-RT) Tube

Forming Part of Sentence 7.2.5.15.(2)

Type of Tube	*Plumbing* Purposes (1)								
	Drainage System		*Building Sewer*	*Venting System*		*Potable Water System*			
	Aboveground inside *building*	Underground under *building*		Above-ground	Under-ground	Cold	Hot	Under *building*	Outside *building*
PE-RT	N	N	N	N	N	P	P	P	P

Notes to Table 7.2.5.15.:

(1) P = permitted and N = not permitted.

7.2.5.16. Cellular Core PVC Pipe and Fittings

(1) Cellular core PVC pipe shall

(a) conform to ASTM F3128, "Standard Specification for Poly(Vinyl Chloride) (PVC) Schedule 40 Drain, Waste, and Vent Pipe with a Cellular Core," and

(b) be light grey, as specified in CSA B181.2, "Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings."

(2) Fittings and solvent cements for cellular core PVC pipe shall conform to CSA B181.2, "Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings."

(3) Cellular core PVC pipe shall only be used in residential *buildings* containing 1 or 2 *dwelling units* and in row houses that do not exceed 3 *storeys* in height.

7.2.6. Ferrous PIpe and Fittings (For a summary of pipe applications, see Note A-7.2.5. to 7.2.8.)

7.2.6.1. Cast-Iron Drainage and Vent Pipe and Fittings

(1) Drainage piping, vent piping and fittings made of cast iron shall conform to CSA B70, "Cast iron soil pipe, fittings, and means of joining."

(2) Cast-iron soil pipe and fittings shall not be used in a *water system*.

7.2.6.2. Maintenance Holes and Catch Basins

(1) Cast-iron frames and covers for maintenance holes and catch basins shall conform to CSA B70.1, "Frames and Covers for Maintenance Holes and Catchbasins."

7.2.6.3. Threaded Cast-Iron Drainage Fittings

(1) Threaded cast-iron drainage fittings shall conform to ASME B16.12, "Cast Iron Threaded Drainage Fittings."

(2) Threaded cast-iron drainage fittings shall not be used in a *water system*.

7.2.6.4. Cast-Iron Water Pipes

(1) Cast-iron water pipes shall conform to ANSI/AWWA C151/A21.51, "Ductile-Iron Pipe, Centrifugally Cast."

(2) Cement mortar lining for cast-iron water pipes shall conform to ANSI/AWWA C104/A21.4, "Cement-Mortar Lining for Ductile-Iron Pipe and Fittings."

(3) Cast-iron fittings for cast-iron or ductile-iron water pipes shall conform to ANSI/AWWA C110/A21.10, "Ductile-Iron and Gray-Iron Fittings."

(4) Rubber gasket joints for cast-iron and ductile-iron pressure pipe for water shall conform to ANSI/AWWA C111/A21.11, "Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings."

7.2.6.5. Screwed Cast-Iron Water Fittings

(1) Screwed cast-iron water fittings shall conform to ASME B16.4, "Gray Iron Threaded Fittings: Classes 125 and 250."

(2) Screwed cast-iron water fittings used in a *water system* shall be cement-mortar lined or galvanized.

(3) Screwed cast-iron water fittings shall not be used in a *drainage system*.

7.2.6.6. Screwed Malleable-Iron Water Fittings

(1) Screwed malleable-iron water fittings shall conform to ASME B16.3, "Malleable Iron Threaded Fittings: Classes 150 and 300."

(2) Screwed malleable-iron water fittings used in a *water system* shall be cement-mortar lined or galvanized.

(3) Screwed malleable-iron water fittings shall not be used in a *drainage system*.

7.2.6.7. Steel Pipe

(1) Except as provided in Sentences (2) and (3), welded and seamless steel pipe shall not be used in a *plumbing system*.

(2) Galvanized steel pipe is permitted to be used in a *drainage system* or a *venting system* above ground inside a *building*.

(3) Galvanized steel pipe and fittings shall not be used in a *water distribution system* except

(a) in *buildings* of *industrial occupancy*, or

(b) for the repair of existing galvanized steel piping systems. (See Note A-7.2.6.7.(3))

(4) Galvanized steel pipe and fittings shall conform to ASTM A53/A53M, "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless."

(5) Where galvanized steel pipe is used in a *drainage system*, it shall be used with drainage fittings.

(6) All steel pipe of *NPS* 4 and smaller shall be schedule 40 or heavier and fittings of less than *NPS* 2 shall be galvanized screw fittings.

7.2.6.8. Corrugated Steel Pipe and Couplings

(1) Corrugated steel pipe and couplings shall conform to CAN/CSA-G401, "Corrugated steel pipe products."

(2) Corrugated steel pipe shall only be used underground outside a *building* in a *storm drainage system*.

(3) Couplings for corrugated steel pipe shall be constructed so that when installed they shall

(a) maintain the pipe alignment,

(b) resist the separation of adjoining lengths of pipe,

(c) prevent root penetration, and

(d) prevent the infiltration of surrounding material.

7.2.6.9. Sheet Metal Leaders

(1) A sheet metal *leader* shall not be used except above ground outside a *building*.

7.2.6.10. Stainless Steel Pipe

(1) Stainless steel pipe shall conform to

(a) ASME B36.19M, "Stainless Steel Pipe," and

(b) ASTM A312/A312M, "Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes."

(2) Only grade 304/304L or 316/316L stainless steel pipe shall be used.

7.2.6.11. Stainless Steel Butt Weld Pipe Fittings

(1) Stainless steel butt weld pipe fittings shall conform to

(a) ASME B16.9, "Factory-Made Wrought Buttwelding Fittings," and

(b) ASTM A403/A403M, "Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings."

(2) Stainless steel butt weld pipe fittings shall be made of a material that matches the grade of the pipe material used.

7.2.6.12. Stainless Steel Pipe Flanges

(1) Stainless steel pipe flanges shall conform to ASME B16.5, "Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24 Metric/Inch Standard," and

(a) ASTM A182/A182M, "Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service," or

(b) ANSI/AWWA C228, "Stainless-Steel Pipe Flanges for Water Service – Sizes 2 in. through 72 in. (50 mm through 1,800 mm)."

(2) Stainless steel pipe flanges shall be made of a material that matches the grade of the pipe material used.

7.2.6.13. Stainless Steel Threaded Fittings

(1) Stainless steel threaded fittings shall be Schedule 40 or greater conforming to

(a) ASTM A182/A182M, "Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service," or

(b) ASTM A351/A351M, "Standard Specification for Castings, Austenitic, for Pressure-Containing Parts."

(2) Stainless steel threaded fittings shall be made of a material that matches the grade of the pipe material used.

7.2.6.14. Stainless Steel Tube

(1) Stainless steel tube shall conform to

(a) ASME B16.9, "Factory-Made Wrought Buttwelding Fittings," and

(b) ASTM A269/A269M, "Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service."

(2) Only grade 304/304L or 316/316L stainless steel tube shall be used.

7.2.6.15. Stainless Steel Pipe and Tube

(1) The use of stainless steel pipe and tube shall conform to Table 7.2.6.15.

Table 7.2.6.15.
Permitted Uses of Stainless Steel Pipe and Tube

Forming Part of Sentence 7.2.6.15.(1)

Stainless Steel Pipe or Tube	*Plumbing* Purposes [1]						
	Water Distribution System		*Building Sewer*	*Drainage System*		*Venting System*	
	Underground	Aboveground		Underground	Aboveground	Underground	Aboveground

Stainless steel pipe	P	P	P	P	P	P	P
Stainless steel tube	P	P	N	N	N	N	N

Notes to Table 7.2.6.15.:

(1) P = permitted and N = not permitted.

7.2.7. Non-Ferrous Pipe and Fittings (For a summary of pipe applications, see Note A-2.2.5. to 2.2.8.)

7.2.7.1. Copper and Brass Pipe

(1) Copper pipe shall conform to

(a) ASTM B42, "Standard Specification for Seamless Copper Pipe, Standard Sizes," and

(b) Table 7.2.7.4.

(2) Brass pipe shall conform to ASTM B43, "Standard Specification for Seamless Red Brass Pipe, Standard Sizes."

7.2.7.2. Brass or Bronze Pipe Flanges and Flanged Fittings

(1) Brass or bronze pipe flanges and flanged fittings shall conform to ASME B16.24, "Cast Copper Alloy Pipe Flanges, Flanged Fittings, and Valves: Classes 150, 300, 600, 900, 1500, and 2500."

7.2.7.3. Brass or Bronze Threaded Water Fittings

(1) Brass or bronze threaded water fittings shall conform to ASME B16.15, "Cast Copper Alloy Threaded Fittings: Classes 125 and 250."

(2) Brass or bronze threaded water fittings shall not be used in a *drainage system*.

7.2.7.4. Copper Tube

(1) Copper tube shall conform to

(a) ASTM B88, "Standard Specification for Seamless Copper Water Tube," or

(b) ASTM B306, "Standard Specification for Copper Drainage Tube (DWV)."

(2) Except as provided in Sentence (3), the use of copper tube shall conform to Table 7.2.7.4.

(3) Copper tube shall not be used for the *fixture drain* or the portion of the *vent pipe* below the *flood level rim* of a urinal.

(4) Copper tube used in a plumbing appliance shall conform to

(a) ASTM B88, “Standard Specification for Seamless Copper Water Tube”, or

(b) ASTM B68 / B68M, “Standard Specification for Seamless Copper Tube, Bright Annealed”.

(5) Type K or L copper tube shall be used for the *potable* water side of a heat exchanger in a pre-engineered wastewater heat recovery system.

Table 7.2.7.4.
Permitted Use of Copper Tube and Pipe

Forming Part of Sentences 7.2.7.1.(1) and 7.2.7.4.(2)

Type of Copper Tube or Pipe	*Plumbing* Purposes [1]						
	Water Distribution System		*Building Sewer*	*Drainage System*		*Venting System*	
	Underground	Aboveground		Underground	Aboveground	Underground	Aboveground
K & L hard temper	N	P	P	P	P	P	P
K & L soft temper	P	P	N	N	N	N	N
M hard temper	N	P	N	N	P	N	P
M soft temper	N	N	N	N	N	N	N
DWV	N	N	N	N	P	N	P

Notes to Table 7.2.7.4.:

[1] P = Permitted and N = Not permitted.

7.2.7.5. Solder-Joint Drainage Fittings

(1) Solder-joint fittings for *drainage systems* shall conform to

(a) ASME B16.23, “Cast Copper Alloy Solder Joint Drainage Fittings: DWV,” or

(b) ASME B16.29, “Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings – DWV.”

(2) Solder-joint fittings for *drainage systems* shall not be used in a *water system*.

7.2.7.6. Solder-Joint Water Fittings

(1) Except as provided in Sentence (2), solder-joint fittings for *water systems* shall conform to

(a) ASME B16.18, “Cast Copper Alloy Solder-Joint Pressure Fittings,” or

(b) ASME B16.22, “Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings.”

(2) Solder-joint fittings for *water systems* not made by casting or the wrought process shall conform to the applicable requirements of ASME B16.18, “Cast Copper Alloy Solder-Joint Pressure Fittings.”

7.2.7.7. Flared-Joint Fittings for Copper Water Systems

(1) Flared-joint fittings for copper tube *water systems* shall conform to ASME B16.26, "Cast Copper Alloy Fittings for Flared Copper Tubes."

(2) Flared-joint fittings for copper tube *water systems* not made by casting shall conform to the applicable requirements of ASME B16.26, "Cast Copper Alloy Fittings for Flared Copper Tubes."

7.2.7.8. Lead Waste Pipe and Fittings

(1) Lead waste pipe and fittings shall not be used in a *water system* or as a *building sewer*.

(2) When there is a change in *nominal pipe size (NPS)* of a lead water closet bend, the change shall be in the vertical section of the bend or made in a manner that prevents the retention of liquid in the bend.

7.2.8. Corrosion-Resistant Materials (For a summary of pipe applications, see Note A-7.2.5. to 7.2.8.)

7.2.8.1. Pipes and Fittings

(1) Pipes and fittings to be used for drainage and venting of acid and corrosive wastes shall conform to

(a) ASTM A518/A518M, "Standard Specification for Corrosion-Resistant High-Silicon Iron Castings,"

(b) ASTM C1053, "Standard Specification for Borosilicate Glass Pipe and Fittings for Drain, Waste, and Vent (DWV) Applications," or

(c) CSA B181.3, "Polyolefin and polyvinylidene fluoride (PVDF) laboratory drainage systems."

7.2.9. Jointing Materials

7.2.9.1. Cement Mortar

(1) Cement mortar shall not be used for jointing.

7.2.9.2. Solder and Fluxes

(1) Solders for solder joint fittings shall conform to ASTM B32, "Standard Specification for Solder Metal."

(2) Solders and fluxes having a lead content in excess of 0.2% shall not be used in a *potable water system*.

(3) Fluxes for soldered joints shall conform to ASTM B813, "Standard Specification for Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube."

(4) Brazing alloys shall conform to ANSI/AWS A5.8M/A5.8, "Specification for Filler Metals for Brazing and Braze Welding," BCuP range.

7.2.10. Miscellaneous Materials

7.2.10.1. Floor Flanges

(1) Brass floor flanges shall conform to CSA B158.1, "Cast Brass Solder Joint Drainage, Waste and Vent Fittings."

(2) ABS floor flanges shall conform to CAN/CSA-B181.1, "Acrylonitrile-Butadiene-Styrene (ABS) Drain, Waste, and Vent Pipe and Pipe Fittings".

(3) PVC floor flanges shall conform to CAN/CSA-B181.2, "Polyvinylchloride (PVC) and Chlorinated Polyvinylchloride (CPVC) Drain, Waste, and Vent Pipe and Pipe Fittings".

(4) Cast iron, copper and aluminum floor flanges shall be suitable for the purpose.

7.2.10.2. Screws, Bolts, Nuts and Washers

(1) Every screw, bolt, nut and washer shall be of corrosion-resistant materials when used

(a) to connect a water closet to a floor flange,

(b) to anchor the floor flange to the floor,

(c) to anchor the water closet to the floor, or

(d) to hold *cleanout* covers or floor drain grates.

7.2.10.3. Cleanout Fittings

(1) Every plug, cap, nut or bolt that is intended to be removable from a ferrous fitting shall be of a non-ferrous material.

(2) A *cleanout* fitting that, as a result of normal maintenance operations, cannot withstand the physical stresses of removal and reinstallation or cannot ensure a gas-tight seal shall not be installed.

(3) A screw cap or test cap shall not be used as a *cleanout* plug or cover.

7.2.10.4. Mechanical Couplings

(1) Groove- and shoulder-type mechanical pipe couplings shall conform to CSA B242, "Groove- and Shoulder-Type Mechanical Pipe Couplings".

(2) Mechanical Couplings for DWV and Sewer Pipe shall be certified to CSA B602, "Mechanical couplings for drain, waste, and vent pipe and sewer pipe".

7.2.10.5. Saddle Hubs

(1) Except as provided in Sentence (2), A saddle hub or fitting shall not be installed in *drainage, venting* or *water systems*. (See Note A-7.2.10.5.(1).)

(2) A saddle hub or saddle clamp may be installed in a *building drain* or *building sewer* of nominal diameter not less than 8 in. and that is in service provided that the connecting *branch* is at least two pipe *sizes* smaller than the run of the *building drain* or *building sewer* to which it is connected.

7.2.10.6. Valves, and Supply and Waste Fittings

(1) Supply fittings shall conform to

(a) ASME A112.18.1/CSA B125.1, "Plumbing Supply Fittings," or

(b) CSA B125.3, "Plumbing fittings."

(2) Except for lavatories in healthcare facilities, emergency eye washes, and emergency showers, supply fittings and individual shower heads shall have an integral means of limiting the maximum water flow rate to that specified in Table 2.2.10.6. (See Note A-2.2.10.6.(2).)

Table 7.2.10.6.
Water Flow Rates from Supply Fittings

Forming Part of Sentence 7.2.10.6.(2)

Supply Fittings	Maximum Water Flow Rate, LPM
Lavatory supply fittings	
private	5.7
public	1.9
Kitchen supply fittings (except those in industrial, commercial or institutional kitchens)	8.3
Shower heads	7.6

(2.1) Sentence (2) does not apply to a *fixture* located in a *heritage building*.

(3) Reserved.

(4) Reserved.

(5) Reserved.

(6) Waste fittings shall conform to ASME A112.18.2/CSA B125.2, "Plumbing Waste Fittings."

(7) Manually operated valves of *NPS* 4 or less for use in *plumbing systems* shall conform to ASME A112.4.14/CSA B125.14, "Manually Operated Valves for Use in Plumbing Systems." (See Note A-7.2.10.6.(7))

7.2.10.7. Water Temperature Control

(1) Except as provided in Sentences (2) and (3), water supplied to shower heads or bathtubs shall be controlled by an automatic compensating valve conforming to

(a) ASME A112.18.1/CSA B125.1, "Plumbing Supply Fittings," or

(b) ASSE 1016/ASME A112.1016/CSA B125.16, "Performance Requirements for Automatic Compensating Valves for Individual Showers and Tub/Shower Combinations."

(2) The requirement in Sentence (1) is permitted to be waived where hot water supplied only to bathtubs is controlled by

(a) an automatic compensating valve conforming to CSA B125.3, "Plumbing fittings," or

(b) a temperature-limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70, "Performance requirements for water temperature limiting devices."

(3) The requirement in Sentence (1) is permitted to be waived where the water is supplied by a single tempered water line controlled by an automatic compensating valve conforming to CSA B125.3, "Plumbing fittings."

(4) Except as provided in Sentences (5) and (6), and 7.2.10.7A.(1), the temperature of water discharging from a shower head or into a bathtub shall not exceed 49°C.

(5) In healthcare facilities and *retirement homes*, the temperature of water discharging from a shower head or into a bathtub shall

(a) not exceed 43°C, and

(b) be adjusted at the shower or bathtub controls.

(6) Sentence (4) does not apply to hot water supplied to installed dishwashers or clothes washers.

7.2.10.7A. Temperature Control Devices

(1) A *water distribution system* supplying hot water to any bathtub, shower or hand basin that is accessible to a patient or resident in a Group B, Division 2 or 3 *occupancy* or a resident of a group home, *home for special care* or residence for adults with developmental disabilities, or children within child care facilities shall have one or more temperature gauges and control devices that are

(a) accessible only to supervisory staff, and

(b) capable of being adjusted to ensure that the temperature of the water supplied to the *fixtures* does not exceed 43°C.

7.2.10.7B. Showers

(1) Except as provided for in Sentences (2) and (3), all valves supplying fixed location shower heads, shall be individually pressure-balanced or thermostatic-mixing valves, conforming to ASME A112.18.1 / CSA B125.1, "Plumbing Supply Fittings".

(2) An individually pressure-balanced or thermostatic-mixing valve is not required for shower heads having a single tempered water supply that is controlled by an automatic compensating valve conforming to CSA B125.3, "Plumbing Fittings".

(3) Deck-mounted, hand-held, flexible-hose spray attachments are exempt from the thermal shock requirements of Sentences (1) and (4).

(4) Pressure-balanced, thermostatic-mixing or combination pressure-balanced and thermostatic-mixing type valves shall be

(a) capable of limiting thermal shock, and

(b) designed so that the outlet temperature does not exceed 49°C or equipped with high-limit stops which shall be adjusted to a maximum hot water setting of 49°C.

7.2.10.7C. Linings and Coatings of Water Storage Tanks

(1) Linings and coatings of water storage tanks that come into contact with *potable* water and are not within a *secondary suite* or an individual *dwelling unit* shall conform to NSF/ANSI 61, "Drinking Water System Components - Health Effects".

7.2.10.8. Direct Flush Valves

(1) Direct flush valves shall

(a) open fully and close positively under service pressure,

(b) complete their cycle of operation automatically,

(c) be provided with a means of regulating the volume of water that they discharge,

(d) be provided with a vacuum breaker unless the fixture is designed so that

(e) back-siphonage cannot occur, and

(f) conform to ASSE 1037/ASME A112.1037/CSA B125.37, "Performance requirements for pressurized flushing devices for plumbing fixtures."

7.2.10.9. Drinking Fountain Bubblers

(1) The orifice of drinking fountain bubblers shall

(a) be of the shielded type, and

(b) direct the water upward at an angle of approximately 45°.

(2) Drinking fountain bubblers shall include a means of regulating the flow to the orifice.

7.2.10.10. Back-Siphonage Preventers and Backflow Preventers

(1) Except as provided in Sentence (2), *back-siphonage preventers* and *backflow preventers* shall conform to

(a) CSA B64.0, "Definitions, general requirements, and test methods for vacuum breakers and backflow preventers,"

(b) CSA B64.1.1, "Atmospheric vacuum breakers (AVB),"

(c) CSA B64.1.2, "Pressure vacuum breakers (PVB),"

(d) CSA B64.1.3, "Spill-resistant pressure vacuum breakers (SRPVB),"

(d.1) CSA B64.1.4, "Vacuum Breaker, Air Space Type (ASVB),"

(e) CSA B64.2, "Hose connection vacuum breakers (HCVB),"

(f) CSA B64.2.1, "Hose connection vacuum breakers (HCVB) with manual draining feature,"

(f.1) CSA B64.2.1.1, "Hose Connection Dual Check Vacuum Breakers (HCDVB),"

(g) CSA B64.2.2, "Hose connection vacuum breakers (HCVB) with automatic draining feature,"

(h) CSA B64.3, "Dual check valve backflow preventers with atmospheric port (DCAP),"

(h.1) CSA B64.3.1, "Dual Check Valve Backflow Preventers with Atmospheric Port for Carbonators (DCAPC),"

(i) CSA B64.4, "Reduced pressure principle (RP) backflow preventers,"

(j) CSA B64.4.1, "Reduced pressure principle backflow preventers for fire protection systems (RPF),"

(k) CSA B64.5, "Double check valve (DCVA) backflow preventers,"

(l) CSA B64.5.1, "Double check valve backflow preventers for fire protection systems (DCVAF),"

(m) CSA B64.6, "Dual check valve (DuC) backflow preventers,"

(n) CSA B64.6.1, "Dual check valve backflow preventers for fire protection systems (DuCF),"

(o) CSA B64.7, "Laboratory faucet vacuum breakers (LFVB),"

(p) CSA B64.8, “Dual check valve backflow preventers with intermediate vent (DuCV),” or

(q) CSA B64.9, “Single check valve backflow preventers for fire protection systems (SCVAF).

(r) CSA B64.10, “Selection and Installation of Backflow Preventers”

(2) *Back-siphonage preventers* for tank-type water closets (anti-siphon fill valves) shall conform to ASSE 1002/ASME A112.1002/CSA B125.12, “Anti-siphon fill valves for water closet tanks.”

7.2.10.11. Relief Valves

(1) Temperature-relief, pressure-relief, combined temperature- and pressure-relief, and vacuum-relief valves shall conform to ANSI Z21.22/CSA 4.4, “Relief Valves For Hot Water Supply Systems.”

7.2.10.12. Reducing Valves

(1) Direct-acting water-pressure-reducing valves for domestic water supply systems shall conform to CAN/CSA-B356, “Water pressure reducing valves for domestic water supply systems.”

7.2.10.13. Solar Domestic Hot Water

(1) Equipment for solar heating of potable water shall conform to CAN/CSA-F379 SERIES, “Packaged solar domestic hot water systems (liquid-to-liquid heat transfer).”

7.2.10.14. Vent Pipe Flashing

(1) Flashing fabricated on-site for vent pipes shall be fabricated from

(a) copper sheet not less than 0.33 mm thick,

(b) aluminum sheet not less than 0.48 mm thick,

(c) *alloyed zinc* sheet not less than 0.35 mm thick,

(d) lead sheet not less than 1.73 mm thick,

(e) galvanized steel sheet not less than 0.33 mm thick, or

(f) polychloroprene (neoprene) not less than 2.89 mm thick.

(2) Prefabricated flashing for *vent pipes* shall conform to CSA B272, “Prefabricated Self-Sealing Roof Vent Flashings.” (See Article 7.5.6.5. for location of vent pipe terminals.)

7.2.10.15. Water Hammer Arresters

(1) Factory built water hammer arresters shall conform to ANSI/ASSE 1010, “Water Hammer Arresters.”

7.2.10.16. Air Admittance Valves

(1) *Air admittance valves* shall conform to ASSE 1051, "Individual and Branch Type Air Admittance Valves for Sanitary Drainage Systems." (See Note A-7.2.10.16.(1).)

7.2.10.17. Water Treatment Systems

(1) A drinking water treatment system or device shall be certified to CAN/CSA-B483.1, "Drinking Water Treatment Systems".

7.2.10.18. Flexible Water Connectors

(1) Flexible water connectors exposed to continuous pressure shall conform to ASME A112.18.6/CSA B125.6, "Flexible water connectors."

7.2.11. Water Service Pipes and Fire Service Mains

7.2.11.1. Design, Construction, Installation and Testing

(1) Except as provided in Articles 7.2.11.2. to 7.2.11.4., and 7.3.7.2, the design, construction, installation and testing of *fire service mains* and *water service pipe* combined with *fire service mains* shall be in conformance with NFPA 24, "Installation of Private Fire Service Mains and Their Appurtenances".

7.2.11.2. Certification or Conformance

(1) *Water service pipes* and *fire service mains* shall conform to the standards for the materials listed in Table 7.2.11.2.

Table 7.2.11.2.
Water Service Pipe and Fire Service Main Materials

Forming Part of Sentence 7.2.11.2.(1)

Material	Standard	Limitations
Polyethylene pipe and fittings	Conform to Series 160 or a higher series of CSA B137.1, "Polyethylene (PE) Pipe, Tubing and Fittings for Cold Water Pressure Services"	
Crosslinked polyethylene pressure pipe or tube and fittings	Conform to CSA B137.5, "Crosslinked Polyethylene (PEX) Tubing Systems for Pressure Applications"	
PVC pipe and fittings	Conform to CSA B137.3, "Rigid Polyvinylchloride (PVC) Pipe and Fittings for Pressure Applications", or certified to CSA B137.2, "Polyvinylchloride (PVC) Injection-Moulded Gasketed Fittings for Pressure Applications"	Pipe and fittings must have a rated working pressure of 1 100 kPa or more

CPVC pipe and fittings	Conform to CSA B137.6, “Chlorinated Polyvinylchloride (CPVC) Pipe, Tubing and Fittings for Hot and Cold Water Distribution Systems”	The design temperature and pressure shall conform to the requirements of the CSA B137.6, “Chlorinated Polyvinylchloride (CPVC) Pipe, Tubing and Fittings for Hot and Cold Water Distribution Systems”
Cast-iron water pipe	Conform to ANSI/AWWA C151/A21.51, “Ductile-Iron Pipe, Centrifugally Cast”	Pipe shall have a cement-mortar lining conforming to ANSI/AWWA C104/A21.4, “Cement-Mortar Lining for Ductile-Iron Pipe and Fittings”
Iron fittings for cast-iron or ductile-iron water pipes	Conform to ANSI/AWWA C110/A21.10, “Ductile-Iron and Gray-Iron Fittings”	Pipe shall have a cement-mortar lining conforming to ANSI/AWWA C104/A21.4, “Cement-Mortar Lining for Ductile-Iron Pipe and Fittings”
Rubber gasket joints for cast-iron and ductile-iron water pipes	Conform to ANSI/AWWA C111/A21.11, “Rubber Gasket Joints for Ductile-Iron Pressure Pipe and Fittings”	
Screwed cast-iron water fittings	Conform to ASME B16.4, “Gray Iron Threaded Fittings: Classes 125 and 250”	Screwed cast iron water fittings shall be cement-mortar lined or galvanized
Type K soft copper tube	Conform to ASTM B88, “Standard Specification for Seamless Copper Water Tube”	
Solder-joint fittings for copper water systems	Conform to ASME B16.18, “Cast Copper Alloy Solder Joint Pressure Fittings”, or conform to ASME B16.22, “Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings”	Solder-joint fittings not made by casting or the wrought process shall conform to the applicable requirements of ASME B16.18, “Cast Copper Alloy Solder-Joint Pressure Fittings”
Flared-joint fittings for copper water systems	Conform to ASME B16.26, “Cast Copper Alloy Fittings for Flared Copper Tubes”	Flared-joint fittings not made by casting shall conform to ASME B16.26, “Cast Copper Alloy Fittings for Flared Copper Tubes”
PE/AL/PE pipe and fittings	Conform to CSA B137.9, “Polyethylene/Aluminum/ Polyethylene (PE-AL-PE) Composite Pressure-Pipe Systems”	
PEX/AL/PEX pipe and fittings	Conform to CSA B137.10, “Crosslinked Polyethylene/ Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Composite Pressure-Pipe Systems”	

7.2.11.3. Tracer Wire

(1) Except as provided in Sentence (2), every non-metallic *water service pipe* or *fire service main* shall have attached to it

(a) a 14 gauge TW solid copper light coloured plastic coated tracer wire, or

(b) a 12 gauge copper clad steel light coloured plastic coated tracer wire.

(2) Where a *water service pipe* or *fire service main* is detectable without the tracer wire referenced in Sentence (1), the tracer wire may be omitted.

7.2.11.4. Required Check Valve

(1) Where a *water service pipe* is supplied with water by more than one *drinking water system*, a *check valve* shall be installed at each connection with a *drinking water system*.

(2) Where a *fire service main* is supplied with water by more than one source, a *check valve* shall be installed at each connection with a source of water.

7.3. Piping

7.3.1. Application

7.3.1.1. General

(1) This Section applies to the *construction* and use of joints and connections, and the arrangement, protection, support and testing of piping.

7.3.2. Construction and Use of Joints

7.3.2.1. Caulked Lead Drainage Joints

(1) Caulked lead drainage joints shall not be used except for cast-iron pipe in a *drainage system* or *venting system*, or between such pipe and

(a) other ferrous pipe,

(b) brass and copper pipe,

(c) a caulking ferrule, or

(d) a *trap standard*.

(2) Every caulked lead drainage joint shall be firmly packed with oakum and tightly caulked with lead to a depth of not less than 25 mm.

(3) No paint, varnish or other coating shall be applied on the lead until after the joint has been tested.

(4) A length of hub and spigot pipe and pipe fittings in a *drainage system* shall be installed with the hub at the upstream end.

7.3.2.2. Wiped Joints

(1) Wiped joints shall not be used except for sheet lead or lead pipe, or between such pipe and copper pipe or a ferrule.

(2) Wiped joints in straight pipe shall

(a) be made of solder,

(b) have an exposed surface on each side of the joint at least 19 mm wide, and

(c) be not less than 10 mm thick at the thickest part.

(3) Wiped flanged joints shall be reinforced with a lead flange that is not less than 19 mm wide.

7.3.2.3. Screwed Joints

(1) In making a screwed joint, the ends of the pipe shall be reamed or filed out to the size of the bore and all chips and cuttings shall be removed.

(2) No pipe-joint cement or paint shall be applied to the internal threads.

7.3.2.4. Soldered Joints

(1) Soldered joints shall be made in accordance with ASTM B828, "Standard Specification for Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings."

7.3.2.5. Flared Joints

(1) In making a flared joint, the pipe shall be expanded with a proper flaring tool.

(2) Flared joints shall not be used for hard (drawn) copper tube.

7.3.2.6. Mechanical Joints

(1) Mechanical joints shall be made with compounded elastomeric couplings or rings that are held in compression by

(a) stainless steel or cast-iron clamps, or

(b) contained within a compression connection or groove and shoulder type mechanical couplings. (See Note A-7.3.2.6.(1))

7.3.2.7. Cold-Caulked Joints

(1) Cold-caulked joints shall not be used except for bell and spigot pipe in a water system, a *drainage system* or a *venting system*.

(2) Caulking compound used in cold-caulked joints shall be applied according to the manufacturer's directions.

(3) Cold-caulked joints in a *drainage system* shall be firmly packed with oakum and tightly caulked with cold caulking compound to a depth of not less than 25 mm.

7.3.2.8. Stainless Steel Welded Joints

(1) Stainless steel welded joints shall conform to ASME B31.9, "Building Services Piping."

(2) Butt weld pipe fittings shall be at least as thick as the wall of the pipe used.

7.3.3. Joints and Connections

7.3.3.1. Drilled and Tapped Joints

(1) Drilled and tapped joints shall not be made in a *sanitary drainage pipe* or *vent pipe* and fittings unless suitable provision has been made for drilling and tapping.

(2) A copper water *distributing pipe* of *NPS* 1 or larger may be mechanically swaged to permit the joining of other copper pipe of equal *size*.

(3) A drainage pipe or fitting may be drilled or tapped

(a) to provide for the connection of a *trap* seal primer line,

(b) to connect a device designed to dispense germicidal or odour control chemicals or *trap* seal water to a floor drain downstream of a *vacuum breaker* or flush valve in a flush tube connected to a *sanitary unit*,

(c) to provide a hole for a *branch* connection to a drainage pipe, where the *branch* connection is made with a saddle hub as permitted by Article 7.2.10.5. and where the hole is drilled to provide a smooth clean hole of the required *size* and orientation, or

(d) to provide for the connection of pipe or fittings to metal or rigid plastic pipe and fittings where the pipe or fittings are thick enough to be threaded or are bossed for tapping.

(5) No pipe adaption shall be made by the use of a bushing that leaves a square edge or shoulder on the inside of the pipe or fitting.

7.3.3.2. Extracted Tees

(1) Tees may be extracted from the wall thickness of Types K and L copper tube used in a *water distribution system*, provided that

(a) a tool specifically designed for the purpose is used,

(b) the branch is at least one *NPS* smaller than the tube in which the tee is formed,

(c) the end of the branch incorporates a means to prevent it from penetrating into the run and thereby obstructing flow, and

(d) the joint at the tee is brazed with a filler metal having a melting point not below 540°C.

7.3.3.3. Prohibition of Welding Pipes and Fittings

(1) Cast-iron *soil pipe* and fittings shall not be welded.

(2) Galvanized steel pipe and fittings shall not be welded.

7.3.3.4. Unions and Slip Joints

(1) Except as provided in Sentence 2.4.6.3.(6), running thread and packing nut connections and unions with a gasket seal shall not be used downstream of a *trap weir* in a *drainage system* or in a *venting system*.

(2) Slip joints shall not be used

(a) in a *venting system*, or

(b) in a *drainage system*, except to connect a *fixture trap* to a *fixture drain* in an *accessible* location.

7.3.3.5. Increaser or Reducer

(1) Connections between 2 pipes of different *nominal pipe sizes* shall be made with an increaser or a reducer fitting installed so that it permits the system to be completely drained.

7.3.3.6. Dissimilar Materials

(1) Adaptors, connectors or mechanical joints used to join dissimilar materials shall be designed to accommodate the required transition.

7.3.3.7. Connection of Roof Drain to Leader

(1) *Roof drains* shall be securely connected to a *leader* and provision shall be made for expansion.

7.3.3.8. Connection of Floor and Wall Outlet Fixtures

(1) Pedestal urinals, floor-mounted water closets and S-*trap standards* shall be connected to a *fixture drain* by a floor flange or other means of connection, except that a cast-iron *trap standard* may be caulked to a cast-iron pipe.

(2) Except as provided in Sentence (3), floor flanges shall be brass.

(3) Where cast-iron or plastic pipe is used, a floor flange of the same material is permitted to be used.

(4) Floor flanges and *fixtures* shall be securely set on a firm base and fastened to the floor or *trap* flange of the *fixture*.

(5) Water-closet bowls shall be securely attached to the floor flange, floor or wall carrier.

(6) Joints in a floor flange or between a *fixture* and the *drainage system* shall be sealed with a resilient watertight and gas-tight seal.

(7) Where a lead water-closet stub is used, the length of the stub below the floor flange shall be not less than 75 mm.

7.3.3.9. Expansion and Contraction (Seen Note A-7.3.3.9.)

(1) The design and installation of every piping system shall, where necessary, include means to accommodate expansion and contraction of the piping system caused by temperature change or *building* shrinkage. (See Note A-7.3.3.9.(1).)

7.3.3.10. Copper Tube

(1) Types M and DWV copper tube shall not be bent.

(2) Bends in copper tubing of soft or bending temper shall be made with tools manufactured and sized for the purpose.

7.3.3.11. Indirect Connections

(1) Where a *fixture* or device is *indirectly connected*, the connections shall be made by terminating the *fixture drain* above the *flood level rim* of a *directly connected fixture* to form an *air break*.

(2) The size of the *air break* shall be not less than 25 mm.

7.3.3.12. Copper Joints Used Underground

(1) Except as provided in Sentence (2), joints in copper tubes installed underground shall be made with either flared or compression fittings, or be brazed using a brazing alloy within the American Welding Society's AWS-BCuP range.

(2) Compression fittings shall not be used underground under a *building*.

7.3.4. Support of Piping

7.4.3.1. Capability of Support

(1) Piping shall be provided with support that is capable of keeping the pipe in alignment and bearing the weight of the pipe and its contents.

(2) Wall-mounted *fixtures* shall be supported so that no strain is transmitted to the piping.

(3) Every floor or wall mounted water closet bowl shall be securely attached to the floor or wall by means of a flange and shall be stable.

7.3.4.2. Independence of Support

(1) Piping, *fixtures*, tanks or devices shall be supported independently of each other.

7.3.4.3. Insulation of Support

(1) Where a hanger or support for copper tube or brass or copper pipe is of a material other than brass or copper, it shall be suitably separated and electrically insulated from the pipe or tube to prevent galvanic action.

(2) Where a hanger or support for stainless steel pipe or tube is of a material other than stainless steel, it shall be suitably separated and electrically insulated from the pipe or tube.

7.3.4.4. Support for Vertical Piping

(1) Except as provided in Sentence (2), vertical piping shall be supported at its base and at the floor level of alternate *storeys* by rests, each of which can bear the weight of pipe that is between it and the rest above it.

(2) The maximum spacing of supports shall be 7.5 m.

7.3.4.5. Support for Horizontal Piping

(1) *Nominally horizontal* piping that is inside a *building* shall be braced to prevent swaying and buckling and to control the effects of thrust.

(2) *Nominally horizontal* piping shall be supported as stated in Table 7.3.4.5.

Table 7.3.4.5.
Support for Nominally Horizontal Piping

Forming Part of Sentence 7.3.4.5.(2)

Piping Material	Maximum Horizontal Spacing of Supports, m	Additional Support Conditions
ABS or PVC plastic pipe	1.2	At the end of *branches* or *fixture drains* and at changes in direction and elevation
ABS or PVC plastic t*rap arm* or *fixture drain* pipe > 1 m long	n/a	As close as possible to the trap
Cast-iron pipe	3.0	At or adjacent to each hub or joint
Cast-iron pipe with mechanical joints that is ≤ 300 mm long between adjacent fittings	1.0	None
Copper tube or copper and brass pipe, hard temper		
• diameter> *NPS* 1	3.0	
• diameter≤ *NPS* 1	2.5	None

Copper tube, soft temper	2.5	None
CPVC pipe	1.0	None
Galvanized iron or steel pipe • diameter ≥ *NPS* 6 • diameter< *NPS* 6	 3.75 2.5	None
Lead pipe	Throughout length of pipe	None
PE/AL/PE composite pipe	1.0	None
PEX/AL/PEX composite pipe	1.0	None
PEX plastic pipe	0.8	None
PE-RT tube	0.8	None
PP-R plastic pipe	1.0	At the end of *branches* and at changes in direction and elevation
Stainless steel pipe • diameter≥ *NPS* 1 • diameter < *NPS* 1	 3.0 2.5	None
Stainless steel tube • diameter≥ *NPS* 1 • diameter < *NPS* 1	 3.0 2.5	None

(3) Where plastic pipe or a composite pipe incorporating a plastic component is installed,

(a) the pipe shall be aligned without added strain on the piping,

(b) the pipe shall not be bent or pulled into position after being welded or joined, and

(c) hangers shall not compress, cut or abrade the pipe.

(4) Where PEX, PE-RT, PP-R, PE/AL/PE or PEX/AL/PEX plastic pipe or tube is installed, hangers shall not compress, cut or abrade the pipe.

(5) Where hangers are used to support *nominally horizontal* piping, the hangers shall be

(a) supported by metal rods of not less than

(i) 6 mm diam to support piping of *NPS* 2 or less,

(ii) 8 mm diam to support piping of *NPS* 4 or less, and

(iii) 13 mm diam to support piping over *NPS* 4, or

(b) solid or perforated metal straps not less than

(i) 0.6 mm thick and 12 mm wide to support piping of *NPS* 2 or less, and

(ii) 0.8 mm thick and 18 mm wide to support piping of *NPS* 4 or less.

(6) Where a hanger is attached to concrete or masonry, it shall be fastened by metal or expansion-type plugs that are inserted or built into the concrete or masonry.

7.3.4.6. Support for Underground Horizontal Piping

(1) Except as provided in Sentence (2), *nominally horizontal* piping that is underground shall be supported on a base that is firm and continuous under the whole of the pipe. (See Note A-7.3.4.6.(1).)

(2) *Nominally horizontal* piping installed underground that is not supported as described in Sentence (1) may be installed using hangers fixed to a *foundation* or structural slab provided that the hangers are capable of

(a) keeping the pipe in alignment, and

(b) supporting the weight of

(i) the pipe,

(ii) its contents, and

(iii) the fill over the pipe.

7.3.4.7. Support for Vent Pipe above a Roof

(1) Where a *vent pipe* that may be subject to misalignment terminates above the surface of a roof, it shall be supported or braced. (See Article 7.5.6.5. for location of *vent pipe* terminals.)

7.3.4.8. Compression Fittings

(1) No compression fitting connecting to plain end pipe or tube shall be used in a *plumbing system* unless the pipe or tube and fittings are sufficiently stayed, clamped, anchored or buttressed so as to prevent separation during normal service of the system allowing for surge pressures.

7.3.4.9. Thrust Restraint of Water Service Pipes

(1) Pipe clamps and tie-rods, thrust blocks, locked mechanical or push-on joints, mechanical joints utilizing set screw retainer glands, or other suitable means of thrust restraint shall be provided at each change of direction of a *water service pipe NPS* 4 or more and at all tees, plugs, caps and bends.

(2) Backing for underground *water service pipes* shall be placed,

(a) between undisturbed earth and the fitting to be restrained and shall be of sufficient bearing area to provide adequate resistance to the thrust to be encountered, and

(b) so that the joints will be *accessible* for inspection and repair.

(3) Concrete thrust blocks shall have a minimum compressive strength of not less than 10 MPa after 28 days.

(4) Thrust blocks shall not be used to restrain vertical pipe.

7.3.5. Protection of Piping

7.3.5.1. Protection of Piping

(1) Where piping is installed underground, the backfill shall be carefully placed and tamped to a height of 300 mm over the top of the pipe and shall be free of stones, boulders, cinders and frozen earth.

7.3.5.1A. Protection of Non-Metallic Pipe

(1) Where vitrified clay is located less than 600 mm below a basement floor and the floor is constructed of other than 75 mm or more of concrete, the pipe shall be protected by a 75 mm layer of concrete installed above the pipe.

7.3.5.2. Isolation from Loads

(1) Where piping passes through or under a wall, it shall be installed so that the wall does not bear on the pipe.

7.3.5.3. Protection Against Freezing (See Note A-7.3.5.3.)

(1) Where piping may be exposed to freezing conditions, it shall be protected from the effects of freezing.

7.3.5.4. Protection from Mechanical Damage

(1) *Plumbing* piping and equipment exposed to mechanical damage shall be protected.

7.3.5.5. Protection from Condensation

(1) Piping used as an internal *leader*, which may be subject to condensation, shall be installed in a manner that limits the risk of damage to the *building* due to condensation.

7.3.5.6. Spatial Separation

(1) Except as permitted in Sentences (2) and (3), a buried *water service pipe* shall be separated from the *building drain*, *building sewer* and a *private sewage disposal system*, by not less than 2 440 mm measured horizontally, of undisturbed or compacted earth.

(2) The *water service pipe* may be closer than 2 440 mm or be placed in the same trench with the *building drain* or *building sewer* if

(a) the following conditions are met:

(i) the bottom of the *water service pipe* at all points is at least 500 mm above the top of the *building drain* or *building sewer*, and

(ii) when in a common trench with the *building drain* or *building sewer*, the *water service pipe* is placed on a shelf at one side of the common trench,

(b) the *water service pipe* is constructed of a single run of pipe with no joints or fittings between the street line or source of supply on the property and the inside face of the *building*, or

(c) the *building drain* or *building sewer* is constructed of piping which is pressure tested in accordance with Subsection 7.3.7. at 345 kPa.

(3) A buried *water service pipe* may pass under a *building drain* or *building sewer* if

(a) a vertical separation of not less than 500 mm is provided between the invert of the *building drain* or *building sewer* and the crown of the *water service pipe*,

(b) adequate structural support is provided for the *building drain* or *building sewer* to prevent excessive deflection of joints and settling, and

(c) the length of the *water service pipe* is located so that there are no joints within 2 440 mm measured horizontally from the intersection with the *building drain* or *building sewer*.

(4) A buried *water service pipe* shall be constructed of a single run of pipe with no joints or fittings between the street line or source of supply on the property and the inside face of the *building* if the *water service pipe* is less than 15 m from

(a) a *private sewage disposal system*, or

(b) a source of pollution other than a *private sewage disposal system*.

7.3.6. Testing of Drainage or Venting Systems

7.3.6.1. Tests and Inspections of Drainage or Venting Systems

(1) Except in the case of an external *leader*, after a section of a *drainage system* or a *venting system* has been roughed in, and before any *fixture* is installed or piping is covered, a water pressure test or an air pressure test shall be conducted.

(2) After every *fixture* is installed and before any part of the *drainage system* or *venting system* is placed in operation, a final test shall be carried out when requested by the *chief building official*.

(3) Where a prefabricated system is assembled off the *building* site in such a manner that it cannot be inspected and tested on site, off-site inspections and tests shall be conducted.

(4) Where a prefabricated system is installed as part of a *drainage system* or *venting system*, all other *plumbing* work shall be tested and inspected and a final test shall be carried out on the complete system when requested.

(5) A ball test shall be carried out on a *sanitary building drain*, *sanitary building sewer*, *storm building drain* and a *storm building sewer* buried underground.

(6) A *sewer lateral extension* need not be tested and inspected if the *sewer lateral extension* was constructed, tested and inspected at the time of the installation of the public sewer.

7.3.6.2. Tests of Pipes in Drainage Systems

(1) Pipes in a *drainage system*, except an external *leader* or *fixture outlet pipe*, shall be capable of withstanding without leakage a water pressure test, air pressure test and final test.

7.3.6.3. Tests of Venting Systems

(1) *Venting systems* shall be capable of withstanding without leakage a water pressure test, air pressure test and final test.

7.3.6.4. Water Pressure Tests

(1) A water pressure test shall consist in applying a water column of at least 3 m to all joints.

(2) In making a water pressure test

(a) every opening except the highest shall be tightly closed with a testing plug or a screw cap, and

(b) the system or the section shall be kept filled with water for 15 min.

7.3.6.5. Air Pressure Tests

(1) Air pressure tests shall be conducted in accordance with the manufacturer's instructions for each piping material, and

(a) air shall be forced into the system until a pressure of 35 kPa is created, and

(b) this pressure shall be maintained for at least 15 min without a drop in pressure. (See Note A-7.3.6.5.(1))

7.3.6.6. Final Tests

(1) Where a final test is made

(a) every *trap* shall be filled with water,

(b) the bottom of the system being tested shall terminate at a *building trap*, test plug or cap,

(c) except as provided in Sentence (2), smoke from smoke-generating machines shall be forced into the system,

(d) when the smoke appears from all roof terminals, they shall be closed, and

(e) a pressure equivalent to a 25 mm water column shall be maintained for 15 min without the addition of more smoke.

(2) The smoke referred to in Clauses (1)(c) and (d) is permitted to be omitted, provided the roof terminals are closed and the system is subjected to an air pressure equivalent to a 25 mm water column maintained for 15 min without the addition of more air.

7.3.6.7. Ball Tests

(1) Where a ball test is made, a hard ball dense enough not to float shall be rolled through the pipe.

(2) The diameter of the ball shall be not less than

(a) 50 mm where the size of the pipe is *NPS* 3 or more, or

(b) 25 mm where the size of the pipe is less than *NPS* 3.

7.3.7. Testing of Potable Water Systems

7.3.7.1. Application of Tests

(1) After a section of a *potable water system* has been completed, and before it is placed in operation, a water pressure test or an air pressure test shall be conducted.

(2) A pressure test may be applied to each section of the system or to the system as a whole.

(3) Where a prefabricated system is assembled off the *building* site in such a manner that it cannot be inspected and tested on site, off-site inspections and pressure tests shall be conducted.

(4) Where a prefabricated system is installed as part of a *water system*

(a) all other *plumbing* work shall be tested and inspected, and

(b) the complete system shall be pressure tested when requested.

7.3.7.2. Pressure Tests of Potable Water Systems

(1) Every *potable water system* shall be capable of

(a) withstanding without leakage a water pressure that is at least 1 000 kPa for at least 1 h, or

(b) withstanding for at least 2 h without a drop in pressure an air pressure that is at least 700 kPa.

7.3.7.3. Water Pressure Tests

(1) Where a water pressure test is made, all air shall be expelled from the system before *fixture* control valves or faucets are closed.

(2) *Potable water* shall be used to test a *potable water system*.

7.4. Drainage Systems

7.4.1. Application

7.4.1.1. General

(1) This Section applies to *sanitary drainage systems* and *storm drainage systems*.

7.4.2. Connections to Drainage Systems

7.4.2.1. Connections to Sanitary Drainage Systems

(1) *Fixtures* shall be *directly connected* to a *sanitary drainage system*, except that

(a) drinking fountains are permitted to be

(i) *indirectly connected* to a *sanitary drainage system*, or

(ii) connected to a *storm drainage system*, provided that where the system is subject to *backflow*, a *backwater valve* is installed in the fountain *fixture drain* (see Note A-7.4.2.1.(1)(a)(ii) and (e)(vi)),

(b) drainage pans on heating/cooling units are permitted to be connected to a *storm drainage system*, provided that where the system is subject to *backflow*, a *backwater valve* is installed,

(c) a floor drain is permitted to be connected to a *storm drainage system*, provided it is located where it can receive only *clear-water waste* or *storm water*,

(d) fixtures or appliances that discharge only clear-water waste are permitted to be connected to a storm drainage system or be drained onto a roof, and

(e) the following devices shall be *indirectly connected* to a *drainage system*:

(i) a device for the display, storage, preparation or processing of food or drink,

(ii) a sterilizer,

(iii) a device that uses water as a cooling or heating medium,

(iv) a water operated device,

(v) a water treatment device, or

(vi) a drain or overflow from a *water system* or a heating system. (See Note A-7.4.2.1.(1)(a)(ii) and (e)(vi))

(2) The connection of a *soil* or *waste pipe* to a *nominally horizontal soil* or *waste pipe* or to a *nominally horizontal offset* in a *soil* or *waste stack* shall be respectively at least 1.5 m measured horizontally from the bottom of a *soil* or *waste stack* or from the bottom of the upper vertical section of the *soil* or waste *stack* that

(a) receives a discharge of 30 or more *fixture units*, or

(b) receives a discharge from fixtures located on 2 or more *storeys*.

(3) No other *fixture* shall be connected to a lead bend or stub that serves a water closet.

(4) Where a change in direction of more than 45° occurs in a *soil* or *waste pipe* that serves more than one clothes washer, and in which pressure zones are created by detergent suds, no other *soil* or *waste pipe* shall be connected to it within a length less than

(a) 40 times the *nominal pipe size* of the *soil* or *waste pipe* or 2.44 m maximum vertical, whichever is less, before changing direction, and

(b) 10 times the *nominal pipe size* of the *nominally horizontal soil* or *waste pipe* after changing direction.

(5) Where a *vent pipe* is connected into the suds pressure zone referred to in Sentence (4), no other *vent pipe* shall be connected to that *vent pipe* within the height of the suds pressure zone. (See Note A-7.4.2.1.(4) and (5).)

7.4.2.2. Connection of Overflows from Rainwater Tanks

(1) Where an overflow from a *rainwater* tank is connected to a *storm drainage system*, it shall be connected by

(a) an *air break*, or

(b) a *backwater valve* installed on the *storm drainage pipe* before the connection to the *storm building drain*.

7.4.2.3. Direct Connections

(1) Two or more *fixture outlet pipes* that serve outlets from a single *fixture* that is listed in Clause 7.4.2.1.(1)(e) may be *directly connected* to a *branch* that

(a) has a *nominal pipe size* of not less than *NPS* 1¼, and

(b) is terminated above the *flood level rim* of a *directly connected fixture* with a minimum diameter waste of 1½ in. to form an *air break*.

(2) *Fixture drains* from *fixtures* that are listed in Subclauses 7.4.2.1.(1)(e)(i) and (ii) may be *directly connected* to a pipe that

(a) is terminated to form an *air break* above the *flood level rim* of a *fixture* that is *directly connected* to a *sanitary drainage system*, and

(b) is extended through the roof when *fixtures* that are on 3 or more *storeys* are connected to it.

(3) *Fixture drains* from *fixtures* that are listed in Subclauses 7.4.2.1.(1)(e)(iii) to (vi) may be *directly connected* to a pipe that,

(a) is terminated to form an *air break* above the *flood level rim* of a *fixture* that is *directly connected* to a *storm drainage system*, and

(b) is extended through the roof when *fixtures* that are on 3 or more *storeys* are connected to it.

(4) Every *waste pipe* carrying waste from a device for the display, storage, preparation or processing of food or drink shall be trapped and have a minimum diameter equal to the diameter of the drain outlet from the device.

7.4.3. Location of Fixtures

7.4.3.1. Plumbing Fixtures

(1) *Sanitary units*, bathtubs and shower baths shall not be installed adjacent to wall and floor surfaces that are pervious to water.

7.4.3.2. Restricted Locations of Indirect Connections and Traps

(1) Indirect connections or any *trap* that may overflow shall not be locate in a crawl space or any other unfrequented area.

7.4.3.3. Equipment Restrictions Upstream of Grease Interceptors

(1) Except as provided in Sentence (2), equipment discharging waste with organic solids shall not be located upstream of an *interceptor*. (See Note A-7.4.3.3.(1).)

(2) If a food scrap *interceptor* has been installed upstream of the grease *interceptor*, equipment discharging waste with organic solids may discharge through a grease *interceptor*.

7.4.3.4. Fixtures Located in Chemical Storage Locations

(1) A floor drain or other *fixture* located in an oil transformer vault, a high voltage room or any room where flammable, dangerous or toxic chemicals are stored or handled shall not be connected to a *drainage system*.

7.4.3.5. Macerating Toilet System

(1) A macerating toilet system shall only be installed

(a) where no connection to a *gravity sanitary drainage system* is available, and

(b) in accordance with the manufacturer's instructions.

7.4.3.6. Drains Serving Elevator Pits

(1) If a floor drain is provided in an elevator pit, it shall be installed in accordance with Section 2.2 of ASME A17.1 / CSA B44, "Safety Code for Elevators and Escalators".

7.4.4. Treatment of Sewage and Waste

7.4.4.1. Sewage Treatment

(1) Where a *fixture* or equipment discharges *sewage* or waste that may damage or impair the *sanitary drainage system* or the functioning of a *sanitary sewage* works or *sanitary sewage system*, provision shall be made for treatment of the *sewage* or waste before it is discharged to the *sanitary drainage system*.

7.4.4.2. Cooling of Hot Water or Sewage

(1) Where a *fixture* discharged *sewage* or *clear-water waste* that has been heated, the *drainage system* shall be suitable for the temperature of the *sewage* or *clear-water waste* being discharged.

7.4.4.3. Interceptors

(1) Except for suites of *residential occupancy*, where a *fixture* discharges *sewage* that includes fats, oils or grease and is located in an area where food is cooked, processed or prepared, it shall discharge through a grease *interceptor*.

(2) Except as provided in Sentence (3), oil *interceptors* shall be provided as follows:

(a) service stations, repair shops and garages or any establishment where motor vehicles are repaired, lubricated or maintained shall be provided with an oil *interceptor*, and

(b) establishments which use oily or *flammable liquids* or have such wastes as a result of an industrial process shall be provided with an engineered oil *interceptor*.

(2.1) Oil *interceptors* are not required for a drain in a hydraulic elevator pit, parking lot, car wash or a garage used exclusively as a motor vehicle parking area.

(3) Where a *fixture* discharges sand, grit or similar materials, an *interceptor* designed for the purpose of intercepting such discharges shall be installed.

(4) *Interceptors* shall have sufficient capacity to perform the service for which it is provided.

(5) An on site constructed *interceptor* shall be constructed to the requirements of a manufactured *interceptor*.

(6) A grease *interceptor* shall be located as close as possible to the *fixture* or *fixtures* it serves.

(7) The flow rate through a grease *interceptor* shall not exceed its rated capacity and the flow rate shall be determined using the following:

$$\mathbf{Q} = \left(\sum_{\mathbf{1}}^{\mathbf{N}} \left(\mathbf{0.75}\frac{\mathbf{V}}{\mathbf{DDT}}\right)\right) + \mathbf{PD}$$

where:

Q is the flow rate to a grease interceptor in L/s.

V is the volume of the fixture in L.

DDT is the drain down time, 60 or 120 seconds.

PD is any pump discharge in L/s.

N is the number of fixtures to go through the interceptor.

(8) All grease and oil *interceptors* shall have an internal flow control and, where the head will exceed five feet, a secondary flow control shall be required.

(9) Floor drains that conform to Sentence 7.4.5.1.(3) are not required to be separately trapped and vented, and may be gang trapped when discharging through an oil *interceptor*.

7.4.4.4. Neutralizing and Dilution Tanks

(1) Where a *fixture* or equipment discharges corrosive or acid waste, it shall discharge into a neutralizing or dilution tank that is connected to the *sanitary drainage system* through

(a) a *trap*, or

(b) an indirect connection. (See Note A-7.4.4.4.(1))

(2) Neutralizing and dilution tanks shall have a method for neutralizing the liquid.

7.4.5. Traps

7.4.5.1. Traps for Sanitary Drainage Systems

(1) Except as provided in Sentences (2) to (3) and in Article 7.4.5.2., *fixtures* shall be protected by a separate *trap*.

(2) One *trap* is permitted to protect

(a) all the trays or compartments of a 2- or 3-compartment sink,

(b) a 2- or 3-compartment laundry tray, or

(c) 2 similar single compartment *fixtures* located in the same room. (See Note A-7.4.5.1.(2))

(3) One *trap* is permitted to serve a group of floor drains and *hub drains*, a group of shower drains, a group of washing machines or a group of laboratory sinks if the *fixtures*

(a) are in the same room, and

(b) are not located where they can receive food or other organic matter.

(4) Reserved.

(5) An *interceptor* with an effective water seal of not less than 38 mm is permitted to serve as a *trap*. (See Note A-2.4.5.1.(5))

(6) Where a domestic dishwashing machine equipped with a drainage pump discharges through a direct connection into the *fixture outlet pipe* of an adjacent kitchen sink or disposal unit, the pump discharge line shall rise as high as possible to just under the counter and connect

(a) on the inlet side of the sink *trap* by means of a Y fitting, or

(b) to the disposal unit.

7.4.5.2. Traps for Storm Drainage Systems

(1) Where a *storm drainage system* is connected to a *combined building sewer* or a public *combined sewer*, a *trap* shall be installed between any opening in the system and the drain or sewer, except that no *trap* is required if the opening is the upper end of a *leader* that terminates

(a) at a roof that is used only for weather protection,

(b) not less than 1 m above or not less than 3.5 m in any other direction from any air inlet, openable window or door, and

(c) not less than 1.8 m from a property line. (See Note A-7.4.5.2.(1).)

(2) A floor drain that drains to a *storm drainage system* shall be protected by a *trap* that

(a) is located between the floor drain and a *leader*, *storm building drain* or *storm building sewer*,

(b) may serve all floor drains located in the same room, and

(c) need not be protected by a *vent pipe*.

7.4.5.3. Connection of Subsoil Drainage Pipe to a Sanitary Drainage System

(1) Where a *subsoil drainage pipe* is connected to a *sanitary drainage system*, the connection shall be made on the upstream side of a *trap* with a *cleanout* or a trapped sump. (See Note A-7.4.5.3.(1).)

(2) Except as permitted in Sentence (3), no foundation drain or *subsoil drainage pipe* shall connect to a *sanitary drainage system*.

(3) Where *a storm drainage system* is not available or soil conditions prevent drainage to a culvert or dry well, a foundation drain or *subsoil drainage pipe* may connect to a *sanitary drainage system*.

7.4.5.4. Location and Cleanout for Building Traps

(1) Where a *building trap* is installed, it shall

(a) be provided with a *cleanout* fitting on the upstream side of and directly over the *trap*,

(b) be located upstream of the *building cleanout*, and

(c) be located

(i) inside the *building* as close as practical to the place where the *building drain* leaves the *building*, or

(ii) outside the *building* in a manhole. (See Note A-7.4.5.4.(1).)

7.4.5.5. Trap Seals

(1) Provision shall be made for maintaining the *trap* seal of a floor drain or a *hub drain* by

(a) the use of a *trap* seal primer,

(b) using the drain as a receptacle for an *indirectly connected* drinking fountain, or

(c) other equally effective means.

(2) Where a mechanical device is installed to furnish water to a *trap*, the pipe or tube conveying water from the device to the *trap* shall be at least ⅜ in. inside diameter.

7.4.6. Arrangement of Drainage Piping

7.4.6.1. Separate Systems

(1) No vertical *sanitary drainage pipe* shall conduct both *sanitary sewage* and *storm sewage*.

(2) Reserved.

(3) There shall be no unused open ends in a *drainage system* and *dead ends* shall be so graded that water will not collect in them.

7.4.6.2. Location of Sanitary Drainage Pipes

(1) A *sanitary drainage pipe* shall not be located directly above

(a) non-pressure *potable* water storage tanks,

(b) manholes in pressure *potable* water storage tanks, or

(c) food-handling or food-processing equipment.

7.4.6.3. Sumps or Tanks

(1) Only piping that is too low to drain into a *building sewer* by gravity shall be drained to a sump or receiving tank.

(2) Where the sump or tank receives *sanitary sewage*, it shall be water- and air-tight and shall be vented.

(3) Where the sump or tank receives subsurface water from a *subsoil drainage pipe*, it shall be provided with a water- and air-tight cover.

(4) Equipment such as a pump or ejector that can lift the contents of the sump or tank and discharge it into the *sanitary building drain* or *sanitary building sewer* shall be installed.

(5) Where the equipment does not operate automatically, the capacity of the sump shall be sufficient to hold at least a 24 h accumulation of liquid.

(6) Where there is a *building trap*, the discharge pipe from the equipment shall be connected to the *sanitary building drain* downstream of the *trap*.

(7) The discharge pipe from every pumped sump shall be equipped with a union, *a backwater valve* and a shut-off valve installed in that sequence in the direction of discharge.

(8) The discharge piping from a pump or ejector shall be sized for optimum flow velocities at pump design conditions.

(9) The discharge pipe from every pumped *storm sewage* sump shall be equipped with

(a) a union and a check valve installed in that sequence in the direction of discharge and pumped to above grade level, or

(b) a union, a check valve and a shut-off valve installed in that sequence in the direction of discharge.

7.4.6.4. Protection from Backflow (See note A-7.4.6.4.)

(1) Except as permitted in Sentence (2), a *backwater valve* that would prevent free circulation of air shall not be installed in a *building drain* or in a *building sewer*.

(2) A *backwater valve* may be installed in a *building drain* provided that

(a) it is a "normally open" design conforming to

(i) CAN/CSA-B70, "Cast Iron Soil Pipe, Fittings, and Means of Joining",

(ii) CAN/CSA-B181.1, "Acrylonitrile-Butadiene-Styrene (ABS) Drain, Waste, and Vent Pipe and Pipe Fittings",

(iii) CAN/CSA-B181.2, "Polyvinylchloride (PVC) and Chlorinated Polyvinylchloride (CPVC) Drain, Waste, and Vent Pipe and Pipe Fittings", or

(iv) CAN/CSA-B182.1, "Plastic Drain and Sewer Pipe and Pipe Fittings", and

(b) it does not serve more than one *dwelling unit*.

(3) Except as provided in Sentences (4) and (5), where a *building drain* or a *branch* may be subject to *backflow*,

(a) a *backwater valve* shall be installed on every *fixture drain* connected to it when the *fixture* is located below the level of the adjoining street, or

(b) a *backwater valve* shall be installed to protect *fixtures* which are below the upstream sanitary manhole cover when a *residential building* is served by a public *sanitary sewer*.

(4) Where more than one *fixture* is located on a *storey* and all are connected to the same *branch*, the *backwater valve* may be installed on the *branch*.

(5) A *subsoil drainage pipe* that drains into a *sanitary drainage system* that is subject to surcharge shall be connected in such a manner that *sewage* cannot back up into the *subsoil drainage pipe*.

7.4.6.5. Mobile Home Sewer Service

(1) A *building sewer* intended to serve a mobile home shall be

(a) not less than *NPS* 4,

(b) terminated above ground,

(c) provided with

(i) a tamperproof terminal connection that is capable of being repeatedly connected, disconnected and sealed,

(ii) a protective concrete pad, and

(iii) a means to protect it from frost heave, and

(d) designed and constructed in accordance with good engineering practice.

7.4.6.6. Building Drain Ends

(1) Where a *building drain* enters a *building* above the elevation of the bottom of the wall of a *building*, the *building drain* may be deemed to terminate at the first point that the drainage pipe changes direction from the horizontal to the vertical.

7.4.7. Cleanouts

7.4.7.1. Cleanouts for Drainage Systems

(1) *Sanitary drainage systems* and *storm drainage systems* shall be provided with *cleanouts* that will permit cleaning of the entire system. (See Note A-7.4.7.1.(1).)

(2) A *cleanout* fitting shall be provided on the upstream side and directly over every running *trap*.

(3) Internal *leaders* shall be provided with a *cleanout* fitting at the bottom of the *leader* or not more than 1 m upstream from the bottom of the *leader*.

(4) Where a *cleanout* is required on a *building sewer* of *NPS* 8 or larger, it shall be a manhole.

(5) A *building sewer* shall not change direction or slope between the *building* and public sewer or between *cleanouts*, except that pipes not more than *NPS* 6 may change direction

(a) by not more than 5° every 3 m, or

(b) by the use of fittings with a cumulative change in direction of not more than 45°.

(6) *Building drains* shall be provided with a *cleanout* fitting of *NPS* 4 or larger that is located as close as practical to the place where the *building drain* leaves the *building*. (See Note A-7.4.7.1.(6).)

(7) Stacks shall be provided with a *cleanout* fitting

(a) at the bottom of the stack,

(b) not more than 3 m upstream of the bottom of the stack, or

(c) on a Y fitting connecting the stack to the *building drain* or *branch*.

(8) A *cleanout* shall be provided to permit the cleaning of the piping immediately downstream of an *interceptor*.

(9) Every indirect drainage pipe carrying waste from a food receptacle shall have a *cleanout* access at every change of direction of more than 45°.

(10) A *cleanout* shall be installed on a *trap arm* serving a kitchen sink as close as practical to the *trap* outlet and shall be readily *accessible*.

7.4.7.2. Size and Spacing of Cleanouts

(1) Except as provided in Sentences (2), (3) and 2.4.7.1.(6), the *nominal pipe size* and spacing of *cleanouts* in *nominally horizontal* pipes of a *drainage system* shall conform to Table 7.4.7.2.

Table 7.4.7.2.
Permitted Size and Spacing of Cleanouts

Forming Part of Sentence 7.4.7.2.(1)

Nominal Pipe Size of Drainage Pipe, *NPS*	Minimum *Nominal Pipe Size* of *Cleanout*, *NPS*	Maximum Spacing, m	
		One-Way Rodding	Two-Way Rodding
less than 3	Same *NPS* as drainage pipe	7.5	15
3 and 4	3	15	30
over 4	4	26	52

(2) The spacing between manholes serving a *building sewer*

(a) of *NPS* 24 or less shall not exceed 90 m, and

(b) over *NPS* 24 shall not exceed 150 m.

(3) The *developed length* of a *building sewer* between the *building* and the first manhole to which the *building sewer* connects shall not exceed 75 m.

(4) Where a *building sewer* connects to another *building sewer* other than by a manhole, the *developed length* between the *building* and the *building sewer* to which it connects shall not exceed 30 m.

(5) *Cleanouts* that allow rodding in one direction only shall be installed to permit rodding in the direction of flow.

(6) Manholes shall be located at all junctions and all changes in grade, size or alignment (except for curvilinear alignment) on a *sanitary building sewer* that is *NPS* 8 or larger.

(7) Manholes shall be located at changes of grade, *size* or alignment (except for curvilinear alignment) on a *storm building sewer* or exterior *storm drainage pipe* that is *NPS* 8 or larger.

7.4.7.3. Manholes

(1) A manhole, including the cover, shall be designed to support all loads imposed upon it.

(2) A manhole shall be provided with

(a) a cover that provides an airtight seal if located within a *building*,

(b) a rigid ladder of a corrosion-resistant material where the depth exceeds 1 m, and

(c) a vent to the exterior if the manhole is located within a *building*.

(3) A manhole shall have a minimum horizontal dimension of 1.2 m, except that the top 1.5 m may be tapered from 1.2 m down to a minimum of 600 mm at the top.

(4) A manhole in a *sanitary drainage system* shall be channeled to direct the flow of effluent**.**

7.4.7.4. Location of Cleanouts

(1) *Cleanouts* and access covers shall be located so that their openings are readily accessible for drain cleaning purposes.

(2) A *cleanout* shall not be

(a) located in a floor assembly in a manner that may constitute a hazard, or

(b) used as a floor drain.

(3) Reserved.

(4) Each change of direction of the piping between a *cleanout* fitting and the drainage piping or *vent piping* that it serves shall be accomplished by using 45° bends.

(4.1) A *cleanout* shall be provided to serve vertical drainage piping from a wall hung urinal and shall extend above the *flood level rim* of the *fixture*.

(5) *Cleanouts* serving *fixture drains* in healthcare facilities, mortuaries, laboratories and similar *occupancies*, where contamination by hazardous waste is likely, shall be located a minimum of 150 mm above the *flood level rim* of the *fixture*. (See Note A-7.4.4.4.(1).)

7.4.8. Minimum Slope and Length of Drainage Pipes

7.4.8.1. Minimum Slope

(1) Except as provided in Sentences (2) and (3), and Articles 7.4.10.8. and 7.4.10.9., drainage pipes that are *NPS* 3 or less shall have a downward slope in the direction of flow of at least 1 in 50.

(2) Sentence (1) does not apply to a *force main*.

(3) Where it is not possible to comply with Sentence (1), a lesser slope may be used if it will produce a gravity flow of not less than 0.6 m per second.

7.4.8.2. Length of Fixture Outlet Pipes

(1) Except for *fixture outlet pipes* installed in conformance with Sentence 7.4.5.1.(3), the *developed length* of *fixture outlet pipes* shall not exceed 1 200 mm. (See Note A-7.4.8.2.(1).)

7.4.9. Size of Drainage Pipes

7.4.9.1. No Reduction in Size

(1) Except as permitted in Sentence (3), no drainage pipe that is of minimum *size* required by this Part for the purpose for which it is installed shall be so connected as to drain to other drainage pipe of lesser *size*.

(2) Where a *building drain* connects to a stack through a wall or floor, the drain shall retain its full *size* through the wall or floor.

(3) A *sanitary drainage pipe* may be connected to a pre-engineered waste water heat recovery system that incorporates piping of a lesser *size* than required by Sentence (1) provided that it does not convey *sewage*

(a) from a *sanitary unit*, or

(b) that contains solids.

7.4.9.2. Serving Water Closets

(1) Drainage pipes that serve a water closet shall be not less than *NPS* 3.

(2) *Branch* and *building drains* downstream of the third water-closet *fixture drain* connection shall be not less than *NPS* 4.

(3) Stacks that serve more than 6 water closets shall be not less than *NPS* 4.

(4) Discharge pipes serving a macerating toilet system shall be not less than *NPS* ¾.

(5) No *vertical leg* of the drainage pipe from a water closet or other *fixture* that has an integral siphonic flushing action shall exceed 1 000 mm.

7.4.9.3. Size of Fixture Outlet Pipes

(1) Except as provided in Sentence (2), the *nominal pipe size* of *fixture outlet pipes* shall conform to Table 7.4.9.3.

Table 7.4.9.3.
Minimum Permitted Size of Fixture Outlet Pipe and Hydraulic Loads for Fixtures[1]

Forming Part of Sentences 7.4.9.3.(1) and 7.4.10.2.(1)

Fixture	Minimum *Nominal Pipe Size* of *Fixture Outlet Pipe*, *NPS*	Hydraulic Load, *fixture units*
Autopsy table	1½	2
Bathroom group (a) with flush tank (b) with direct flush valve	 n/a n/a	 6 8
Bathtub (with or without shower)	1½	1½
Bath: foot, sitz or slab	1½	1½
Beer cabinet	1½	1½
Bidet	1¼	1
Chinese range	1½	3
Clothes washer (a) domestic[1] (b) commercial	 n/a n/a	 11/2 with *NPS* 2 *trap* 2 with *NPS 2 trap*
Cup Sinks	1¼	½
Dental unit or cuspidor	1¼	1
Dishwasher (a) domestic type (b) commercial type	 1½ 2	 1½ no load when connected to garbage grinder or domestic sink 3
Drinking fountain	1¼	½
Fish tank or tray	1½	1½
Floor drain[2]	2	2 with *NPS* 2 *trap* 3 with *NPS* 3 *trap*
Garbage grinder, commercial type	2	3
Icebox	1¼	1
Laundry tray (a) single or double units or 2 single units with common *trap* (b) 3 compartments	 1½ 1½	 1½ 2

Lavatory (a) barber or beauty parlor (b) dental (c) domestic type, single or 2 single with common *trap* (d) multiple or industrial type	 1½ 1¼ 1¼ 1½	 1½ 1 1 with *NPS* 1¼ *trap* 1½ with *NPS* 1½ *trap* according to Table 7.4.10.2.
Macerating toilet system	¾	4
Potato peeler	2	3
Shower drain Total volume of discharge from all shower heads and body sprays: (a) from 1 head (b) from 2 or 3 heads (c) from 4 or 6 heads	 1½ 2 3	 1½ 3 6
Sink (a) domestic and other small types with or without garbage grinders, single, double or 2 single with a common *trap* (b) Other sinks	 1½ 1½	 1½ 1½ with *NPS* 1½ *trap* 2 with *NPS* 2 *trap* 3 with *NPS* 3 *trap*
Urinal (a) pedestal, siphon-jet or blowout type (b) stall, washout type (c) wall (i) washout type (ii) other types	 2 2 1½ 2	 4 2 1½ 3
Water closet (a) with flush tank (b) with direct flush valve	 3 3	 4 6

Notes to Table 7.4.9.3.

(1) See Note A-7.4.9.3.

(2) No hydraulic load for *emergency floor drains.*

(2) The part of the *fixture outlet pipe* that is common to 3 compartments of a sink shall be one *NPS* larger than the largest *fixture outlet pipe* of the compartments that it serves. (See Note A-7.4.9.3.(2).)

(3) Where clothes washers do not drain to a laundry tray, the *trap* inlet shall be not less than *NPS* 2 and be fitted with a vertical standpipe that is not less than 600 mm long

measured from the *trap weir* and terminates above the *flood level rim* of the clothes washer. (See Note A-7.4.9.3.(3).)

(4) In an individual *dwelling unit*, where multiple shower heads are served by one shower receptacle, the *fixture outlet pipe* shall be not less than *NPS* 2.

7.4.9.4. Minimum Size of Building Drain and Building Sewer

(1) *Building drains* and *building sewers* connected to the public sewer system downstream of the main *cleanout* shall be not less than *NPS* 4.

(2) *Storm building drain* and *storm building sewer* shall be not less than *NPS* 4.

7.4.9.5. Offsets in Leaders

(1) No change in the *nominal pipe size* of a *leader* with a *nominally horizontal offset* is required if the *offset*

(a) is located immediately under the roof,

(b) is not more than 6 m long, and

(c) has a slope of not less than 1 in 50.

(2) If the horizontal *offset* is more than 6 m long, the *leader* shall conform to Table 7.4.10.9.

7.4.10. Hydraulic Loads (See Note A-7.4.10. for determination of hydraulic loads and *nominal pipe sizes* of drainage pipes)

7.4.10.1. Total Load on a Pipe

(1) The hydraulic load on a pipe is the total load from

(a) every *fixture* that is connected to the system upstream of the pipe,

(b) every *fixture* for which provision is made for future connection upstream of the pipe, and

(c) all roofs and paved surfaces that drain into the system upstream of the pipe.

7.4.10.2. Hydraulic Loads for Fixtures

(1) The hydraulic load from a *fixture* that is listed in Table 7.4.9.3. is the number of *fixture units* set forth in the Table.

(2) Except as provided in Sentence (1), the hydraulic load from a *fixture* that is not listed in Table 7.4.9.3. is the number of *fixture units* set forth in Table 7.4.10.2. for the *nominal pipe size* of the trap that serves the *fixture*.

Table 7.4.10.2.
Permitted Hydraulic Load from a Fixture Based on Size of Trap

Forming Part of Sentence 7.4.10.2.(2)

Nominal Pipe Size of *Trap*, *NPS*	Hydraulic Load, *fixture units*
1¼	1
1½	2
2	3
2½	4
3	5
4	6

7.4.10.3. Hydraulic Loads from Fixtures with Continuous Flow

(1) Except as provided in Sentence (2), the hydraulic load from a *fixture* that produces a continuous flow, such as a pump or an *air-conditioning fixture*, is 31.7 *fixture units* for each litre per second of flow.

(2) Where a *fixture* or equipment that produces a continuous or semi-continuous flow drains to a *combined sewer* or to a *storm sewer*, the hydraulic load from the *fixture* is 900 L for each litre per second of flow.

7.4.10.4. Hydraulic Loads from Roofs or Paved Surfaces

(1) Except as provided in Sentence (2), the hydraulic load in litres from a roof or paved surface is the maximum 15 min rainfall determined in conformance with MMAH Supplementary Standard SB-1, "Climatic and Seismic Data", multiplied by the sum of

(a) the area in square metres of the horizontal projection of the surface drained, and

(b) one-half the area in square metres of the largest adjoining vertical surface. (See Note A-7.4.10.4.(1).)

(2) *Flow control roof drains* may be installed, provided

(a) the maximum drain down time does not exceed 24 h,

(b) the roof structure is designed to carry the load of the stored water,

(c) one or more scuppers are installed not more than 30 m apart along the perimeter of the *building* so that

(i) up to 200% of the 15-minute rainfall intensity can be handled, and

(ii) the maximum depth of controlled water is limited to 150 mm,

(d) they are located not more than 15 m from the edge of the roof and not more than 30 m from adjacent drains, and

(e) there is at least one drain for each 900 m^2.

(3) Reserved.

(4) Where the height of the parapet is more than 150 mm or exceeds the height of the adjacent wall flashing,

(a) emergency roof overflows or scuppers described in Clause (2)(c) shall be provided, and

(b) there shall be a minimum of 2 *roof drains*.

7.4.10.5. Conversion of Fixture Units to Litres and Gal/min

(1) Except as provided in Sentence 7.4.10.3.(2), where the hydraulic load is to be expressed in litres, *fixture units* shall be converted as follows:

(a) when the number of *fixture units* is 260 or fewer, the load is 2 360 L, and

(b) when the number of *fixture units* exceeds 260, the load is 9.1 L for each unit.

(2) Where the hydraulic load is to be expressed in gal/min, *fixture units* shall be converted in accordance with Table 7.4.10.5.

Table 7.4.10.5.
Maximum Probable Drainage Rate, gal/min(1)

Forming Part of Sentence 7.4.10.5.(2)

Column 1 *Fixture Units* in Service	Column 2 *Fixture Units* Col. 1	Column 3 *Fixture Units* Col. 1 × 10	Column 4 *Fixture Units* Col. 1 × 10
100	53	174	900
90	51	164	835
80	49	153	750
70	47	140	680
60	44	128	600
50	41	115	520
40	38	102	435
30	33	88	350
20	27	72	262
10	21	53	174

Notes to Tale 7.4.10.5.:

(1) See Note A-7.4.10.5.

7.4.10.6. Hydraulic Loads to Soil or Waste Pipes

(1) Except as provided in Sentence (2), the hydraulic load that is drained to every stack shall conform to Table 7.4.10.6.-A.

(2) Where the *nominally horizontal offset* in a stack is 1.5 m or more, the hydraulic load that is served by it shall conform to Table 7.4.10.6.-B or Table 7.4.10.6.-C, whichever is the less restrictive.

(3) Vertical *sanitary drainage pipe* shall be designed to carry no more than 29% of its full capacity**.**

Table 7.4.10.6.-A
Maximum Permitted Hydraulic Load Drained to a Stack

Forming Part of Sentences 7.4.10.6.(1) and 7.5.7.3.(2) and Table 7.5.8.4.

Nominal Pipe Size of Stack, *NPS*	Maximum Hydraulic Load, *fixture units*	Maximum *Fixture Units* Drained from any 1 *Storey*
1¼	2	2
1½	8	2
2	24	6
3	102	18
4	540	100
5	1 400	250
6	2 900	500
8	7 600	830
10	15 000	2 700
12	26 000	4 680
15	50 000	9 000

Table 7.4.10.6.-B
Maximum Permitted Hydraulic Load Drained to a Branch

Forming Part of Sentences 7.4.10.6.(2), and 7.4.10.4.(1) and 7.5.7.3.(2)

Nominal Pipe Size of *Branch*, *NPS*	Maximum Hydraulic Load, *fixture units*
1¼	2
1½	3
2	6
3	27
4	180
5	390
6	700
8	1 600
10	2 500
12	3 900

Table 7.4.10.6.-C[1]
Maximum Permitted Hydraulic Load Drained to a Sanitary Building Drain or Sewer

Forming Part of Sentences 7.4.10.6.(2), and Article 7.4.10.8.

Nominal Pipe Size of *Drain* or *Sewer*, *NPS*	Maximum Hydraulic Load, *fixture units*					
	Slope [2]					
	1 in 400	1 in 200	1 in 133	1 in 100	1 in 50	1 in 25
3	n/a	n/a	n/a	n/a	27	36
4	n/a	n/a	n/a	180	240	300
5	n/a	n/a	380	390	480	670
6	n/a	n/a	600	700	840	1 300
8	n/a	1 400	1 500	1 600	2 250	3 370
10	n/a	2 500	2 700	3 000	4 500	6 500
12	2 240	3 900	4 500	5 400	8 300	13 000
15	4 800	7 000	9 300	10 400	16 300	22 500

Notes to Table 7.4.10.6.-C:

[1] See Note A-Table 7.4.10.6.-C.

[2] Slope is the ratio of rise to run, in whatever measurement units are chosen.

7.4.10.7. Hydraulic Loads on Branches

(1) The hydraulic load that is drained to a *branch* shall conform to Table 7.4.10.6.-B.

7.4.10.8. Hydraulic Loads on Sanitary Building Drains or Sewers

(1) Except as permitted by Article 7.4.10.7., the hydraulic load that is drained to a *sanitary building drain* or a *sanitary building sewer* shall conform to Table 7.4.10.6.-C.

(2) Horizontal *sanitary drainage pipe* shall be designed to carry no more than 65% of its full capacity.

7.4.10.9. Hydraulic Loads on Storm or Combined Building Drains or Sewers

(1) The hydraulic load that is drained to a *storm building drain*, a *storm building sewer* or a *combined building sewer* shall conform to Table 7.4.10.9.

Table 7.4.10.9.
Maximum Permitted Hydraulic Load Drained to a Storm Building Drain or Sewer, or a Combined Building Sewer

Forming Part of Sentences 7.4.9.5.(2) and Article 7.4.10.9.

Nominal Pipe Size of *Drain* or Sewer, *NPS*	Maximum Hydraulic Load, L						
	Slope[(1)]						
	1 in 400	1 in 200	1 in 133	1 in 100	1 in 68	1 in 50	1 in 25
3	n/a	n/a	n/a	n/a	n/a	2 770	3 910
4	n/a	n/a	n/a	4 220	5 160	5 970	8 430
5	n/a	n/a	6 760	7 650	9 350	10 800	15 300
6	n/a	n/a	10 700	12 400	15 200	17 600	24 900
8	n/a	18 900	23 200	26 700	32 800	37 800	53 600
10	n/a	34 300	41 900	48 500	59 400	68 600	97 000
12	37 400	55 900	68 300	78 700	96 500	112 000	158 000
15	71 400	101 000	124 000	143 000	175 000	202 000	287 000

Notes to Table 7.4.10.9.:

[(1)] Slope is the ratio of rise to run, in whatever measurement units are chosen.

7.4.10.10. Hydraulic Loads to Roof Gutters

(1) The hydraulic load that is drained to a *roof gutter* shall conform to Table 7.4.10.10.

Table 7.4.10.10.
Maximum Permitted Hydraulic Load Drained to a Roof Gutter

Forming Part of Article 7.4.10.10.

Nominal Pipe Size of *Gutter*, *NPS*	Area of *Gutter*, cm^2	Maximum Hydraulic Load, L			
		Slope			
		1 in 200	1 in 100	1 in 50	1 in 25
3	22.8	406	559	812	1 140
4	40.5	838	1 190	1 700	2 410
5	63.3	1 470	2 080	2 950	4 170
6	91.2	2 260	3 200	4 520	6 530
7	124.1	3 250	4 600	6 500	9 190
8	162.1	4 700	6 600	9 400	13 200
10	253.4	8 480	12 000	17 000	23 600

7.4.10.11. Hydraulic Loads on Leaders

(1) The hydraulic load that is drained to a *leader* shall conform to Table 7.4.10.11.

Table 7.4.10.11.
Maximum Permitted Hydraulic Load Drained to a Leader

Forming Part of Article 7.4.10.11.

Circular *Leader*		Non-Circular *Leader*	
Nominal Pipe Size of *Leader*, *NPS*	Maximum Hydraulic Load, L	Area of *Leader*, cm^2	Maximum Hydraulic Load, L
2	1 700	20.3	1 520
2½	3 070	31.6	2 770
3	5 000	45.6	4 500
4	10 800	81.1	9 700
5	19 500	126.6	17 600
6	31 800	182.4	28 700
8	68 300	324.3	61 500

7.4.10.12. Hydraulic Loads from Fixtures with a Semi-continuous Flow

(1) The hydraulic load from a *fixture* or equipment that produces a semi-continuous flow shall conform to Table 7.4.10.12.

Table 7.4.10.12.
Maximum Permitted Hydraulic Load from Fixtures with a Semi-continuous Flow

Forming Part of Sentence 7.4.10.12.(1)

Nominal Pipe Size of *Trap*, *NPS*	Flow, L/s	Hydraulic Load, *fixture units*
1½	0.000 - 0.090	3
2	0.091 - 0.190	6
3	0.191 - 0.850	27
4	0.851 - 5.700	180

7.4.10.13. Reserved

Section 7.5. Venting Systems

7.5.1. Vent Pipes for Traps

7.5.1.1. Venting for Traps

(1) Except as provided in Sentences (3) and (4), *traps* shall be protected by a vent pipe.

(2) *Drainage systems* may require additional protection as provided in Subsections 7.5.4. and 7.5.5. by the installation of

(a) *branch vents*,

(b) *vent stacks*,

(c) *stack vents*,

(d) *vent headers*,

(e) *fresh air inlets*,

(f) *relief vents*,

(g) *circuit vents*,

(h) *yoke vents*,

(i) *offset relief vents*,

(j) additional circuit vents,

(k) *wet vents*,

(l) *individual vents*,

(m) *dual vents*, or

(n) *continuous vents*.

(3) A *trap* that serves a floor drain or *hub drain* need not be protected by a v*ent pipe* separately where

(a) the *nominal pipe size* of the *trap* is not less than *NPS* 3,

(b) the length of the *fixture drain* is not less than 450 mm,

(c) the fall on the *fixture drain* does not exceed its *nominal pipe size*, and

(d) the *trap* is connected to a horizontal drainage pipe that terminates at its upstream end in a 3 in. stack.

(4) A *trap* need not be protected by a *vent pipe*

(a) where it serves

(i) a *subsoil drainage pipe*, or

(ii) a *storm drainage system*, or

(b) where it forms part of an indirect *drainage system* (see also Clause 2.4.2.3.(2)(b)). (See Note A-7.5.1.1.(4).)

7.5.2. Wet Venting

7.5.2.1. Wet Venting

(1) A *sanitary drainage pipe* is permitted to serve as a *wet vent*, provided

(a) the hydraulic load is in accordance with Table 7.5.8.1.,

(b) the number of wet-vented water closets does not exceed 2,

(c) where 2 water closets are installed, they are connected at the same level by means of a double sanitary T fitting if the *vent pipe* is vertical and by means of a double Y fitting if the *vent pipe* is horizontal,

(d) the water closets are installed downstream of all other *fixtures*,

(e) *trap arms* and *fixture drains* connected to the *wet vent* do not exceed *NPS* 2, except for connections from *emergency floor drains* in accordance with Sentence 7.5.1.1.(3),

(f) the total hydraulic load on the *wet vent* does not exceed the limits stated in Table 7.5.8.1. when separately vented *branches* or *fixture drains* in the same *storey*, having a total hydraulic load not greater than 2 *fixture units*, are connected to the *wet vent* or a wet-vented water-closet *trap arm*,

(g) the hydraulic load of separately vented *fixtures* that drain into the *wet vent* are not included when sizing the *continuous vent* that serves the *wet vent*,

(h) where a *wet vent* extends through more than one *storey*, the total discharge from any one *storey* above the first *storey* does not exceed 4 *fixture units*,

(i) there is not more than one *nominally horizontal offset* in the *wet vent*, and

  (i) the *offset* does not exceed 1.2 m for pipes of *NPS* 2 or less, or

  (ii) the *offset* does not exceed 2.5 m for pipes larger than *NPS* 2,

(j) the wet vented portion is not reduced in *size* except for the portion that is upstream of floor drains in accordance with Sentence 7.5.1.1.(3), and

(k) the length of the *wet vent* is not limited.

7.5.3. Circuit Venting

7.5.3.1. Circuit Venting (See Note A-7.5.3.1.)

(1) A section of horizontal *branch* is permitted to be circuit-vented, provided

(a) a *circuit vent* is connected to it,

(b) all *fixtures* served by the *circuit vent* are located in the same *storey*, and

(c) no stack is connected to it upstream of a circuit-vented *fixture*.

(2) *Fixtures* with *fixture outlet pipes* less than *NPS* 2 shall be separately vented or separately circuit-vented.

(3) Except as provided in Sentences (4) and (5), a *relief vent* shall be connected to the *branch* that forms part of a circuit-vented system, downstream of the connection of the most downstream circuit-vented *fixture*.

(4) A *sanitary drainage pipe* having a hydraulic load not greater than 6 *fixture units* is permitted to act as a *relief vent* for a *branch* that is circuit-vented.

(5) A symmetrically connected *relief vent* is permitted to serve as a combined *relief vent* for a maximum of 2 *branches* that are circuit-vented, provided there are not more than 8 circuit-vented *fixtures* connected between the combined *relief vent* and each *circuit vent*.

(6) Additional *circuit vents* shall be required

(a) where each cumulative horizontal change in direction of a *branch* served by a *circuit vent* exceeds 45° between *vent pipe* connections, or

(b) where more than 8 circuit-vented *fixtures* are connected to a *branch* between *vent pipe* connections.

(7) A *sanitary drainage pipe* is permitted to serve as an *additional circuit vent* in accordance with Sentence (6), provided the *sanitary drainage pipe* is sized as a *wet vent* in conformance with Article 7.5.8.1. and is not less than *NPS* 2.

(8) Connections to *circuit vents* and *additional circuit vents* in accordance with Sentence (6) shall conform to Sentence 7.5.4.5.(1).

(9) A circuit-vented *branch*, including the *fixture drain* downstream of the *circuit vent* connection, shall be sized in accordance with Article 7.4.10.7. and 7.4.10.8., except that it shall be not less than

(a) *NPS* 2, where *traps* less than *NPS* 2 are circuit-vented, or

(b) *NPS* 3, where *traps* of *NPS* 2 or larger are circuit-vented.

(10) *Additional circuit vents* shall be sized in accordance with Table 7.5.7.1. and Sentence 7.5.7.3.(1).

(11) The hydraulic load on a *circuit vent* shall include the hydraulic load from *fixtures* connected to the *branch* served by the *circuit vent*, but shall not include the hydraulic load from *fixtures* permitted by Sentences (3), (4) and (5).

7.5.4. Vent Pipes for Stacks

7.5.4.1. Stack Vents

(1) The upper end of every stack shall terminate in a *stack vent* and the *stack vent* shall terminate in open air outside the *building*, or connect directly or through a *header* to another *stack vent* or *vent stack* that does terminate in open air outside the *building*.

7.5.4.2. Vent Stacks

(1) Except as provided in Sentence (2), every stack that drains *fixtures* from more than 4 *storeys* containing plumbing *fixtures* shall have a *vent stack*.

(2) A stack that serves as a *wet vent* does not require a *vent stack*.

(3) The *vent stack* required by Sentence (1) shall be connected to a vertical section of the stack at or immediately below the lowest *sanitary drainage pipe* connected to the stack.

(4) *Fixtures* are permitted to be connected to a *vent stack*, provided

(a) the total hydraulic load of the connected *fixtures* does not exceed 8 *fixture units*,

(b) at least one *fixture* is connected to a vertical portion of the *vent stack* and upstream of any other *fixtures*,

(c) no other *fixture* is connected downstream of a water closet,

(d) all *fixtures* are located in the lowest *storey* served by the *vent stack*, and

(e) the section of the *vent pipe* that acts as a *wet vent* conforms to the requirements regarding *wet vents*.

7.5.4.3. Yoke Vents (See Note A-7.5.4.3.)

(1) Except as provided in Sentence (4), where a stack receives the discharge from *fixtures* located on more than 11 *storeys*, a *yoke vent* shall be installed

(a) for each section of 5 *storeys* or part thereof counted from the top down, and

(b) at or immediately above each *offset* or double *offset*.

(2) The *yoke vent* shall be connected to the stack by means of a drainage fitting at or immediately below the lowest *sanitary drainage pipe* from the lowest *storey* of the sections described in Sentence (1).

(3) The *yoke vent* shall connect to the *vent stack* at least 1 m above the floor level of the lowest *storey* in the section described in Sentence (1).

(4) A *yoke vent* need not be installed provided the stack is interconnected with the *vent stack* in each *storey* of the section in which *fixtures* are located by means of a *vent pipe* equal in *nominal pipe size* to the *branch* or *fixture drain* or *NPS* 2, whichever is smaller.

7.5.4.4. Offset Relief Vents

(1) A stack that has a *nominally horizontal offset* more than 1.5 m long and above which the upper vertical portion of the stack passes through more than 2 *storeys* and receives a hydraulic load of more than 100 *fixture units* shall be vented by an *offset relief vent* connected to the vertical section immediately above the *offset* and by another *offset relief vent*

(a) connected to the lower vertical section at or above the highest *sanitary drainage pipe* connection, or

(b) extended as a vertical continuation of the lower section. (See Note A-7.5.4.4.(1))

7.5.4.5. Fixtures Draining into Vent Pipes

(1) The *trap arm* of a *fixture* that has a hydraulic load of not more than 1½ *fixture units* may be connected to the vertical section of a *circuit vent*, *additional circuit vent*, *offset relief vent* or *yoke vent*, provided

(a) not more than 2 *fixtures* are connected to the *vent pipe*,

(b) where 2 *fixtures* are connected to the *vent pipe*, the connection is made by means of a double sanitary T fitting, and

(c) the section of the *vent pipe* that acts as a *wet vent* is not less than *NPS* 2. (See Note A-7.5.4.5.(1))

7.5.5. Miscellaneous Vent Pipes

7.5.5.1. Venting of Sanitary Sewage Sumps

(1) Every sump or tank that receives *sewage* shall be provided with a *vent pipe* that is connected to the top of the sump or tank. (See Article 7.5.7.7. for sizing of these vents.)

7.5.5.2. Venting of Interceptors (See Note A-7.5.5.2.)

(1) Every oil *interceptor* shall be provided with 2 *vent pipes* that

(a) connect to the *interceptor* at opposite ends,

(b) extend independently to *open air*,

(c) terminate not less than 2 m above ground and at elevations differing by at least 300 mm, and

(d) do not connect to each other or any other *vent pipe*.

(2) Adjacent compartments within an oil *interceptor* shall be connected to each other by a vent opening.

(3) Where a secondary receiver for oil is installed in conjunction with an oil *interceptor*, it shall be vented in accordance with the manufacturer's recommendations, and the *vent pipe* shall

(a) in no case be less than *NPS* 1½,

(b) extend independently to *open air*, and

(c) terminate not less than 2 m above ground.

(4) The *vent pipes* referred to in Sentence (1) are permitted to be one *NPS* smaller than the largest connected drainage pipe but not less than *NPS* 1¼, or can be sized in accordance with the manufacturer's recommendations.

(5) A *vent pipe* that serves an oil *interceptor* and is located outside a *building* shall be not less than *NPS* 3 in areas where it may be subject to frost closure.

(6) Every grease *interceptor* inlet pipe shall be provided with a *vent pipe*

(a) within 1 500 mm of the inlet to the grease *interceptor*,

(b) not less than *NPS* 1½ for inlet pipes up to *NPS* 4, but not larger than *NPS* 2, and

(c) complete with a *cleanout* to provide cleaning of the *vent pipe*.

(7) Where an acid waste dilution tank is installed, it shall be provided with a *vent pipe* connected at the top of the tank and that is sized in accordance with Article 7.5.7.7.

7.5.5.3. Venting of Drain Pipes and Dilution Tanks for Corrosive Waste

(1) *Venting systems* for drain piping, neutralizing tanks, or dilution tanks conveying corrosive wate shall extend independently and terminate outdoors. (See Article 7.5.7.7. for sizing of these vents.)

7.5.5.4. Fresh Air Inlets

(1) Where a *building trap* is installed, a *fresh air inlet* not less than *NPS* 4 shall be connected upstream and within 1.2 m of the *building trap* and downstream of any other connection. (See Note A-7.4.5.4.(1))

7.5.5.5. Provision for Future Installations

(1) Where provision is made for a *fixture* to be installed in the future, the *drainage system* and *venting system* shall be sized accordingly and provision shall be made for the necessary future connections.

(2) Except as required in Sentence 7.5.7.7.(2), where a *plumbing system* is installed in a *building,* every *storey* in which *plumbing* is or may be installed, including the *basement* of a *building*, shall have extended into it or passing through it a *vent pipe* that is at least *NPS* 1½ for the provision of future connections.

7.5.6. Arrangement of Vent Pipes

7.5.6.1. Drainage of Vent Pipes

(1) *Vent pipes* shall be installed without depression in which moisture can collect.

(2) *Waste pipes* shall be installed and *back vented* at the same time.

7.5.6.2. Vent Pipe Connections (See Note A-7.5.6.2.)

(1) *Vent pipes* in a *plumbing system* shall be installed so as to be direct as possible to a *vent stack* or *open air*, as the case may be, and so that any horizontal run below the flood level of the *fixture* to which the *vent pipe* is installed is eliminated where structurally possible.

(2) Except for *wet vents*, where a *vent pipe* is connected to a *nominally horizontal sanitary drainage pipe*, the connection shall be above the horizontal centre line of the *sanitary drainage pipe*. (See Note A-7.5.6.2.(2))

(3) Unused *vent pipes* installed for future connections shall be permanently capped with an end *cleanout* or an adapter and plug.

7.5.6.3. Location of Vent Pipes

(1) Except as provided in Sentences (2) and (3), *vent pipes* that protect a *fixture trap* shall be located so that

(a) the *developed length* of the *trap arm* is not less than twice the *NPS* of the *fixture drain,*

(b) the total fall of the *trap arm* is not greater than its inside diameter, and

(c) the *trap arm* does not have a cumulative change in direction of more than 135°. (See Note A-7.5.6.3.(1))

(2) The *trap arm* of water closets, of S-trap standards or of any other *fixture* that also discharges vertically and depends on siphonic action for its proper functioning shall not have a cumulative change in direction of more than 225°. (See Note A-7.5.6.3.(2))

(3) A *vent pipe* that protects a water closet or any other *fixture* that also depends on siphonic action for its proper functioning shall be located so that the distance between the connections of the *fixture drain* to the *fixture* and the *vent pipe* does not exceed

(a) 1 m in the vertical plane, and

(b) 3 m in the horizontal plane. (See Note A-2.A-7.5.6.3.(3))

(4) The maximum length of every *trap arm* shall conform to Table 7.5.6.3.

Table 7.5.6.3.
Length of Trap Arm

Forming Part of Sentence 7.5.6.3.(4)

Nominal Pipe Size of *Trap* Served, *NPS*	Maximum Length of *Trap Arm*, m	Minimum Slope
1¼	1.5	1 in 50
1½	1.8	1 in 50
2	2.4	1 in 50
3	3.6	1 in 50
4	4.9	1 in 50
4	9.8	1 in 100

7.5.6.4. Connection of Vents above Fixtures Served

(1) Except for a *wet vent,* every *vent pipe* shall extend above the *flood level rim* of every *fixture* that it serves before being connected to another *vent pipe*.

(2) No *vent pipe* shall be connected in such a manner that a blockage in a *sanitary drainage pipe* would cause waste to drain through the *vent pipe* to the *drainage system*.

7.5.6.5. Terminals

(1) Except as provided in Sentence (3), the upper end of every *vent pipe* that is not terminated in *open air* shall be connected to a *venting system* that terminates through a roof to *open air*.

(2) The upper end of every *vent pipe* that is terminated in *open air*, other than a *vent pipe* that serves an oil *interceptor* or a *fresh air inlet*, shall be extended above the roof.

(3) A *vent pipe* is permitted to be erected outside a *building*, provided that

(a) no single change in direction of the *vent pipe* exceeds 45°,

(b) all parts of the *vent pipe* are *nominally vertical*,

(c) in areas where the *vent pipe* may be subject to frost closure, it is increased to not less than *NPS* 3 before penetrating a wall or roof, and

(d) where the *building* is 4 *storeys* or less in height, the *vent pipe* terminates above the roof of the *building*.

(4) Except for a *fresh air inlet*, where a *vent pipe* is terminated in *open air*, the terminal shall be located

(a) not less than 1 m above and not less than 3.5 m in any other direction from every air inlet, openable window or door,

(b) not less than 2 m above and not less than 3.5 m in any other direction from a roof that supports an *occupancy*,

(c) not less than 2 m above ground, and

(d) not less than 1.8 m from every property line. (See Note A-7.5.6.5.(4).)

(5) Where a *vent pipe* passes through a roof, it shall

(a) be terminated high enough to prevent the entry of roof drainage but not less than 150 mm above the roof or above the surface of *storm water*, which could pond on the roof (see Note A-7.5.6.5.(4)), and

(b) be provided with flashing to prevent the entry of water between the *vent pipe* and the roof (see Article 7.2.10.14.).

(6) Where a *vent pipe* passes through a roof and may be subject to frost closure, it shall be protected from frost closure by

(a) increasing its diameter at least one *NPS*, but not less than *NPS* 3, immediately before it penetrates the roof,

(b) insulating the pipe, or

(c) protecting it in some other manner. (See Article 7.3.4.7.)

(7) Where a *vent pipe* is located 2 m or more above a roof, it shall be so constructed as to be stable and secure.

(8) Flashing shall be of material specified in Article 7.2.10.14. and on a shingled roof shall have a minimum dimension of 500 mm by 500 mm.

(9) Where a sleeve flashing is installed on a flat roof, it shall extend at least 150 mm above the flood level and on a sloped roof shall be at least 150 mm high on the short side.

(10) No bore of a *vent stack* or *stack vent* shall be reduced or obstructed by the installation of a flashing.

7.5.7. Minimum Size of Vent Pipes

7.5.7.1. General

(1) The *nominal pipe size* of every *vent pipe* shall conform to Table 7.5.7.1.

Table 7.5.7.1.
Minimum Permitted Size of Vent Pipe Based on Size of Trap Served

Forming Part of Sentences 7.5.7.1.(1) and 7.5.8.2.(1)

Nominal Pipe Size of *Trap* Served, *NPS*	Minimum *Nominal Pipe Size* of *Vent Pipe*, *NPS*
1¼	1¼
1½	1¼
2	1½
3	1½
4	1½
5	2

6	2

7.5.7.2. Size Restrictions

(1) The *nominal pipe size* of a *branch vent*, *stack vent*, *vent stack* or *vent header* shall be not less than the *nominal pipe size* of the *vent pipe* to which it is connected.

(2) *Sanitary building drains* shall be provided with at least one vent that is not less than *NPS* 3.

(3) A vent referred to in Sentence (2) shall be a *soil stack* if one is available and may be a *vent stack* or *waste stack* that provides at least *NPS* 3 *stack vent* and that goes to *open air* above the roof, either directly or through a *header*.

7.5.7.3. Additional Circuit Vents and Relief Vents

(1) Except as provided in Article 7.5.7.1. and Sentence 7.5.3.1.(7), the *minimum nominal pipe size* of an *additional circuit vent* or *relief vent* installed in conjunction with a *circuit vent* is permitted to be one *NPS* smaller than the required *nominal pipe size* of the *circuit vent*, but need not be larger than *NPS* 2.

(2) The *nominal pipe size* of the *sanitary drainage pipe* acting as a *relief vent* in accordance with Sentence 7.5.3.1.(4) shall be in conformance with Table 7.4.10.6.-A, 7.4.10.6.-B or 7.5.8.1., and Article 7.5.7.1., whichever *nominal pipe size* is the largest considering the hydraulic load drained into the *sanitary drainage pipe*.

7.5.7.4. Offset Relief Vents

(1) Except as provided in Article 7.5.7.1., the minimum *nominal pipe size* of an *offset relief vent* is permitted to be one *NPS* smaller than the *NPS* of the *stack vent*.

7.5.7.5. Yoke Vents

(1) *Yoke vents* required by Sentence 7.5.4.3.(1) are permitted to be one *NPS* smaller than the *NPS* of the smallest pipe to which they are connected.

7.5.7.6. Vent Pipes for Manholes

(1) The minimum *nominal pipe size* of a *vent pipe* that served a manhole within a *building* shall be *NPS* 2.

7.5.7.7. Vents for Sewage Sumps, Neutralizing and Dilution Tanks, and Macerating Toilet Systems

(1) Except as provided in Sentences (2) and (3), the minimum *nominal pipe size* of the *vent pipe* for a *sewage* sump or neutralizing or dilution tank shall be one *NPS* smaller than the *NPS* of the largest *branch* or *fixture drain* draining to the sump.

(2) The *nominal pipe size* of every *vent pipe* for a *sewage* sump or neutralizing or dilution tank shall be not less than *NPS* 2, but need not be greater than *NPS* 4.

(3) The *nominal pipe size* of a *vent pipe* for a macerating toilet system with a sump shall be not less than *NPS* 1½.

7.5.8. Sizing of Vent Pipes (See Note A-7.5.8. for an explanation on the sizing of *vent pipes*.)

7.5.8.1. Hydraulic Loads Draining to Wet Vents

(1) The hydraulic load that drains to a *wet vent* shall conform to Table 7.5.8.1.

Table 7.5.8.1.
Maximum Permitted Hydraulic Loads Drained to a Wet Vent

Forming Part of Sentences 7.5.7.3.(2) and 7.5.8.1.(1)

Nominal Pipe Size of *Wet Vent*, *NPS*	Maximum Hydraulic Load, *fixture units*	
	Not Serving Water Closets	*Fixtures*, Other Than Water Closets, That Serve Not More Than 2 Water Closets
1½	2	n/a
2	4	3
3	12	8
4	36	14
5	n/a	18
6	n/a	23

(2) When determining the *nominal pipe size* of a *wet vent*, the hydraulic load from the most downstream *fixture* or symmetrically connected *fixtures* shall not be included. (See Note A-7.5.8.1.(2).)

7.5.8.2. Individual Vents and Dual Vents

(1) The *nominal pipe size* of *individual vents* and *dual vents* shall be determined using Table 7.5.7.1. based on the largest *trap* served.

(2) When sizing an *individual vent* or a *dual vent*, the length is not taken into consideration.

7.5.8.3. Branch Vents, Vent Headers, Continuous Vents and Circuit Vents

(1) *Branch vents*, *vent headers*, *circuit vents* and *continuous vents* shall be sized in accordance with Table 7.5.8.3., unless they are *individual vents* or *dual vents*.

(2) For the purposes of Table 7.5.8.3., the length of a *branch vent* shall be its *developed length* from the most distant *sanitary drainage pipe* connection to a *vent stack*, *stack vent*, *header* or *open air*.

(3) For the purposes of Table 7.5.8.3., the length of *a vent header* shall be its *developed length* from the most distant *sanitary drainage pipe* connection to *open air*.

(4) For the purposes of Table 7.5.8.3., the length of a *circuit vent* shall be its *developed length* from the horizontal *sanitary drainage pipe* connection to a *vent stack*, *stack vent*, *vent header* or *open air*.

(5) For the purposes of Table 7.5.8.3., the length of a *continuous vent* shall be its *developed length* from the vertical *sanitary drainage pipe* connection to a *vent stack*, *stack vent, vent header* or *open air*.

Table 7.5.8.3.
Sizing of Branch Vents, Vent Headers, Circuit Vents and Continuous Vents[1]

Forming Part of Article 7.5.8.3.

Total Hydraulic Load Served by *Vent Pipe*, *fixture units*	*Nominal Pipe Size* of *Vent Pipe*, *NPS*							
	1¼	1½	2	3	4	5	6	8
	Maximum Length of *Vent Pipe*, m							
2	9	NL	NL	NL	NL	NL	NL	NL
8	9	30	61	NL	NL	NL	NL	NL
20	7.5	15	46	NL	NL	NL	NL	NL
24	4.5	9	30	NL	NL	NL	NL	NL
42	NP	9	30	NL	NL	NL	NL	NL
60	NP	4.5	15	120	NL	NL	NL	NL
100	NP	NP	11	79	305	NL	NL	NL
200	NP	NP	9	76	275	NL	NL	NL
500	NP	NP	6	55	215	NL	NL	NL
1 100	NP	NP	NP	15	61	215	NL	NL
1 900	NP	NP	NP	6	21	61	215	NL
2 200	NP	NP	NP	NP	9	27	105	335
3 600	NP	NP	NP	NP	7.5	18	76	245
5 600	NP	NP	NP	NP	NP	7.5	18	76

Notes to Table 7.5.8.3.:

[1] NP = not permitted and NL = not limited.

7.5.8.4. Vent Stacks or Stack Vents (See Note A-7.5.8.3. and 7.5.8.4.)

(1) A *vent stack* or *stack vent* shall be sized in accordance with Table 7.5.8.4. based on

(a) the length of the *vent stack* or *stack vent*, and

(b) the total hydraulic load that is drained to the lowest section of a stack served by the *vent pipe*, plus any additional vent loads connected to the *vent stack* or *stack vent*.

(2) For the purposes of Table 7.5.8.4., the length of a *stack vent* or *vent stack* shall be its *developed length* from its lower end to *open air*.

(3) The minimum *nominal pipe size* of a *vent stack* or *stack vent* shall be one-half the *NPS* of the stack at its base.

(4) A *stack vent* serving a *wet vent* stack that is over 4 *storeys* high shall extend the full size of the *wet vent* to *open air*.

(5) *Sanitary building drains* shall be provided with at least one *vent* that is not less than *NPS* 3.

Table 7.5.8.4.
Size and Developed Length of Stack Vents and Vent Stacks(1)

Forming Part of Sentence 7.8.8.4.(1) and (2)

Nominal Pipe Size of Stack, *NPS*(2)	Total Hydraulic Load Being Vented, *fixture units*	*Water Occupied Area*	*Nominal Pipe Size* of *Stack Vent* or *Vent Stack*, *NPS*									
			1¼	1½	2	3	4	5	6	8	10	12
			Maximum Length of *Stack Vent* or *Vent Stack*, m									
1¼	2	0.29	9	NL	NL	NL	NL	NL	NL	NL	NL	NL
1½	8	0.25	15	46	NL	NL	NL	NL	NL	NL	NL	NL
2	12	0.25	9	23	61	NL	NL	NL	NL	NL	NL	NL
	24	0.29	8	15	46	NL	NL	NL	NL	NL	NL	NL
3	10	0.15	NP	13	46	317	NL	NL	NL	NL	NL	NL
	21	0.20	NP	10	33.5	247	NL	NL	NL	NL	NL	NL
	53	0.25	NP	8	28.5	207	NL	NL	NL	NL	NL	NL
	102	0.29	NP	7.5	26	189	NL	NL	NL	NL	NL	NL
4	43	0.15	NP	NP	10.5	76	299	NL	NL	NL	NL	NL
	140	0.20	NP	NP	8	61	229	NL	NL	NL	NL	NL
	320	0.25	NP	NP	7	52	195	NL	NL	NL	NL	NL
	540	0.29	NP	NP	6.5	46	177	NL	NL	NL	NL	NL
5	190	0.15	NP	NP	NP	25	97.5	302	NL	NL	NL	NL
	490	0.20	NP	NP	NP	19	76	232	NL	NL	NL	NL
	940	0.25	NP	NP	NP	16	64	204	NL	NL	NL	NL

	1 400	0.29	NP	NP	NP	15	58	180	NL	NL	NL	NL
	500	0.15	NP	NP	NP	10	39.5	122	305	NL	NL	NL
6	1 100	0.20	NP	NP	NP	8	30.5	94.5	238	NL	NL	NL
	2 000	0.25	NP	NP	NP	6.5	25.5	79	201	NL	NL	NL
	2 900	0.29	NP	NP	NP	6	23.5	73	183	NL	NL	NL
	1 800	0.15	NP	NP	NP	NP	9.5	29	73	287	NL	NL
8	3 400	0.20	NP	NP	NP	NP	7	22	58	219.5	NL	NL
	5 600	0.25	NP	NP	NP	NP	6	19	49	186	NL	NL
	7 600	0.29	NP	NP	NP	NP	5.5	17	43	170.5	NL	NL
	4 000	0.15	NP	NP	NP	NP	NP	9.5	24	94.5	292.5	NL
10	7 200	0.20	NP	NP	NP	NP	NP	7	18	73	225.5	NL
	11 000	0.25	NP	NP	NP	NP	NP	6	15.5	61	192	NL
	15 000	0.29	NP	NP	NP	NP	NP	5.5	14	55	174	NL
	7 300	0.15	NP	NP	NP	NP	NP	NP	9.5	36.5	116	287
12	13 000	0.20	NP	NP	NP	NP	NP	NP	7	28.5	91	219.5
	20 000	0.25	NP	NP	NP	NP	NP	NP	6	24	76	186
	26 000	0.29	NP	NP	NP	NP	NP	NP	5.5	22	70	152
	15 000	0.15	NP	NP	NP	NP	NP	NP	NP	12	39.5	94.5
15	25 000	0.20	NP	NP	NP	NP	NP	NP	NP	9.5	29	73
	38 000	0.25	NP	NP	NP	NP	NP	NP	NP	8	24.5	61
	50 000	0.29	NP	NP	NP	NP	NP	NP	NP	7	22.5	55

Notes to Table 7.5.8.4.:

(1) NP = not permitted and NL = not limited.

(2) Stacks shall be sized using Table 7.4.10.6.-A.

7.5.8.5. Lengths of Other Vent Pipes

(1) When *sizing* an *additional circuit vent, offset relief vent, relief vent, yoke vent*, and the *vent pipe* for an *interceptor*, dilution tank, *sewage* tank, sump or manhole, length is not taken into consideration.

7.5.9. Air Admittance Valves (See note A-7.2.10.16.(1))

7.5.9.1. Air Admittance Valve as a Vent Terminal

(1) *Individual vents* and *dual vents* are permitted to terminate with a connect to an *air admittance valve* as provided in Articles 7.5.9.2. and 7.5.9.3.

7.5.9.2. Air Admittance Valves

(1) *Air admittance valves* shall only be used to vent

(a) *fixtures* in *buildings* undergoing renovation, or

(b) installations where connection to a vent may not be practical.

(2) *Air admittance valves* shall be located

(a) not less than 100 mm above the *fixture drain* being vented,

(b) within the maximum *developed length* permitted for the vent, and

(c) not less than 150 mm above insulation materials.

(3) *Air admittance valves* shall

(a) only vent *fixtures* located on the same *storey*, and

(b) be connected to the horizontal *fixture drain*.

7.5.9.3. Installation Conditions

(1) *Air admittance valves* shall not be installed in supply or return air plenums, or in locations where they may be exposed to freezing temperatures.

(2) *Air admittance valves* shall be installed in accordance with the manufacturer's installation instructions.

(3) *Air admittance valves* shall be rated for the *nominal pipe size* of *vent pipe* to which they are connected.

(4) Installed *air admittance valves* shall be

(a) *accessible*, and

(b) located in a space that allows air to enter the valve.

(5) *Drainage systems* shall have at least one vent that terminates to the outdoors in conformance with Sentence 7.5.6.5.(1).

Section 7.6. Potable Water Systems

7.6.1. Arrangement of Piping

7.6.1.1. Design

(1) *Fixtures* supplied with separate hot and cold water controls shall have the hot water control on the left and the cold on the right.

(1.1) Where hot and cold water are mixed and the temperature is regulated by a single, unmarked, manual control, a movement to the left shall increase the temperature and a movement to the right shall decrease the temperature.

(2) In a hot *water distribution system* of a *developed length* of more than 30 m or supplying more than 4 *storeys*, the water temperature shall be maintained by

(a) recirculation, or

(b) a self-regulating heat tracing system.

7.6.1.2. Drainage

(1) A *water distribution system* shall be installed so that the system can be drained or blown out with air and outlets for this purpose shall be provided.

7.6.1.3. Control and Shut-off Valves

(1) A *building control valve* shall be provided

(a) on every *water service pipe* at the location where the *water service pipe* enters the *building*, or

(b) on the *water distribution system* at a location immediately downstream of the *point of entry treatment unit*, where the *building* is served by a *point of entry treatment unit* located in the *building*.

(2) Pipes that convey water from a gravity water tank or from a *private water supply system* shall be fitted with a shut-off valve at the source of supply.

(2.1) Except as provided in Sentence (2.2), a drain port shall be provided on the *water distribution system* immediately downstream of the *building control valve* required by Sentence (1) and if there is a meter, the drain port shall be installed immediately downstream of the meter on the *water distribution system*.

(2.2) Where the *building control valve* required by Sentence (1) is of *NPS* 1 or smaller, the drain port may be an integral part of the *building control valve* in the form of a stop and waste valve and the drain port shall be located on the *water distribution system* side of the stop and waste valve.

(3) Except for *risers* that serve only one *dwelling unit*, *risers* shall be provided with a shut-off valve located at the source of supply.

(4) Water closets shall be provided with a shut-off valve on their water supply pipe.

(5) In *buildings* of *residential occupancy* that contain more than one *dwelling unit*, a shut-off valve shall be installed where the water supply enters each *dwelling unit*, so that, when the water supply to one suite is shut off, the water supply to the remainder of the *building* is not interrupted. (See Note A-7.6.1.3.(5).)

(6) In *buildings* of other than *residential occupancy*, shut-off valves shall be provided on the water supply to

(a) every *fixture*, or

(b) any group of *fixtures* in the same room, except as provided in Sentence (4).

(7) Pipes that supply water to a hot water tank shall be provided with a shut-off valve located close to the tank.

(8) Where the water supply is to be metered, the installation of the meter, including the piping that is part of the meter installation and the valving arrangement for the meter installation, shall be according to the *water purveyor*'s requirements.

(9) For the purpose of identifying the pipe material where plastic water pipe is used underground for a service pipe, the end of the pipe inside the *building* shall be brought above ground for a distance not less than 300 mm and not greater than 450 mm. (See Note A-7.6.1.3.(9))

7.6.1.3A. Public Washrooms

(1) The water supply to each *fixture* in a washroom for *public use* shall be individually valved and each valve shall be *accessible*.

7.6.1.3B. Tanks

(1) Every water pipe that supplies a hot water tank, pressure vessel, *plumbing appliance* or water using device shall be provided with a shut-off valve located close to the tank, pressure vessel, *plumbing appliance* or water using device.

7.6.1.4. Protection for Exterior Water Supply

(1) Pipes that pass through an exterior wall to supply water to the exterior of the *building* shall be provided with

(a) a frost-proof hydrant, or

(b) a stop-and-waste cock located inside the building and close to the wall.

7.6.1.5. Check Valves

(1) A *check valve* shall be installed at the *building* end of a *water service pipe* where the pipe is made of plastic that is suitable for cold water use only. (See Note A-7.6.1.5.(1))

7.6.1.6. Flushing Devices

(1) Flushing devices that serve water closets or urinals shall have sufficient capacity and be adjusted to deliver at each operation a volume of water that will thoroughly flush the *fixture* or *fixtures* they serve.

(2) Where a manually operated flushing device is installed, it shall serve only one *fixture*.

(3) Except as provided in Sentence (4), water closets and urinals shall have an integral means of limiting the maximum amount of water used in each flush cycle to that specified in Table 7.6.1.6.-A.

Table 7.6.1.6.-A
Water Usage per Flush Cycle

Forming Part of Sentence 7.6.1.6.(3)

Fixtures	Maximum Water Usage per Flush Cycle, LPF
Water Closet (Tank Type)	6.0
Water Closet (Direct Flush)	6.0
Urinal (Tank Type)	1.9
Urinal (Direct Flush)	1.9

(4) In *buildings* classified as Group C *occupancy*, the flush cycle for each *fixture* that is a water closet or urinal shall not exceed the maximum water used in each flush cycle listed for that *fixture* in Table 7.6.1.6.-B.

Table 7.6.1.6.-B
Water Usage per Flush Cycle for Sanitary Fixtures in a Group C Occupancy

Forming Part of Sentence 7.6.1.6.(4)

Fixtures	Maximum Water Usage per Flush Cycle, LPF
Water Closet (Tank Type)	4.8(1)
Water Closet (Direct Flush)	4.8
Urinal (Tank Type)	1.9
Urinal (Direct Flush)	1.9

Notes to Table 7.6.1.6.-B:

(1) Water closets which provide a dual flush cycle option of both 4.1 LPF or less and 6.0 LPF are deemed to comply.

(4.1) Sentences (3) and (4) do not apply to a *fixture* located in an existing *building* where the *chief building official* is satisfied that compliance with the requirement is impracticable because of maintenance or operational difficulties. (See Note A-7.6.1.6.(4.1))

(5) Flush-tank-type urinals shall be equipped with a device capable of preventing flush cycles when they are not in use.

7.6.1.7. Relief Valves (See Note A-7.6.1.7.)

(1) Every pressure vessel that is part of a *plumbing system* or connected to a *plumbing system* shall be equipped with a pressure relief valve designed to open when the water pressure in the tank reaches the rated working pressure of the tank, and so located that the pressure in the tank shall not exceed 1 100 kPa or one-half the maximum test pressure sustained by the tank, whichever is the lesser.

(2) The hot water tank of a *storage-type service water heater* shall be equipped with a temperature-relief valve with a temperature-sensing element

(a) located within the top 150 mm of the tank, and

(b) designed to open and discharge sufficient water from the tank to keep the temperature of the water in the tank from exceeding 99°C under all operating conditions.

(3) A pressure-relief valve and temperature-relief valve may be combined where Sentences (1) and (2) are complied with.

(4) *Indirect service water heaters* shall be equipped with

(a) a pressure-relief valve, and

(b) a temperature-relief valve on every storage tank that forms part of the system.

(5) Pipes that convey water from a temperature-relief, pressure-relief or combined temperature- and pressure-relief valve shall

(a) be of a *nominal pipe size* at least equal to the *NPS* of the outlet of the valve,

(b) be rigid, slope downward from the valve, and terminate with an indirect connection above a floor drain, sump, or other safe location, with an *air break* of not more than 300 mm,

(c) have no thread at their outlet, and

(d) be capable of operating at a temperature of not less than 99°C.

(6) The temperature-relief valve required in Clause (4)(b) shall

(a) have a temperature-sensing element located within the top 150 mm of the tank, and

(b) be designed to open and discharge sufficient water to keep the temperature of the water in the tank from exceeding 99°C under all operating conditions.

(7) No shut-off valve shall be installed on the pipe between any tank and the relief valves or on the discharge lines from such relief valves.

7.6.1.8. Solar Domestic Hot Water Systems

(1) Systems for solar heating of *potable water* shall be installed in conformance with CAN/CSA-F383, “Installation of packaged solar domestic hot water systems.”

7.6.1.9. Water Hammer

(1) Provision shall be made to protect the *water distribution system* from the adverse effects of water hammer. (See Note A-7.6.1.9.(1).)

7.6.1.10. Mobile Home Water Service

(1) A *water service pipe* intended to serve a mobile home shall

(a) be not less than *NPS* ¾,

(b) terminate above ground, and

(c) be provided with

(i) a tamperproof terminal connection that is capable of being repeatedly connected, disconnected and sealed,

(ii) a protective concrete pad,

(iii) a means to protect it from frost heave, and

(iv) a curb stop and a means of draining that part of the pipe located above the frost line when not in use.

7.6.1.11. Thermal Expansion

(1) Where thermal expansion can occur, protection shall be provided for

(a) *check valves* required by Article 7.6.1.5.,

(b) *backflow preventers* required by Sentence 7.6.2.1.(3), and

(c) pressure-reducing valves required by Article 7.6.3.3. (See Note A-7.6.1.11.(1))

7.6.2. Protection from Contamination

7.6.2.1. Connection of Systems

(1) Connections to *potable water systems* shall be designed and installed so that non-*potable* water or substances that may render the water non-*potable* cannot enter the system.

(2) *Backflow preventers* shall be selected and installed in conformance with CSA B64.10, “Selection and installation of backflow preventers.”

(3) No connection shall be made between a *potable water system* supplied with water from a *drinking water system* and any other *potable water system* without the consent of the *water purveyor*.

7.6.2.2. Back-Siphonage

(1) Every *potable water system* that supplies a *fixture* or tank that is not subject to pressures above atmospheric shall be protected against *back-siphonage* by a backflow *preventer*.

(2) Where a *potable* water supply is connected to a boiler, tank, cooling jacket, lawn sprinkler system or other device where a non-*potable* fluid may be under pressure that is above atmospheric or the water outlet may be submerged in the non-*potable* fluid, the water supply shall be protected against *backflow* by a *backflow preventer*.

7.6.2.3. Backflow Caused by Back Pressure

(1) Except as provided in Sentence (3) and Articles 7.6.2.4. to 7.6.2.6., where a *backflow preventer* is required by this Subsection, the *backflow preventer* shall be selected, installed and tested in conformance with CSA B64.10, "Selection and Installation of Backflow Preventers".

(2) *Backflow preventers* shall be provided in conformance with Sentence 7.2.10.10.(1).

(3) Tank type water closet valves shall be provided with a *back-siphonage preventer* in conformance with Sentence 7.2.10.10.(2).

7.6.2.4. Backflow from Fire Protection Systems

(1) A *backflow preventer* shall not be required *in residential full flow-through fire sprinkler/standpipe systems* in which the pipes and fittings are constructed of *potable water system* materials.

(2) Except as required by Sentence (4), *potable water system* connections to fire sprinkler and standpipe systems shall be protected against *backflow* caused by back-siphonage or *back pressure* in conformance with Clauses (a) to (g), as applicable:

(a) *residential partial flow-through fire sprinkler/standpipe systems* in which the pipes and fittings are constructed of *potable water system* materials shall be protected by a dual *check valve backflow preventer* conforming to

  (i) CSA B64.6, "Dual check valve (DuC) backflow preventers," or

  (ii) CSA B64.6.1, "Dual check valve backflow preventers for fire protection systems (DuCF),"

(b) provided that the systems do not use antifreeze or other additives of any kind and that all pipes and fittings are constructed of *potable water system* materials, *Class 1 fire sprinkler/standpipe systems* shall be protected by a single or dual *check valve backflow preventer* conforming to

  (i) CSA B64.6, "Dual check valve (DuC) backflow preventers," or

  (ii) CSA B64.9, "Single check valve backflow preventers for fire protection systems (SCVAF),"

(c) provided that the systems do not use antifreeze or other additives of any kind, *Class 1 fire sprinkler/standpipe systems* not covered by Clause (b) as well as *Class 2* and *Class 3 fire sprinkler/standpipe systems* shall be protected by a double *check valve backflow preventer* conforming to

(i) CSA B64.5, "Double check valve (DCVA) backflow preventers," or

(ii) CSAB64.5.1, "Double check valve backflow preventers for fire protection systems (DCVAF),"

(d) *Class 1, Class 2* and *Class 3 fire sprinkler/standpipe systems* in which antifreeze or other additives are used shall be protected by a reduced pressure principle *backflow preventer* conforming to

(i) CSA B64.4, "Reduced pressure principle (RP) backflow preventers," or

(ii) CSA B64.4.1, "Reduced pressure principle backflow preventers for fire protection systems (RPF),"

installed on the portion of the system that uses the additives and the balance of the system shall be protected as required by Clause (b) or (c),

(e) *Class 4* and *Class 5 fire sprinkler/standpipe systems* shall be protected by a reduced pressure principle *backflow preventer* conforming to

(i) CSA B64.4, "Reduced pressure principle (RP) backflow preventers," or

(ii) CSA B64.4.1, "Reduced pressure principle backflow preventers for fire protection systems (RPF),"

(f) *Class 6 fire sprinkler/standpipe systems* shall be protected by a double check *valve backflow preventer* conforming to

(i) CSA B64.5, "Double check valve (DCVA) backflow preventers," or

(ii) CSA B64.5.1, "Double check valve backflow preventers for fire protection systems (DCVAF)," or

(g) where a potentially severe health hazard may be caused by *backflow*, *Class 6 fire sprinkler/standpipe systems* shall be protected by a reduced pressure principle *backflow preventer* conforming to

(i) CSA B64.4, "Reduced pressure principle (RP) backflow preventers," or

(ii) CSA B64.4.1, "Reduced pressure principle backflow preventers for fire protection systems (RPF)." (See Note A-7.6.2.4.(2))

(3) *Backflow preventers* required by Sentence (2) shall be installed upstream of the fire department pumper connection. (See Note A-2.6.2.4.(3))

(4) Where a reduced pressure principle *backflow preventer* is required on a *water service pipe* at a fire service connection located on the same premises as the *fire service pipe* in *Class 3, 4, 5 and 6 fire sprinkler/standpipe systems*, a reduced pressure principle *backflow preventer* conforming to CSA B64.4.1, "Reduced pressure principle backflow preventers for fire protection systems (RPF)," shall also be required on the fire service connection.

7.6.2.5. Separation of Water Supply Systems

(1) Where a *private water supply system* or a non-*potable water system* is supplied by a public water supply system, the public water supply system shall be protected in accordance with Article 7.6.2.1.

7.6.2.5A. Backflow from Buildings with a Solar Domestic Hot Water System

(1) Except as permitted by Sentence (2) and as provided in Sentences (3) and (4), a *potable water system* shall be protected against *backflow* where the heat transfer loop of a solar domestic hot water system is *directly connected* to the *potable water system*.

(2) Where the heat transfer loop of the solar domestic hot water system consists of direct flow-through of *potable* water only, protection against *backflow* is not required.

(3) A *potable water system* that is *directly connected* to the heat transfer loop of a solar domestic hot water system that serves a *residential occupancy* within the scope of Part 9 shall be provided with a *backflow preventer* selected in accordance with CAN/CSA-F379.1, "Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer) for All-Season Use".

(4) Where a solar domestic hot water system includes a single wall heat exchanger and contains only a relatively harmless heat transfer fluid as described in CAN/CSA-F379.1, "Packaged Solar Domestic Hot Water Systems (Liquid-to-Liquid Heat Transfer) for All-Season Use", the *backflow* prevention required in Sentence (1) is permitted to be a dual *check valve backflow preventer* conforming to CSA B64.3, "Dual Check Valve Backflow Preventers with Atmospheric Port (DCAP)".

7.6.2.6. Premise Isolation (See Note A-7.6.2.6.)

(1) *Buildings* or facilities where a moderate hazard or severe hazard may be caused by *backflow* shall be provided with premise isolation of the *potable water system* by the installation of a *backflow preventer* selected in accordance with Clauses 5.3.4.2.(b) and (c) of CSA B64.10, "Selection and Installation of Backflow Preventers".

(2) *Buildings* of *residential occupancy* within the scope of Part 9 are not required to be isolated unless they have access to an *auxiliary water supply*.

(3) Except as provided in Sentence (1), where no direct connection exists between the *auxiliary water supply* and the *potable water system*, premise isolation shall be provided by a dual *check valve backflow preventer* conforming to CSA B64.6, "Dual Check Valve (DuC) Backflow Preventers".

7.6.2.7. Hose Bib

(1) Where a hose bib is installed outside a *building*, inside a garage or in an area where there is an identifiable risk contamination, the *potable water system* shall be protected against *backflow* through the hose bib.

7.6.2.8. Cleaning of Systems

(1) A newly installed part of a *potable water system* shall be cleaned and then flushed with *potable* water before the system is put into operation. (See Note A-7.6.2.8.(1))

7.6.2.9. Air Gap

(1) *Air gaps* shall not be located in a noxious environment.

(2) *Air gaps* shall be not less than 25 mm high and at least twice the diameter of the opening of the water supply outlet in height. (See Note A-7.6.2.9.(2))

7.6.2.10. Vacuum Breakers

(1) Where the *critical level* is not marked on an atmospheric *vacuum breaker*, pressure *vacuum breaker*, or spill-resistant pressure *vacuum breaker*, the *critical level* shall be taken as the lowest point on the device.

(2) Where an atmospheric *vacuum breaker* is installed, it shall be located on the downstream side of the *fixture* control valve or faucet so that it will be subject to water supply pressure

(a) only when the valve or faucet is open, and

(b) for periods of continuous use not exceeding 12 h. (See Note A-7.6.2.10.(2))

(3) An atmospheric *vacuum breaker* shall be installed so that the *critical level* is at least the distance specified by the manufacturer for safe operation of the device, but not less than 25 mm above

(a) the *flood level rim* of a *fixture* or tank, or

(b) the highest point open to the atmosphere in an irrigation system.

(4) A pressure *vacuum breaker* or spill-resistant pressure *vacuum breaker* shall be installed so that the *critical level* is not less than 300 mm above

(a) the *flood level rim* of a *fixture* or tank, or

(b) the highest point open to the atmosphere in an irrigation system.

7.6.3. Size and Capacity of Pipes (See Note A-7.6.3.)

7.6.3.1. Design, Fabrication and Installation (See Note A-7.6.3.1.)

(1) *Water distribution systems* shall be designed to provide peak demand flow when the flow pressures at the supply openings conform to the plumbing supply fitting manufacturer's specifications.

(2) *Potable water systems* shall be designed, fabricated and installed in accordance with good engineering practice, such as that described in the ASHRAE Handbooks and ASPE Plumbing Engineering Design Handbooks. (See Note A-7.6.3.1.(2))

(3) Reserved.

(4) Pipes that supply a *fixture* shall have a capacity that will produce a flow in the *fixture* that will flush the *fixture* and keep it in a sanitary condition.

7.6.3.2. Hydraulic Load

(1) Except as provided in Sentence (3), the hydraulic load of a *fixture* or device that is listed in Table 7.6.3.2.-A shall be the number of *fixture units* given in the Table.

(2) Except as provided in Sentences (1) and (3), the hydraulic load of a *fixture* that is not listed in Table 7.6.3.2.-A is the number of *fixture units* listed in Table 7.6.3.2.-D.

(3) Where *fixtures* are supplied with both hot and cold water, the hydraulic loads for maximum separate demands shall be 75% of the hydraulic load of the *fixture units* given in Tables 7.6.3.2.-A and 7.6.3.2.-D when using a detailed engineering design method.

(4) The hydraulic load of urinals and water closets with direct flush valves shall be the number of *fixture units* listed in Tables 7.6.3.2.-B and 7.6.3.2.-C. (See Note A-7.6.3.2.(4))

Table 7.6.3.2.-A
Sizing of Water Distribution Systems (1)(2)

Forming Part of Sentences 7.6.3.2.(1), (2) and (3) and 7.6.3.4.(2), (4) and (5)

Fixture or Device	Minimum *Nominal Pipe Size* of Supply Pipe, *NPS*	*Private Use* Hydraulic Load, *fixture units*			*Public Use* Hydraulic Load, *fixture units*		
		Cold	Hot	Total	Cold	Hot	Total
Bathroom group with 6 LPF flush tank(3)	n/a	2.7	1.5	3.6	n/a	n/a	n/a
Bathroom group with greater than 6 LPF flush tank(3)	n/a	4	3	6	n/a	n/a	n/a
Bathroom group with more than 3 *fixtures*	n/a	n/a	n/a	(4)	n/a	n/a	n/a
Bathtub with or without shower	1/2	1	1	1.4	3	3	4

head							
Bathtub with *NPS* ¾ spout	3/4	7.5	2.25	3	4.5	4.5	6
Bedpan washer	1	n/a	n/a	n/a	7.5	7.5	10
Bidet	3/8	1.5	1.5	2	n/a	n/a	n/a
Clothes washer 3.5 kg	1/2	1	1	1.4	2.25	2.25	3
Clothes washer 6.8 kg	1/2	n/a	n/a	n/a	3	3	4
Clothes washer, commercial[5]	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Dental lavatory	3/8	n/a	n/a	n/a	1.5	1.5	2
Dental unit, cuspidor	3/8	n/a	n/a	n/a	1	n/a	1
Dishwasher, commercial[5]	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Dishwasher, domestic	3/8	n/a	1.4	1.4	n/a	n/a	n/a
Drinking fountain or water cooler	3/8	n/a	n/a	n/a	0.25	n/a	0.25
Hose bibb	1/2	2.5	n/a	2.5	2.5	n/a	2.5
Hose bibb	3/4	3	n/a	3	6	n/a	6
Hose bibb, combination hot and cold	1/2	1.9	1.9	2.5	1.9	1.9	2.5
Lavatory, 8.3 LPM or less	3/8	0.5	0.5	0.7	1.5	1.5	2
Lavatory, greater than 8.3 LPM	3/8	0.75	0.75	1	1.5	1.5	2
Shower head, 9.5 LPM or less per head	1/2	1	1	1.4	3	3	4
Shower head, greater than 9.5 LPM per head	1/2	1.5	1.5	2	3	3	4
Shower, spray, multi-head, *fixture unit* per head	[5]	1	1	1.4	3	3	4
Sink, bar	3/8	0.75	0.75	1	1.5	1.5	2
Sink, clinic service faucet	1/2	n/a	n/a	n/a	2.25	2.25	3
Sink, clinic service with direct flush valve	1	n/a	n/a	n/a	6	n/a	6
Sink, kitchen commercial, per faucet	1/2	n/a	n/a	n/a	3	3	4
Sink, kitchen domestic, 8.3 LPMor less	3/8	1	1	1.4	1	1	1.4
Sink, kitchen domestic, greater than 8.3 LPM	3/8	1.5	1.5	2	1.5	1.5	2
Sink, laboratory	3/8	n/a	n/a	n/a	1.5	1.5	2
Sink, laundry (1 or 2 compartments)	3/8	1	1	1.4	1	1	1.4
Sink, service or mop basin	1/2	n/a	n/a	n/a	2.25	2.25	3

Sink, washup, per faucet	1/2	n/a	n/a	n/a	1.5	1.5	2
Urinal, with flush tank	3/8	3	n/a	3	3	n/a	3
Urinal, with self-closing metering valve	1/2	2	n/a	2	4	n/a	4
Water closet, 6 LPF or less with flush tank	3/8	2.2	n/a	2.2	2.2	n/a	2.2
Water closet, greater than 6 LPF with flush tank	1/2	3	n/a	3	5	n/a	5

Notes to Table 7.6.3.2.:

(1) The *fixture unit* values in this Table are not applicable in certain assembly *occupancies* because of surges in use by the occupants. For such *occupancies*, refer to specific design information.

(2) For *fixtures* not indicated in this Table, refer to Table 7.6.3.2.-D.

(3) *Bathroom group* is based on an *NPS* 1/2 bathtub supply pipe.

(4) Add additional *fixture* to the *fixture* load for *bathroom group*.

(5) Refer to manufacturer's recommendations.

(6) For *fixture unit* values for *fixtures* with direct flush valves, see Sentence 7.6.3.2.(4) and Tables 7.6.3.2.-B and 7.6.3.2.-C.

Table 7.6.3.2.-B
Sizing of Water Distribution Systems for Urinals with Direct Flush Valves

Forming Part of Sentences 7.6.3.2.(4) and 7.6.3.4.(5)

Number of Valves	Individual *Fixture Unit* Assigned in Decreasing Values	*Fixture Units* in Accumulative Values (1)
1	20	20
2	15	35
3	10	45
4	8	53
5 or more	5 each	58, plus 5 for each additional *fixture* in excess of 5

Notes to Table 7.6.3.2.-B:

(1) The accumulative *fixture unit* values are the total values to be used in conjunction with Table 7.6.3.2.-A.

Table 7.6.3.2.-C
Sizing of Water Distribution Systems for Water Closets with Direct Flush Valves

Forming Part of Sentences 7.6.3.2.(4) and 7.6.3.4.(5)

Number of Valves	Individual *Fixture Unit* Assigned in Decreasing Values	*Fixture Units* in Accumulative Values[(1)]
1	40	40
2	30	70
3	20	90
4	15	105
5 or more	10 for each *public use* and 6 for each *private use*	115, plus 10 for each *public use* additional *fixture* in excess of 5 and 111, plus 6 for each *private use* additional *fixture* in excess of 5

Notes to Table 7.6.3.2.-C:

(1) The accumulative *fixture unit* values are the total values to be used in conjunction with Table 7.6.3.2.-A.

Table 7.6.3.2.-D
Hydraulic Loads of Fixtures Not Listed in Table 7.6.3.2.-A

Forming Part of Sentences 7.6.3.2.(4) and 7.6.3.4.(5)

Nominal Pipe Size of Supply Pipe, *NPS*	Hydraulic Load, *fixture units*	
	Private Use	*Public Use*
3/8	1	2
1/2	2	4
3/4	3	6
1	6	10

7.6.3.3. Static Pressure

(1) Where the static pressure at any *fixture* may exceed 550 kPa, a pressure-reducing valve shall be installed to limit the maximum static pressure at the *fixture* to 550 kPa.

7.6.3.4. Size

(1) *Water service pipes* shall be sized according to the peak demand flow but shall not be less than *NPS* ¾.

(2) Except as provided in Sentence (3), the *nominal pipe size* of a supply pipe that serves a *fixture* shall conform to Table 7.6.3.2.-A.

(3) For *fixtures* listed in Table 7.6.3.2.-A that are permitted to have an *NPS* ⅜ supply pipe, a connector not more than 750 mm long and not less than *NPS* ¼ may be used to supply water to the *fixture*.

(4) No *water system* between the point of connection with the *water service pipe* or the water meter and the first water distribution pipe that supplies a water heater that serves more than one *fixture* shall be sized less than *NPS* ¾.

(5) Except as permitted in Sentence (6), where both hot and cold water is supplied to *fixtures* in residential *buildings* containing one or two *dwelling units* or row houses with separate *water service pipes*, the *water system* may be sized in accordance with Table 7.6.3.4., where

(a) the hydraulic loads for maximum separate demands on *water distribution system* piping are not less than 100% of the total hydraulic load of the *fixture units* given in Table 7.6.3.2.-A, 2.6.3.2.-B, 2.6.3.2.-C or 2.6.3.2.-D for *private use*,

(b) the minimum water pressure at the entry to the *building* is 200 kPa, and

(c) the total maximum length of the *water system* is 90 m. (See Note A-7.6.3.4.(5))

(6) Where both hot and cold water is supplied to *fixtures* in a house containing only one *dwelling unit*, the *water service pipe* is permitted to be a minimum of *NPS* ¾ provided

(a) a minimum *NPS* ¾ water supply piping located in the *basement* or lower level is extended to the base of every hot and cold *riser* that serves a maximum of one *bathroom group* and to the last water supply branch serving any *basement bathroom group*, *fixture* supply or hose bibb, and

(b) the total hydraulic load is not more than 26 *fixture units*, using the values given in Table 7.6.3.2.A.

Table 7.6.3.4.
Water Pipe Sizing for Buildings Containing One of Two Dwelling Units or Row Houses with Separate Water Service Pipes

Forming Part of Sentence 7.6.3.4.(5)

Nominal Pipe Size of Water Pipe, *NPS*	Water Velocity, m/s [1]		
	3.0	2.4	1.5
	Hydraulic Load, *fixture units*		
½	8	7	4
¾	21	16	9
1	43	31	18
1¼	83	57	30

Notes to Table 7.6.3.4.:

[1] Table 7.6.3.4. is not intended to limit water velocities that are permitted by Sentence 7.6.3.5.(1).

7.6.3.5. Velocity

(1) The maximum permitted water velocities shall be those recommended by the pipe and fitting manufacturer.

7.6.4. Water Efficiency

7.6.4.1. Water Supply Fittings

(1) Each lavatory in a washroom with *fixtures* for *public use* shall be equipped with a device capable of automatically shutting off the flow of water when the lavatory is not in use. (See Note A-7.6.4.1.(1))

(2) An automatic compensating valve serving an individual shower head shall have a manufacturer's minimum-rated water flow rate equal to or less than the shower head it serves. (See Note A-7.6.4.1.(2))

(3) Where multiple shower heads installed in a public showering facility are served by one temperature control, each shower head shall be equipped with a device capable of automatically shutting off the flow of water when the shower head is not in use. (See Note A-7.6.4.1.(3))

Section 7.7. Non-Potable Water Systems

7.7.1. Non-Potable Water Systems

7.7.1.1. General

(1) Non-*potable water systems* shall be designed, fabricated and installed in accordance with this Subsection and good engineering practice. (See Note A-7.7.1.1.(1).)

(2) Except as provided in Sentence (3) and Subsection 7.7.2., non-*potable water systems shall* only be used to supply water closets, urinals, *trap* seal primers, and *directly connected* underground irrigation systems that only dispense water below the surface of the ground.

(3) Non-*potable water systems* shall not be used to supply *fixtures* in healthcare facilities.

(4) Where a non-*potable water system* is supplied by a *potable water system*, the *potable water system* shall be protected in accordance with Article 7.6.2.1.

(5) Where the static pressure at any *fixture* in a non-*potable water system* may exceed 550 kPa, a pressure-reducing valve shall be installed to limit the maximum static pressure at the *fixture* to 550 kPa.

(6) Where a clothes washer is supplied by a *rainwater* system and a *potable water system*, the *potable water system* shall be protected by dual *check valve backflow*

preventers conforming to CSA B64.6, Dual Check Valve (DuC) Backflow Preventers" for

(a) area isolation, and

(b) premise isolation.

7.7.1.2. Identification and Marking

(0.1) Non-*potable* water piping shall be identified by markings that are permanent, distinct and easily recognized.

(1) Non-*potable* water piping and outlets shall be identified and marked in accordance with CAN/CSA-B128.1, "Design and Installation of Non-Potable Water Systems."

(2) A sign containing the words **NON-POTABLE WATER, DO NOT DRINK** shall be in letters at least 25 mm high with a 5 mm stroke and posted immediately above a *fixture* that is permitted to receive non-*potable* water.

7.7.1.3. Location of Pipes

(1) Non-*potable* water piping shall not be located directly above

(a) areas where food, drink or products that are intended for human consumption are prepared, handled, dispensed or stored,

(b) a non-pressurized or pressurized *potable* water tank, or

(c) food-handling equipment.

7.3.1.4. Location of Outlets

(1) Except as provided in Subsection 7.7.2., an outlet from a non-*potable water system* shall not be located where it can discharge into

(0.a) a sink or lavatory,

(a) a *fixture* into which an outlet from a *potable water system* is discharged, or

(b) a *fixture* that is used for the preparation, handling or dispensing of food, drink or products that are intended for human consumption.

7.7.2. Non-Potable Rainwater Harvesting Systems

7.7.2.1. General

(1) For the purposes of this Subsection, rainwater shall mean *storm water* discharged from an above-ground roof surface.

(2) For the purposes of this Subsection, a non-*potable* rainwater harvesting system shall mean a storage tank, a pump, pipes, fittings and other plumbing appurtenances used to collect and distribute rainwater, but shall not include a rain barrel not connected to a *plumbing system*.

7.7.2.2. Permitted Applications

(1) Non-*potable* rainwater harvesting systems are only permitted to supply

(a) water closets and urinals,

(b) clothes washers,

(c) floor-mounted service sinks and laundry trays,

(d) *trap* primers,

(e) irrigation systems,

(f) hydronic systems,

(g) make-up water systems for heat rejection systems, or

(h) any other application where the harvested rainwater is not expected to be ingested or inhaled. (See Note A-7.7.2.2.(1) and 7.7.2.4.(3) and (4))

7.7.2.3. Roof Design

(1) Roof surfaces that supply rainwater to a non-*potable* rainwater harvesting system shall be inaccessible to vehicular and pedestrian traffic. (See Note A-7.7.2.3.(1))

(2) Roofing components and conveyance systems in contact with rainwater that is supplied to a non-*potable* rainwater harvesting system shall be constructed of materials that will not introduce substances into the rainwater that could adversely affect its intended end use. (See Note A-7.7.2.3.(2))

7.7.2.4. Non-Potable Rainwater Harvesting System Design

(1) Non-*potable* rainwater harvesting systems and their connections shall be designed, fabricated and installed in accordance with this Subsection and good engineering practice. (See Note A-7.7.2.4.(1).)

(2) Non-*potable* rainwater harvesting systems shall not collect water discharged from an evaporative heat rejection system.

(3) Non-*potable* rainwater harvesting systems shall be provided with a means to treat the harvested rainwater in such a manner that the quality of the delivered non-potable water conforms to appropriate provincial or territorial requirements or, in the absence of such requirements, the systems shall conform to Sentence (4). (See Note A-7.7.2.2.(1) and 7.7.2.4.(3) and (4))

(4) Except as provided in Sentence (3), non-*potable* rainwater harvesting systems shall be provided with

(a) a water treatment system consisting of

(i) a debris screen with a mesh size of not more than 6 mm ahead of the storage tank inlet,

(ii) a first-flush diversion system with a capacity of not less than 0.3 L/m^2 of roof area ahead of the storage tank inlet,

(iii) a calming inlet or settling chamber ahead of the storage tank inlet,

(iv) a device to prevent the entrainment of sediment into the pump, and

(v) where the harvested rainwater is used for an indoor application, a filter with a mesh size of not more than 50 μm ahead of the storage tank inlet, or

(b) a means to treat the harvested rainwater in such a manner that the delivered non-*potable* water contains not more than the maximum acceptable levels of contaminants stated in CSA B805/ICC 805, "Rainwater harvesting systems." (See Note A-7.7.2.2.(1) and 7.7.2.4.(3) and (4))

(5) Where the static pressure at any *fixture* in a non-*potable* rainwater harvesting system may exceed 550 kPa, a pressure-reducing valve shall be installed to limit the maximum static pressure at the *fixture* to 550 kPa.

(6) Storage tanks in non-*potable* rainwater harvesting systems shall be designed and installed in accordance with

(a) CAN/CSA-B126.0, "General requirements and methods of testing for water cisterns," and

(b) CAN/CSA-B126.1, "Installation of water cisterns."

(7) Storage tanks in non-*potable* rainwater harvesting systems shall be equipped with an overflow that directs excess rainwater to

(a) a public *storm sewer*,

(b) a public *combined sewer*,

(c) a *storm water* management system, or

(d) a designated *storm water* disposal location.

(8) Where the storage tank outlet is located below the level of the adjoining street, the storage tank overflow required by Sentence (7) shall

(a) terminate with an indirect connection that is not located within the *building*, or

(b) be equipped with a *backwater valve*.

(9) Make-up water connections to non-*potable* rainwater harvesting systems shall

(a) be equipped with a reduced pressure principle *backflow preventer*, or

(b) have an *air gap*.

(10) Where a *fixture* combines water from a non-*potable* rainwater harvesting system and *potable* water at the *fixture* supply fitting, the *potable water system* shall be protected by a *backflow preventer* as described in Sentence 7.6.2.1.(3).

7.7.3. Non-Potable Water Systems for Re-use Purposes

7.7.3.1. Conformance to Standards

(1) Except as provided in Article 7.7.2.4., Non-*potable* water systems for re-use purposes shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances such as described in

(a) the ASHRAE Handbooks,

(b) ASPE Plumbing Engineering Design Handbooks, or

(c) CAN/CSA-B128.1, “Design and installation of non-potable water systems”.

Part 8

294. Part 8 of Division B is revoked and the following substituted:

Part 8

Sewage Systems

Section 8.1. General

8.1.1. Scope

8.1.1.1. Scope

(1) The scope of this Part shall be as described in Subsection 1.3.3. of Division A.

8.1.1.2. Definition

(1) Except as provided in Sentence (2), words that appear in italics are defined in Article 1.4.1.2. of Division A and in the *Building Code Act, 1992*.

(2) In this Part,

Soil means in-situ, naturally occurring, unconsolidated mineral or organic material, at the earth's surface that is at least 100 mm thick and capable of supporting plant growth, and includes material compacted or cemented by soil forming processes, but does not include displaced materials such as gravel dumps, mine spoils, or like deposits.

8.1.2. Application

8.1.2.1. Classification of Systems

(1) All *sewage systems* shall be classed as one of the following:

(a) Class 1 – a chemical toilet, an incinerating toilet, a recirculating toilet, a self-contained portable toilet and all forms of privy including a *portable privy*, an *earth pit privy*, a *pail privy*, a *privy vault* and a composting toilet system,

(b) Class 2 – a *greywater* system,

(c) Class 3 – a cesspool,

(d) Class 4 – a *leaching bed* system, or

(e) Class 5 – a system that requires or uses a *holding tank* for the retention of *hauled sewage* at the site where it is produced prior to its collection by a *hauled sewage system*.

8.1.2.2. Operation and Maintenance

(1) Operation and maintenance of *sewage systems* shall comply with Section 8.9.

8.1.3. Limitations

8.1.3.1. Discharge

(1) Except as provided in Sentences (2) to (6), the *sewage system* shall be designed and *constructed* to receive only *sanitary sewage* of domestic origin. (See Note A-8.1.3.1.(1))

(2) Where laundry waste is not more than 20% of the total daily design *sanitary sewage* flow, it may discharge to a *sewage system*.

(3) Where industrial process waste water is treated to the contaminant levels found in domestic *sanitary sewage*, it may discharge to a *leaching bed* provided the *treatment unit* and *sewage system* are designed in accordance with good engineering practice. (See Note A-8.1.3.1.(3))

(4) Where kitchen waste water from a restaurant has passed through an operating grease *interceptor*, it may discharge to a *leaching bed* provided the *sewage system* has been designed in accordance with good engineering practice.

(5) Waste water from a kitchen equipped with a garbage grinder may be directed to the *sewage system* provided the system has been designed to accept such waste water.

(6) Water softener and iron filter discharge may be directed to the *sewage system* provided the system has been designed to accept such discharges.

(7) *Storm sewage* shall not be discharged into a *sewage system*.

(8) The *interceptor* required in Sentence (4) shall

(a) have a minimum flow rate as required by Sentence 7.4.4.3.(8) using a 60 second drain down time, and

(b) conform to

(i) CSA B481.1, “Testing and rating of grease interceptors using lard”, or

(ii) CSA B481.2, “Testing and rating of grease interceptors using oil”.

Section 8.2. Design Standards

8.2.1. General Requirements

8.2.1.1. Scope

(1) This Subsection applies to the design of *sewage systems*.

8.2.1.2. Site Evaluation

(1) A site evaluation shall be conducted on every site where a new or replacement *sewage system* is to be installed. (See Note A-8.2.1.2.(1))

(2) The *percolation time* shall be determined by

(a) conducting percolation tests, or

(b) classifying the *soil* according to one of the following methods,

(i) the Unified Soil Classification System as described in MMAH Supplementary Standard SB-6, "Percolation Time and Soil Descriptions", or

(ii) the Soil Texture Classification as described in Chapter 3 of USDA, "Soil Survey Manual". (See Note A-8.2.1.2.(2))

(3) Where the *percolation time* is determined by a percolation test, there shall be a minimum of 3 locations selected, suitably spaced to accurately evaluate the *leaching bed* area, with the highest *percolation time* of the tests being used. (See Note A-8.2.1.2.(3))

8.2.1.3. Sewage System Design Flows

(1) For *residential occupancies*, the total daily design *sanitary sewage* flow shall be at least the value determined in accordance with Table 8.2.1.3.-A. (See Note A-8.2.1.3.(1) and (2))

(2) For all other *occupancies*, the total daily design *sanitary sewage* flow shall be at least the value determined in accordance with Table 8.2.1.3.-B. (See Note A-8.2.1.3.(1) and (2))

(3) Where a *building* contains more than one establishment, the total daily design *sanitary sewage* flow shall be the sum of the total daily design *sanitary sewage* flow for each establishment.

(4) Where an *occupancy* is not listed in Table 8.2.1.3.-B, the highest of metered flow data from at least 3 similar establishments shall be acceptable for determining the total daily design *sanitary sewage* flow.

Table 8.2.1.3.-A
Residential Occupancy

Forming Part of Sentence 8.2.1.3.(1)

Residential Occupancy	Volume, litres
Apartments, Condominiums, Other Multi-family Dwellings - per person(1)	275
Boarding Houses	
a) Per person,	
i) with meals and laundry facilities, or,	200
ii) without meal or laundry facilities, and	150
b) Per non-resident staff per 8 hour shift	40
Boarding School - per person	300
Dwellings	

a) 1 bedroom dwelling	750
b) 2 bedroom dwelling	1100
c) 3 bedroom dwelling	1600
d) 4 bedroom dwelling	2000
e) 5 bedroom dwelling	2500
f) Additional flow for(2)	
i) each bedroom over 5,	500
ii) A) each 10 m^2 (or part of it) over 200 m^2 up to 400 m^2 (3) ,	100
B) each 10 m^2 (or part of it) over 400 m^2 up to 600 m^2 (3), and	75
C) each 10 m^2 (or part of it) over 600 m^2 (3), or	50
iii) each fixture unit over 20 fixture units	50
Hotels and Motels (excluding bars and restaurants)	
a) Regular, per room	250
b) Resort hotel, cottage, per person	500
c) Self service laundry, add per machine	2500
Work Camp/Construction Camp, semi-permanent per worker	250

Notes to Table 8.2.1.3.-A:

(1) The *occupant load* shall be calculated using Subsection 3.1.17.

(2) Where multiple calculations of *sanitary sewage* volume is permitted, the calculation resulting in the highest flow shall be used in determining the design daily *sanitary sewage flow*.

(3) Total finished area, excluding the area of the finished *basement*.

Table 8.2.1.3.-B
Other Occupancies

Forming Part of Sentence 8.2.1.3.(2)

Establishments(1)	Volume, litres
Airports, Bus Terminals, Train Stations, Dock/Port Facilities (Food Services excluded)	
a) Per passenger, and	20
b) Per employee per 8 hour shift	40
Assembly Hall - per seat	
a) No food service, or	8
b) Food service provided	36
Barber Shop/Beauty Salon - per service chair	650
Bowling Alleys (Food Service not included) - per lane	400
Churches and Similar Places of Worship - per seat	
a) No kitchen facilities, or	8

b) Kitchen facilities provided	36
Country Club (excluding Food Service)	
a) Per resident,	375
b) Per employee per 8 hour shift, and	50
c) Per member or patron	40
Day Care Facility per person (staff and children)	75
Dentist Office	
a) Per wet service chair, and	275
b) Per dry service chair	190
Doctors Office	
a) Per practitioner, and	275
b) Per employee per 8 hour shift	75
Factory (excluding process or cleaning waters) - per employee per 8 hour shift	
a) No showers, or	75
b) Including showers	125
Flea Markets(2) (open not more than 3 days per week)	
a) Per non-food service vendor space,	60
b) Per food service establishment / 9.25 m^2 of floor space, and	190
c) Per limited food service outlet	95
Food Service Operations	
a) Restaurant (not 24 hour), per seat	125
b) Restaurant (24 hour), per seat	200
c) Restaurant on controlled-access highway, per seat	400
d) Paper service restaurant, per seat	60
e) Donut shop, per seat	400
f) Bar and cocktail lounge, per seat	125
g) Drive-in restaurant per parking space	60
h) Take-out restaurant (no seating area)	
i) per 9.25 m^2 of floor area, and	190
ii) per employee per 8 hour shift	75
i) Cafeteria - per meal	12
j) Food outlet	
i) excluding delicatessen, bakery and meat department, per 9.25 m^2 of floor space,	40
ii) per 9.25 m^2 of delicatessen floor space,	190
iii) per 9.25 m^2 of bakery floor space,	190

iv) per 9.25 m^2 of meat department floor space, and	380
v) per water closet	950
Hospitals - per bed	
a) Including laundry facilities, or	750
b) Excluding laundry facilities	550
Long-Term Care Homes, etc. - per bed	450
Office Building[3]	
a) Per employee per 8 hour shift, or	75
b) Per each 9.3 m^2 of floor space	75
Public Parks	
a) With toilets only per person, or	20
b) With bathhouse, showers, and toilets per person	50
Recreational Vehicle or Campground Park	
a) Per site without water or sewer hook-up, or	275
b) Per site with water and sewer hook-up	425
Schools - per student	
a) Day school,	30
b) With showers,	30
c) With cafeteria, and	30
d) Per non-teaching employee per 8 hour shift	50
Service Stations (no vehicle washing)[3]	
a) Per water closet, and	950
i) per fuel outlet[4], or	560
ii) per vehicle served	20
Shopping Centre (excluding food and laundry) - per 1.0 m^2 of floor space	5
Stadiums, Race Tracks, Ball Parks - per seat	20
Stores[3]	
a) Per 1.0 m^2 of floor area, or	5
b) Per water closet	1230
Swimming and Bathing Facilities (Public) - per person	40
Theatres	
a) Indoor, auditoriums per seat,	20
b) Outdoor, drive-ins per space, or	40
c) Movie theatres per seat	15
Veterinary Clinics	

a) Per practitioner,	275
b) Per employee per 8 hour shift, and	75
c) Per stall, kennel or cage if floor drain connected	75
Warehouse	
a) Per water closet, and	950
b) Per loading bay	150

Notes to Table 8.2.1.3.-B:

(1) The *occupant load* shall be calculated using Subsection 3.1.17.

(2) Flea markets open more than 3 days per week shall be assessed using the volumes stated under the heading "Stores".

(3) Where multiple calculations of *sanitary sewage* volume is permitted, the calculation resulting in the highest flow shall be used in determining the design daily *sanitary sewage* flow.

(4) The number of fuel outlets is considered the maximum number of fuel nozzles that could be in use at the same time.

8.2.1.4. Clearances (See Note A-8.2.1.4.)

(1) Unless it can be shown to be unnecessary, where the *percolation time* is 10 min or greater, the location of all components within a *sewage system* shall be in conformance with the clearances listed in Article 8.2.1.5. or 8.2.1.6.

(2) Unless it can be shown to be unnecessary, where the *percolation time* is less than 10 min, the clearances listed in Articles 8.2.1.5. and 8.2.1.6. for wells, lakes, ponds, reservoirs, rivers, springs or streams shall be increased to compensate for the lower *percolation time*.

(3) No *building* shall be *constructed* closer to any part of a *sewage system* than the clearances listed in Article 8.2.1.5. or 8.2.1.6.

(4) If more than one *sewage system* is located on a lot or parcel of land, there shall be no overlap of any part of the systems.

8.2.1.5. Clearance Distances for Class 1, 2 and 3 Sewage Systems

(1) Except as provided in Sentences 8.2.1.4.(1) and (2), no Class 1, 2 or 3 *sewage system* shall have a horizontal distance of less than that permitted by Table 8.2.1.5.

Table 8.2.1.5.
Clearance Distances for Class 1, 2 and 3 Sewage Systems

Forming Part of Sentence 8.2.1.5.(1)

Sewage System	Minimum horizontal distance in metres from a well with watertight casing to a depth of at least 6 m	Minimum horizontal distance in metres from a spring used as a source of *potable* water or well other than a well with a watertight casing to a depth of at least 6 m	Minimum horizontal distance in metres from a lake, river, pond, stream, reservoir, or a spring not used as a source of *potable* water	Minimum horizontal distance in metres from a property line
Earth Pit Privy	15	30	15	3
Privy Vault *Pail Privy*	10	15	10	3
Greywater System	10	15	15	3
Cesspool	30	60	15	3

8.2.1.6. Clearances for a Class 4 or 5 Sewage System

(1) Except as provided in Sentences 8.2.1.4.(1) and (2), a *treatment unit* shall not be located closer than the minimum horizontal distances set out in Table 8.2.1.6.-A.

Table 8.2.1.6.-A
Minimum Clearances for Treatment Units

Forming Part of Sentence 8.2.1.6.(1)

Object	Minimum Clearance, m
Structure	1.5
Well	15
Lake	15
Pond	15
Reservoir	15
River	15
Spring	15
Stream	15
Property Line	3

(2) Except as provided in Sentences 8.2.1.4.(1) and (2), the centre line of a *distribution pipe* or *leaching chamber* shall not be located closer than the minimum

horizontal distances set out in Table 8.2.1.6.B. and these distances shall be increased when required by Sentence 8.7.4.2.(11).

Table 8.2.1.6.-B
Minimum Clearances for Distribution Piping and Leaching Chambers

Forming Part of Sentence 8.2.1.6.(2)

Object	Minimum Clearance, m
Structure	5
Well with a watertight casing to a depth of at least 6 m	15
Any other well	30
Lake	15
Pond	15
Reservoir	15
River	15
Spring not used as a source of *potable* water	15
Stream	15
Property Line	3

(3) Except as provided in Sentences 8.2.1.4.(1) and (2), a *holding tank* shall not be located closer than the minimum horizontal distances set out in Table 8.2.1.6.-C.

Table 8.2.1.6.-C
Minimum Clearances for Holding Tanks

Forming Part of Sentence 8.2.1.6.(3)

Object	Minimum Clearance, m
Structure	1.5
Well with a watertight casing to a depth of at least 6 m	15
Any other well	15
Spring	15
Property Line	3

8.2.2. Treatment and Holding Tanks

8.2.2.1. Application

(1) This Subsection applies to any tank used in a *sewage system* for collecting, treating, holding or storing *sanitary sewage*.

8.2.2.2. Tanks

(1) A tank that is used as a *treatment unit* in a Class 4 *sewage system* or a *holding tank* in a Class 5 *sewage system* shall conform to the requirements of CSA B66, "Design, material, and manufacturing requirements for prefabricated septic tanks and sewage holding tanks".

(2) A material standards, access and construction methods and practices for a tank used for other Classes of *sewage systems* shall conform to the requirements of CSA B66, "Design, material, and manufacturing requirements for prefabricated septic tanks and sewage holding tanks".

(3) Sentence (2) does not apply to a tank that is an integral part of a prefabricated Class 1 *sewage system*.

(4) Access openings shall be located to facilitate the pumping of all compartments and the servicing of the inlet and outlet of each compartment not accessible by removal of the tank top or part of it.

(5) A tank shall not be covered by *soil* or *leaching bed fill* having a depth greater than the maximum depth of burial that the tank is designed to withstand.

(6) A tank shall be securely anchored when located in an area subject to flooding or where *ground water* levels may cause hydrostatic pressures.

8.2.2.3. Septic Tanks

(1) The minimum *working capacity* of a *septic tank* shall be the greater of 3 600 L and

(a) in *residential occupancies*, twice the daily design *sanitary sewage* flow, or

(b) in non-*residential occupancies*, three times the daily design *sanitary sewage* flow.

(2) Every *septic tank* shall be constructed in such a manner that any *sanitary sewage* flowing through the tank will pass through at least 2 compartments.

(3) The *working capacity* of the compartments required in Sentence (2) shall be sized such that

(a) the first compartment is at least 1.3 times the daily design *sanitary sewage* flow but in no case less than 2 400 L, and

(b) each subsequent compartment shall be at least 50% of the first compartment.

(4) Where multiple tanks are to be used to meet the requirements of Sentences (2) and (3), the tanks shall be connected in series such that

(a) the first tank in the series shall have at least a capacity as calculated in Clause (3)(a), however at no time shall a tank having a *working capacity* of less than 3 600 L be used,

(b) all additional tanks after the first tank, excluding pump or dosing tanks shall have at least a *working capacity* equal to the volume required by Clause (3)(b),

(c) the pipe between the outlet of one tank and the inlet of the next tank in the series shall have a minimum slope of 2 percent,

(d) there shall be no partitions in the tank except where a partition is required to maintain the structural integrity of the tank, in which case openings within the partition shall be provided to allow the free movement of *sanitary sewage* throughout the tank, and

(e) all piping between tanks shall be continuous and shall be connected to the tank through the use of flexible watertight seals that will permit differential movement between the tanks.

(5) Partitions separating the *septic tank* into compartments shall extend at least 150 mm above the liquid level at the outlet, and there shall be one or more openings through or above the partition.

(6) The openings required between compartments referred to in Sentence (2) shall have a total cross-sectional area of at least three times the area of the inlet pipe and be located between the top and a level 150 mm above the liquid level at the outlet to provide for the free flow of air between compartments.

(7) *Sanitary sewage* shall pass from one compartment to another of the *septic tank* as follows:

(a) by means of a device similar to that described in CSA B66, "Design, material, and manufacturing requirements for prefabricated septic tanks and sewage holding tanks" for outlet devices, or

(b) through two or more openings through the partition located in a horizontal line, and evenly spaced across the width of the partition, centred at approximately 40% of the liquid depth below the surface of the liquid, and having a total area of between three and five times that of the cross-sectional area of the inlet pipe.

(8) A *septic tank* shall be of such design and construction as will permit the collection and holding of *sanitary sewage* in it to a depth of not less than 1 000 mm, except that a depth of not less than 900 mm is permitted where the excavation is in rock, or to avoid rupture or displacement of the tank due to *ground water* pressure.

(9) Except as provided in Sentences (10) and (11), every *septic tank* shall be installed in such a manner that the access openings are located not more than 300 mm below the ground surface.

(10) Where the top of the *septic tank* is located more than 300 mm below the ground surface, it shall be equipped with risers that extend from the access opening of the *septic tank* to within 300 mm of the ground surface.

(11) Where risers are used they shall conform to the requirements of CSA B66, "Design, material, and manufacturing requirements for prefabricated septic tanks and sewage holding tanks", and shall have adequate access openings to allow for regular maintenance of the *septic tank*.

8.2.2.4. Holding Tanks

(1) All *holding tanks* shall be of such design and construction as will allow the complete removal of solid matter that can be expected to settle in the *holding tank* through an apparatus or device suitable for allowing the contents of the *holding tank* to be removed from the *holding tank*.

(2) A *holding tank* shall have a *working capacity* of not less than 9 000 L.

(3) Where two or more tanks are used to meet the requirement of Sentence (2), they shall be deemed to be one *holding tank* provided they are connected in such a manner as will allow the *sanitary sewage* contained in them to flow between the tanks.

(4) The *working capacity* of the tanks described in Sentence (3) shall not include any portion of any tank that cannot be completely drained due to the manner in which the connections are made.

Section 8.3. Class 1 Sewage Systems

8.3.1. General Requirements

8.3.1.1. Scope

(1) This Section applies to the *construction* of a Class 1 *sewage system*.

8.3.1.2. Application

(1) Except as provided in Sentence (2), a Class 1 *sewage system* shall be designed to receive only human body waste for disposal.

(2) Where the *sewage system* is specifically designed for the biological decomposition of non-waterborne biodegradable kitchen wastes or requires the addition of small quantities of plant matter to improve the decomposition of human body waste, it may receive such wastes in addition to human body waste.

(3) Where the *sewage system* is designed with a drain for the removal of excess liquid, then the *sewage system* shall drain to a Class 3, 4, or 5 *sewage system*.

8.3.2. Superstructure Requirements

8.3.2.1. Construction Requirements

(1) A privy as described in Subsections 8.3.3. to 8.3.5. shall be enclosed with a superstructure that

(a) is *constructed* of strong durable weatherproof materials,

(b) has a solid floor supported by a sill *constructed* of treated timber, masonry or other material of at least equal strength and durability,

(c) is easily sanitized,

(d) unless it is equipped solely as a urinal, is equipped with one or more seats each having a cover and being supported by an enclosed bench or riser that is lined with an impervious material on all interior vertical surfaces,

(e) is equipped with a self-closing door,

(f) has one or more openings for purposes of ventilation, all of which are screened,

(g) has a ventilation duct that is screened at the top end and that extends from the underside of the bench or riser to a point above the roof of the superstructure, and

(h) shall not have any openings for the reception of human body waste, other than urinals and those *constructed* in accordance with Clause (d).

8.3.3. Earth Pit Privy

8.3.3.1. Construction Requirements

(1) An *earth pit privy* shall be *constructed* in the following manner:

(a) the bottom of the pit shall be at least 900 mm above the *high ground water table*,

(b) the sides of the pit shall be reinforced so as to prevent their collapse,

(c) the pit shall be surrounded on all sides and on its bottom by not less than 600 mm of *soil* or *leaching bed fill*, and

(d) the *soil* or *leaching bed fill* around the base of the sides of the superstructure of the *earth pit privy* shall be raised or mounded to a height of at least 150 mm above ground level.

8.3.4. Privy Vaults and Pail Privy

8.3.4.1. Construction Requirements

(1) A *privy vault* or a *pail privy* shall be *constructed* in the following manner:

(a) the container or structure that is to be used for the holding or storage of *sanitary sewage* shall be watertight and made of a material that can be easily cleaned,

(b) the *soil* or *leaching bed fill* around the base of the sides of the superstructure shall be raised or mounded to a height of at least 150 mm above ground level, and

(c) the surface of the ground in the area of the *privy vault* or *pail privy* shall be so graded that surface drainage will be diverted away from the privy.

8.3.5. Portable Privy

8.3.5.1. Construction Requirements

(1) A *portable privy* shall be *constructed* in the following manner:

(a) the *portable privy* shall have a watertight receptacle that shall be suitable for the holding and storage of any *sanitary sewage* deposited in it,

(b) the receptacle for the holding and storage of sewage shall be designed and *constructed* in such a manner as to allow it to be easily emptied and cleaned, and

(c) the *portable privy* shall be *constructed* of such material and in such a manner that it can withstand the stresses to which it will be subjected during its transportation to and from sites where it is to be used and during loading and unloading from vehicles used for the transportation of the *portable privy* to and from sites where it is to be used.

Section 8.4. Class 2 Sewage Systems

8.4.1. General Requirements

8.4.1.1. Scope

(1) This Section applies to the *construction* of a Class 2 *sewage system*.

8.4.1.2. Application (See Note A-8.4.1.2.)

(1) A Class 2 *sewage system* shall be designed only for the treatment and disposal of *greywater*.

(2) The total daily design flow for a Class 2 *sewage system* shall be calculated based on the *fixtures* discharging to the system as follows:

(a) 200 L per *fixture unit* where there is a supply of pressurized water, and

(b) 125 L per *fixture unit* where there is no supply of pressurized water.

8.4.2. Design and Construction Requirements

8.4.2.1. Construction Requirements

(1) The bottom of the pit shall be at least 900 mm above the *high ground water table*.

(2) The pit shall be *constructed* in such a manner as to prevent the collapse of its sidewalls.

(3) Any material used to support or form the sidewalls of the pit shall be an open jointed material of a type that will permit *leaching* from the pit.

(4) The pit shall be provided with a tight, strong cover that shall remain over the pit except when it is necessary to remove it for purposes of adding *greywater* to or removing *greywater* from the pit or for purposes of maintenance of the pit.

(5) The earth around the perimeter of the pit shall be raised or mounded to a height of at least 150 mm above ground level.

(6) The surface of the ground in the area of the pit shall be so graded that surface drainage in the area will be diverted away from the pit.

(7) The pit shall be surrounded on all sides and on its bottom by at least 600 mm of *soil* having a *percolation time* of less than 50 min.

8.4.2.2. Maximum Sewage Flow

(1) A Class 2 *sewage system* shall not be *constructed* where the daily design *greywater* flow to the system exceeds 1 000 L/day.

8.4.2.3. Sizing

(1) A Class 2 *sewage system* shall be designed and *constructed* so that the loading rate to the side walls shall be not more than the value calculated using the formula,

$$L_R = 400/T$$

where,

L_R = *loading rate* of the sidewalls in litres per day/m^2, and

T = *percolation time*.

Section 8.5. Class 3 Sewage Systems

8.5.1. General Requirements

8.5.1.1. Scope

(1) This Section applies to the *construction* of a Class 3 *sewage system*.

8.5.1.2. Application

(1) A Class 3 *sewage system* shall not be *constructed* where the daily design *sanitary sewage* flow to the system exceeds 1 000 L/day.

(2) A Class 3 *sewage system* shall be designed to receive only the contents of a Class 1 *sewage system* or *effluent* from a Class 1 *sewage system* for disposal.

8.5.2. Design and Construction Requirements

8.5.2.1. Construction Requirements

(1) The bottom of the cesspool shall be at least 900 mm above the *high ground water table*.

(2) The cesspool shall be *constructed* in such a manner as to prevent the collapse of its sidewalls.

(3) Any material used to support or form the sidewalls of the cesspool shall be an open jointed material of a type that will permit *leaching* from the cesspool.

(4) The cesspool shall be provided with a tight strong cover that shall remain over the cesspool except when it is necessary to remove it for the purposes of adding *sanitary sewage* to or removing *sanitary sewage* from the cesspool or for purposes of maintenance of the cesspool.

(5) Where the cesspool extends to the ground surface, the cover required in Sentence (4) shall be lockable.

(6) The *soil* or *leaching bed fill* around the perimeter of the cesspool shall be raised or mounded to a height of at least 150 mm above ground level.

(7) The surface of the ground in the area of the cesspool shall be graded such that surface drainage in the area will be diverted away from the cesspool.

(8) The cesspool shall be surrounded on all sides and on its bottom by at least 600 mm of *soil* or *leaching bed fill*, except the top where the cesspool extends to the surface of the ground.

Section 8.6. Class 4 Sewage Systems

8.6.1. General Requirements

8.6.1.1. Scope

(1) This Section applies to the *construction* of a Class 4 *sewage system*.

8.6.1.2. General Requirements

(1) The *treatment unit* shall be connected to a *leaching bed constructed* in accordance with the requirements of Section 8.7.

8.6.1.3. Pumps and Siphons

(1) Where the total length of *distribution pipe* or *leaching chamber* required is 150 m or more, the *sewage system* shall have at least one pump or a siphon contained in a dosing tank that may be a separate compartment within the tank structure, for distribution of the *effluent*.

(2) Where the total length of *leaching chamber* is 150 m or more, a *distribution pipe* shall be installed at the centre line of the *leaching chamber* and extend the total length of *leaching chamber* to allow for dosing of the *effluent*.

(3) Alternating siphons shall not be installed in a *sewage system*.

(4) Where 2 or more pumps are employed within a dosing tank, the pumps shall be designed such that the pumps alternate dosing, and dosing shall continue in the event that one pump fails.

(5) Where a pump or siphon is required, the pump or siphon shall be designed to discharge a dose of at least 75% of the internal volume of the *distribution pipe* within a time period not exceeding 15 min.

(6) Where a pump or siphon is required, the pump or siphon shall be equipped with a device that shall produce an audible and visual alarm signal that indicates a high water level in the pump or siphon chamber.

8.6.2. Treatment Units

8.6.2.1. Septic Tank Systems

(1) An *effluent* filter shall be installed in the outlet flow path of every *septic tank* that discharges *effluent* to a *leaching bed*.

(2) The *septic tank effluent* filter required by Sentence (1) shall

(a) conform to the requirements of NSF/ANSI 46, “Evaluation of Components and Devices Used in Wastewater Treatment Systems”,

(b) be sized to filter particles of 1.6 mm,

(c) have a minimum area of 550 cm^2, and

(d) be installed in accordance with the manufacturer’s recommendations.

(3) A secured access opening to allow for regular maintenance of the *effluent* filter shall be provided at the ground surface.

8.6.2.2. Other Treatment Units (See Note A-8.6.2.2.)

(1) Except as provided in Sentence (2), a *treatment unit*, other than a *septic tank*, shall be designed such that the *effluent* does not exceed, for the level of the *treatment unit* set out in Column 1 of Table 8.6.2.2., the maximum concentrations set out opposite it in Columns 2 and 3 of Table 8.6.2.2.

Table 8.6.2.2.
Other Treatment Unit Effluent Quality Criteria

Forming Part of Sentences 8.6.2.2.(1) and (2)

Column 1 Classification of Treatment Unit(1)	Column 2 Suspended Solids(2)	Column 3 $CBOD_5$(2)
Level II	30	25
Level III	15	15
Level IV	10	10

Notes to Table 8.6.2.2.:

(1) The classifications of *treatment units* specified in Column 1 correspond to the levels of treatment described in CAN/BNQ 3680-600, “Onsite Residential Wastewater Treatment Technologies”.

(2) Maximum concentration in mg/L based on a 30 day average.

(2) A *treatment unit* that is used in conjunction with a *leaching bed constructed* as a *shallow buried trench*, *Type A dispersal bed* or *Type B dispersal bed* shall be designed such that the *effluent* does not exceed the maximum concentrations set out opposite a Level IV *treatment unit* in Columns 2 and 3 of Table 8.6.2.2.

(3) All *treatment units* referred to in Sentences (1) and (2) that contain mechanical components shall be equipped with an audible and visual warning alarm so located to warn the occupants of the *building* served or the operator of the *treatment unit* of a malfunction in the operation of the *treatment unit*.

(4) All *treatment units* referred to in Sentences (1) and (2) shall permit the sampling of the *effluent*.

(5) A *treatment unit* is deemed to comply with Sentences (1) and (2) if it has been certified to CAN/BNQ 3680-600, "Onsite Residential Wastewater Treatment Technologies" using a temperature condition listed under option a) or b) of Clause 8.2.2. of that standard. (See Note A-8.6.2.2.(5))

(6) Every operator of a *treatment unit* shall obtain, from the manufacturer or distributor of the *treatment unit*, literature that describes the unit in detail and provides complete instructions regarding the operation, servicing, and maintenance requirements of the unit and its related components necessary to ensure the continued proper operation in accordance with the original design and specifications.

Section 8.7. Leaching Beds

8.7.1. General Requirements

8.7.1.1. Scope

(1) This Section applies to the *construction* of *leaching beds*.

8.7.1.2. Limitation on Installation

(1) The design and installation of a *shallow buried trench*, *Type A dispersal bed* or *Type B dispersal bed* shall be carried out by a person competent in this field of work.

8.7.2. Design and Construction Requirements

8.7.2.1. General Requirements

(1) A *leaching bed* shall not be located

(a) in an area that has an average slope that exceeds one unit vertically to four units horizontally,

(b) in *soil* or *leaching bed fill* having a *percolation time of*

(i) less than 1 min, or greater than 125 min if *constructed* as a *shallow buried trench*, or

(ii) less than 1 min, or greater than 50 min for all other *leaching beds*, or

(c) in or on an area that is subject to flooding that may be expected to cause damage to the *leaching bed* or impair the operation of the *leaching bed*.

(2) A *leaching bed* shall not be covered with any material having a hydraulic conductivity less than 0.01 m/day.

(3) The surface of the *leaching bed* shall be shaped to shed water and together with the side slopes of any raised portion, shall be protected against erosion in such a manner

as to not inhibit the evaporation and transpiration of waters from the *soil* or *leaching bed fill*, and to not cause plugging of the *distribution pipe*.

(4) No part of a *leaching bed* shall be sloped steeper than 1 unit vertically to 4 units horizontally.

(5) A *leaching bed* shall be designed to be protected from compaction or any stress or pressure that may result in

(a) the impairment or destruction of any pipe in the *leaching bed*, or

(b) the smearing of the *soil* or *leaching bed fill*.

8.7.2.2. Distribution Pipes within Leaching Beds

(1) Sentence (2) applies to the design and *construction* of a *leaching bed* with *distribution pipes* used within the *leaching bed*.

(2) The *header line* and *distribution pipes* within a *leaching bed* shall be designed and *constructed* so that they can be detected by

(a) magnetic means,

(b) means of a 14 gauge TW solid copper light coloured plastic coated tracer wire, or

(c) other means of subsurface detection.

8.7.2.3. Leaching Chambers within Leaching Beds

(1) *Leaching chambers* are permitted for use in conjunction with an *absorption trench*, *shallow buried trench*, *filter bed* or *Type A dispersal bed*.

(2) *Leaching chambers* shall comply with the dimension requirements for either a Type I or Type II *leaching chamber* listed in Table 8.7.2.3.

Table 8.7.2.3.
Leaching Chamber Dimensions

Forming Part of Sentence 8.7.2.3.(2)

Type of *Leaching Chamber*	Width, mm	Height, mm
Type I	380 to 410	280 to 305
Type II	555 to 575	300 to 320

(3) *Leaching chambers* shall conform to the requirements of IAPMO PS 63, “Plastic Leaching Chambers”.

(4) The *header line* and *leaching chambers* within a *leaching bed* shall be designed and *constructed* so that they can be detected by

(a) magnetic means,

(b) means of a 14 gauge TW solid copper light coloured plastic coated tracer wire,

(c) means of a 12 gauge copper clad steel light coloured plastic coated tracer wire, or

(d) other means of subsurface detection.

8.7.3. Absorption Trench Construction

8.7.3.1. Length of Distribution Pipe

(1) The total length of *distribution pipe* shall

(a) not be less than 30 m when *constructed* as a *shallow buried trench*, or

(b) not be less than 40 m for any other *absorption trench*.

(2) Except as provided in Sentences (1), (3), and (4) every *leaching bed constructed* by means of *absorption trenches* shall have a total length of *distribution pipe* not less than the value determined by the formula,

$$L = QT/200$$

where,

L = total length of *distribution pipe* in metres,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the design *percolation time.*

(3) Except as provided in Sentence (1), where a *leaching bed* receives *effluent* from a Level II, Level III or Level IV *treatment unit* as described in Table 8.6.2.2., the *leaching bed* may have a total length of *distribution pipe* not less than the value determined by the formula,

$$L = QT/300$$

where,

L = total length of *distribution pipe* in metres,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the design *percolation time.*

(4) Except as provided in Sentence (1), where the *leaching bed* is *constructed* as a *shallow buried trench*, the total length of the *distribution pipe* shall not be less than the value determined by Table 8.7.3.1.

Table 8.7.3.1.
Length of Distribution Pipe in Shallow Buried Trench

Forming Part of Sentence 8.7.3.1.(4)

Percolation Time, (T) of *Soil*, min	Length of *Distribution Pipe*, m
$1 < T \leq 20$	Q/75
$20 < T \leq 50$	Q/50
$50 < T < 125$	Q/30

where,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the design *percolation time*.

8.7.3.2. Length of Leaching Chamber

(1) The total length of *leaching chamber* shall,

(a) not be less than 30 m when constructed as a *shallow buried trench*, or

(b) not be less than 40 m for any other *absorption trench*.

(2) Except as provided in Sentences (1) and (3), the total length of *leaching chamber* shall not be less than the value determined by the formula,

$L = QT/200$, for a Type I *leaching chamber*, or

$L = QT/300$, for a Type II *leaching chamber*,

where,

L = total length of *leaching chamber* in metres,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the design *percolation time*.

(3) When a *treatment unit* described in Article 8.6.2.2. is used in conjunction with a *leaching chamber*, the total length of *leaching chamber* shall not be less than the value determined by the formula,

$$L = QT/300$$

where,

L = total length of *leaching chamber* in metres,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the design *percolation time*.

(4) Except as provided in Sentence (1), where the *leaching bed* is constructed as a *shallow buried trench*, the total length of *leaching chamber* shall not be less than the value determined by Table 8.7.3.2.

Table 8.7.3.2.
Length of Leaching Chamber in Shallow Buried Trench

Forming Part of Sentence 8.7.3.2.(4)

Percolation Time, (T) of *Soil*, min	Length of *Leaching Chamber*, m
$1 < T \leq 20$	Q/75
$20 < T \leq 50$	Q/50
$50 < T < 125$	Q/30

where,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the design *percolation time*.

8.7.3.3. Absorption Trenches

(1) Except as provided in Sentence (2), *absorption trenches* shall be

(a) approximately the same length and not more than 30 m in length,

(b) not less than 500 mm and not more than 1 000 mm in width,

(c) not less than 600 mm and not more than 900 mm in depth,

(d) centred not less than,

(i) 1 600 mm apart where used in conjunction with

(A) a *distribution pipe*,

(B) a Type I *leaching chamber*, or

(C) a Type II *leaching chamber* constructed in *leaching bed fill*, or

(ii) 2 400 mm apart where used in conjunction with a Type II *leaching chamber*, other than a Type II *leaching chamber* constructed in *leaching bed fill*,

(e) located so that the bottom of the *absorption trench* is not less than 900 mm above the *high ground water table*, rock or *soil* with a *percolation time* of more than 50 min, and

(f) backfilled, after the installation of the *distribution pipe* or *leaching chamber* with *leaching bed fill*, so as to ensure that after the *leaching bed fill* settles, the surface of the *leaching bed* will not form any depressions.

(2) *Absorption trenches constructed* as a *shallow buried trench* shall be

(a) approximately the same length and not more than 30 m in length,

(b) not less than 300 mm and not more than 600 mm in width,

(c) not less than 300 mm and not more than 600 mm in depth,

(d) centred not less than 2 000 mm apart,

(e) not less than 900 mm at all points on the bottom of the *absorption trench* above the *high ground water table* or rock, and

(f) backfilled, after the installation of the *distribution pipe* with *leaching bed fill*, so as to ensure that after the *leaching bed fill* settles, the surface of the *leaching bed* will not form any depressions.

8.7.3.4. Distribution Pipe

(1) Except for a *shallow buried trench*, the *distribution pipe* used in the *construction* of a *leaching bed* shall be

(a) not less than 3 in. trade *size* for gravity flow systems,

(b) installed with a uniform downward slope from the inlet with a drop of not less than 30 mm and not more than 50 mm for each 10 m of *distribution pipe* for gravity flow systems, and

(c) installed within a layer of stone conforming to Sentence (5).

(2) Prior to backfilling, the stone layer required by Clause (1)(c) shall be protected in such a manner so as to prevent *soil* or *leaching bed fill* from entering the stone by completely covering it with

(a) untreated building paper, or

(b) a permeable geo-textile fabric.

(3) Every pressurized *distribution pipe* shall be self-draining so as to prevent freezing of its contents.

(4) Every pressurized *distribution pipe* shall

(a) be not less than 1 in. trade *size*, and

(b) have orifices of at least 3 mm in diameter, spaced equally along the length of the pipe to provide even distribution of the *effluent*.

(5) The stone layer required by Clause (1)(c) shall

(a) be comprised of washed septic stone, free of fine material, with gradation conforming to Table 8.7.3.4.,

(b) be not less than 500 mm in width,

(c) extend not less than 150 mm below the *distribution pipe*, and

(d) extend not less than 50 mm above the *distribution pipe*.

Table 8.7.3.4.
Gradation of Septic Stone

Forming Part of Sentences 8.7.3.4.(5) and 8.7.8.2.(6)

Particle Size	Percent Passing
53 mm	100
19 mm	0-5
75 µm	0-1

(6) This Article does not apply to a *distribution pipe* within a *leaching chamber*.

8.7.3.5. Leaching Chamber

(1) Prior to backfilling, the *leaching chamber* shall be

(a) installed level over the length of the *absorption trench*,

(b) securely connected together, section to section,

(c) free of structural damage, uncut and used full length,

(d) equipped with end caps installed on both ends,

(e) equipped with an integrated splash plate at the inlet end of each line of *leaching chamber*, to prevent soil scouring, and

(f) protected in such a manner so as to prevent *soil* or *leaching bed fill* from entering the *leaching chamber*.

(2) Except for a *shallow buried trench*, the *distribution pipe* within a *leaching chamber* shall be not less than 3 in. trade *size* for dosed systems.

(3) Every pressurized *distribution pipe* within a *leaching chamber* shall

(a) extend over the entire length of the *leaching chamber*,

(b) be not less than 1½ in. trade *size*,

(c) have orifices of at least 6 mm in diameter, spaced equally along the length of the pipe to provide even distribution of the *effluent*,

(d) be supported,

(e) be self-draining so as to prevent freezing of its contents, and

(f) have cleanouts installed at the downstream end of each line of *leaching chamber* to allow for servicing of the system.

8.7.4. Fill Based Absorption Trenches

8.7.4.1. Loading Requirements

(1) The area described in Sentence 8.7.4.2.(1) shall be designed such that the *loading rate* does not exceed, for *soil* having a *percolation time* set out in Column 1 of Table 8.7.4.1., the maximum value set out opposite it in Column 2 of Table 8.7.4.1.

Table 8.7.4.1.
Loading Rates for Fill Based Absorption Trenches and Filter Beds

Forming Part of Sentences 8.7.4.1.(1) and 8.7.5.2.(2)

Column 1 *Percolation Time* (T) of *Soil*, min	Column 2 Loading Rates, $(L/m^2)/day$
$1 < T \leq 20$	10
$20 < T \leq 35$	8
$35 < T \leq 50$	6
$T > 50$	4

8.7.4.2. Construction Requirements

(1) Except for a *shallow buried trench*, a *leaching bed* comprised of *absorption trenches* may be *constructed* in *leaching bed fill*, if unsaturated *soil* or *leaching bed fill* complying with Subclause 8.7.2.1.(1)(b)(ii) extends

(a) to a depth of at least 250 mm over the area covered by the *leaching bed fill*, and

(b) for at least 15 m beyond the centre lines of the outer *distribution pipes* or *leaching chambers* in any direction in which the *effluent* entering the *soil* or *leaching bed fill* will move horizontally.

(2) If the unsaturated *soil* or *leaching bed fill* described in Sentence (1) has a *percolation time* greater than 15 min, any additional *leaching bed fill* added to it to form the *leaching bed* shall have a *percolation time* not less than 75% of the *percolation time* of the unsaturated *soil* or *leaching bed fill* to which it is added.

(3) *Leaching bed fill* that does not meet the requirements of Sentence (2) may be used to form the *leaching bed* if

(a) the distance from the bottom of the *absorption trench* to the underlying *soil* is not less than 900 mm, or

(b) where the distance from the bottom of the *absorption trench* to the underlying *soil* is less than 900 mm, the *percolation time* of the least permeable *soil* or *leaching bed fill* within 900 mm from the bottom of the *absorption trench* is used to calculate the length of the *distribution pipe*

under Article 8.7.3.1. or the length of the *leaching chamber* under Article 8.7.3.2.

(4) Sentence (2) does not apply to any *leaching bed fill* added as backfill above the stone layer in which the *distribution pipe* is located.

(5) All *leaching bed fill* added shall be stabilized against erosion.

(6) The site to which the *leaching bed fill* is added shall be generally clear of vegetation.

(7) The *leaching bed fill* that is added shall be compacted in layers in such a manner as to avoid uneven settlement of the *distribution pipes* or *leaching chambers.*

(8) Any *distribution boxes*, *header lines*, *absorption trenches*, *distribution pipes* or *leaching chambers* shall be installed only after the *leaching bed fill* has been compacted in accordance with Sentence (7).

(9) Except as provided in Sentence (10), the sides of the added *leaching bed fill* shall be sloped to ensure stability, but shall not be steeper than one unit vertically to four units horizontally.

(10) The side slope of the *leaching bed fill* may be increased up to one unit vertically to three units horizontally if measures are taken to prevent erosion and ensure stability of the *leaching bed fill*.

(11) The distances set out in Column 2 of Table 8.2.1.6.B. shall be increased by twice the height that the *leaching bed* is raised above the original grade.

8.7.5. Filter Beds

8.7.5.1. Application

(1) The total daily design *sanitary sewage* flow shall not exceed

(a) 5 000 L where the *treatment unit* is a *septic tank*, or

(b) 10 000 L where the *treatment unit* is a Level II, Level III or Level IV *treatment unit* as described in Table 8.6.2.2.

8.7.5.2. Loading Requirements

(1) The effective area of the surface of the filter medium in each filter bed shall be at least 10 m^2 and not more than 50 m^2.

(2) The area described in Sentence 8.7.4.2.(1) shall be designed such that the *loading rate* does not exceed, for *soil* having a *percolation time* set out in Column 1 of Table 8.7.4.1., the maximum value set out opposite it in Column 2 of Table 8.7.4.1.

(3) Except as provided in Sentence (5), where the total daily design *sanitary sewage* flow does not exceed 3 000 L, the effective area shall be such that the loading on the surface of the filter medium does not exceed 75 L/m^2 per day.

(4) Except as provided in Sentence (5), where the total daily design *sanitary sewage* flow exceeds 3 000 L

(a) the effective area shall be such that the loading on the surface of the filter medium does not exceed 50 L/m^2 per day, and

(b) the *leaching bed* shall be comprised of more than one filter bed, each of similar size and adjacent to each other.

(5) Where a Level II, Level III or Level IV *treatment unit* as described in Table 8.6.2.2. is used in conjunction with a filter bed, the effective area shall be such that the loading on the surface of the filter medium does not exceed 100 L/m^2 per day.

8.7.5.3. Construction Requirements

(1) Sentences 8.7.4.2.(1), (2) and (4) to (11) apply to the *construction* of a filter bed.

(2) The lines of *distribution pipes* or *leaching chambers* shall be evenly spaced over the surface of the filter medium to which the *sanitary sewage* is applied, with the outer most *distribution pipe* or *leaching chamber* not more than 600 mm from the perimeter of that area with a maximum spacing between the centre lines of the *distribution pipes* or *leaching chambers* in accordance with Table 8.7.5.3.

Table 8.7.5.3.
Maximum Spacing Between Centre Lines of Distribution Pipes or Leaching Chambers

Forming Part of Sentence 8.7.5.3.(2)

Distribution Method	Maximum Spacing Between Centre Lines, mm
Distribution pipes	1 200
Type I *leaching chambers*	900
Type II *leaching chambers*	1 000

(3) The filter medium shall have a minimum depth of 750 mm below the stone layer or bottom of the *leaching chambers* and shall be clean sand comprised of particles ranging in size between the limits of

(a) an effective size of 0.25 mm with a uniformity coefficient not less than 3.5,

(b) an effective size of 2.5 mm with a uniformity coefficient not greater than 1.5, and

(c) having a uniformity coefficient not greater than 4.5.

(4) The filter medium shall be unsaturated for its entire depth.

(5) Where there is more than one filter bed in a *leaching bed*, the filter beds shall be separated by at least 5 m between the *distribution pipes* or *leaching chambers* of the filter beds.

(6) The base of the filter medium shall extend to a thickness of at least 250 mm over an area meeting the requirements of the following formula:

$$A = QT/850$$

where,

A = the area of contact in square metres between the base of the filter medium and the underlying *soil*,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the lesser of 50 and the *percolation time* of the underlying *soil*.

(See Note A-8.7.5.3.(6) and (7))

(7) The stone layer or bottom of the *leaching chambers* shall be not less than 900 mm above the *high ground water table*, rock or *soil* with a *percolation time* of more than 50 min. (See Note A-8.7.5.3.(6) and (7))

8.7.6. Shallow Buried Trench

8.7.6.1. Construction Requirements (See Note A-8.7.6.1.)

(1) The *treatment unit* used in conjunction with a *leaching bed constructed* as a *shallow buried trench* shall provide an *effluent* quality that does not exceed the maximum concentrations set out opposite a Level IV *treatment unit* in Columns 2 and 3 of Table 8.6.2.2.

(2) The *effluent* shall be distributed through a *pressurized distribution system* having a pressure head of not less than 600 mm when measured to the most distant point from the pump.

(3) The pump chamber shall be sized to provide sufficient storage volume so that the *effluent* is evenly dosed on an hourly basis over a 24-hour period.

(4) A *shallow buried trench* shall not be *constructed* unless the *soil* or *leaching bed fill* is sufficiently dry to resist compaction and smearing during excavation.

(5) Every *chamber* or *leaching chamber* shall be as wide as the *shallow buried trench* in which it is contained, and the cross-sectional height of the *chamber* or *leaching chamber* at its centre point shall not be less than half the width of the trench.

(6) Every *chamber* or *leaching chamber* shall contain only one pressurized *distribution pipe*.

8.7.7. Type A Dispersal Beds

8.7.7.1. Construction Requirements

(1) The *treatment unit* used in conjunction with a *leaching bed constructed* as a *Type A dispersal bed* shall provide an *effluent* quality that does not exceed the maximum concentrations set out opposite a Level IV *treatment unit* in Columns 2 and 3 of Table 8.6.2.2.

(2) A *Type A dispersal bed* shall be backfilled with *leaching bed fill* so as to ensure that, after the *leaching bed fill* settles, the surface of the *leaching bed* will not form any depressions.

(3) The combined thickness of the sand layer and the stone layer if utilized of a *Type A dispersal bed* shall not be less than 500 mm.

(4) Except as provided in Sentence (5), the sand layer shall

(a) be comprised of sand that has

(i) a *percolation time* of at least 6 and not more than 10 min, and

(ii) not more than 5% fines passing through a 0.074 mm (No. 200) sieve,

(b) have a minimum thickness of 300 mm, and

(c) have an area that is not less than the lesser of

(i) the area of the stone layer determined in accordance with Sentence (6) or, if *leaching chambers* are used, the area over which the *leaching chambers* are spaced determined in accordance with Sentence (7), and

(ii) the value determined by the formula,

$$A = QT/850$$

where,

A = the area of contact in square metres between the base of the sand and the underlying *soil*,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the lesser of 50 and the *percolation time* of the underlying *soil*.

(5) Where the underlying *soil* has a *percolation time* of more than 15 min, the sand layer referred to in Sentence (4) shall be extended using unsaturated *soil* or *leaching bed fill* having a *percolation time* of not more than 15 min and a depth of at least 300 mm

(a) to at least 15 m beyond the perimeter of the *treatment unit*, or the centre lines of the outer *distribution pipes* or *leaching chambers* if utilized, in any

direction in which the *effluent* entering the *soil* or *leaching bed fill* will move horizontally, and

(b) over an area that is not less than the value determined by the formula,

$$A = QT/400$$

where,

A = the area of contact in square metres between the combined sand layer and extension and the underlying *soil*, or *leaching bed fill* if utilized,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the lesser of 50 and the *percolation time* of the underlying *soil*.

(See Note A-8.7.7.1.(5))

(6) Where a stone layer is used, the stone layer shall

(a) be rectangular in shape with the long dimension parallel to the site contours,

(b) have a minimum thickness of 200 mm,

(c) be protected in the manner described in Sentence 8.7.3.4.(2),

(d) be *constructed* such that the bottom of the stone layer is at least 600 mm above the *high ground water table*, rock or *soil* with a *percolation time* of 1 min or less or greater than 50 min, and

(e) have a minimum area not less than the value determined by the formula,

$$A = Q/B$$

where,

A = the area of the stone layer in square metres,

B = the following amount:

(i) 50, if the total daily design *sanitary sewage* flow exceeds 3 000 litres, or

(ii) 75, if the total daily design *sanitary sewage* flow does not exceed 3 000 litres, and

Q = the total daily design *sanitary sewage* flow in litres.

(7) Where *leaching chambers* are used

(a) the *Type A dispersal bed* shall be rectangular in shape with the long dimension parallel to the site contours, and

(b) the *leaching chambers* shall

(i) be evenly spaced over the area calculated in Subclause (iv), with a maximum distance of 200 mm between the exterior edges of the lines of *leaching chamber*,

(ii) be protected in the manner described in Clause 8.7.3.5.(1)(f),

(iii) be *constructed* such that the bottom of the *leaching chambers* is at least 600 mm above the *high ground water table*, rock or *soil* with a *percolation time* of 1 min or less or greater than 50 min, and

(iv) have a minimum area not less than the value determined by the formula,

$$A = Q/B$$

where,

A = the area over which the *leaching chambers* are spaced, in square metres,

B = the following amount:

(i) 50, if the total daily design *sanitary sewage* flow exceeds 3 000 litres, or

(ii) 75, if the total daily design *sanitary sewage* flow does not exceed 3 000 litres, and

Q = the total daily design *sanitary sewage* flow in litres.

(8) *Leaching bed fill* with a *percolation time* not exceeding 15 min may be used to satisfy the vertical separation requirements of Clause (6)(d) or Subclause (7)(b)(iii), provided that the *leaching bed fill* conforms to the requirements specified in Sentence (5) regardless of the *percolation time* of the underlying *soil*.

(9) Where a stone layer is used, the *effluent* shall be evenly distributed within the stone layer to within 600 mm of the perimeter of the stone layer. (See Note A-8.7.7.1.(9))

(10) Where *leaching chambers* are used, the *effluent* shall be evenly distributed within the area over which the *leaching chambers* are spaced to within 600 mm of the perimeter of that area.

(11) The stone layer or area over which the *leaching chambers* are spaced shall not be located closer than the minimum horizontal distances set out in Table 8.2.1.6.B. and these distances shall be increased when required by Sentence 8.7.4.2.(11).

8.7.8. Type B Dispersal Beds

8.7.8.1. General Requirements

(1) Except as provided in Sentence (2) and Sentence 8.7.8.2.(2), a *Type B dispersal bed* shall conform to the requirements of Article 8.7.2.1.

(2) A *Type B dispersal bed* shall not be located in an area that has an average slope that exceeds one unit vertically to seven units horizontally.

8.7.8.2. Construction Requirements

(1) The *treatment unit* used in conjunction with a *leaching bed constructed* as a *Type B dispersal bed* shall provide an *effluent* quality that does not exceed the maximum concentrations set out opposite a Level IV *treatment unit* in Columns 2 and 3 of Table 8.6.2.2.

(2) A *Type B dispersal bed* shall be

(a) rectangular in shape with the long dimension parallel to the site contours,

(b) not more than 1 000 mm in depth measured from the bottom of the stone layer to the finished grade when installed in *soil* with a *percolation time* that exceeds 15 min, and

(c) backfilled with *leaching bed fill* so as to ensure that, after the *leaching bed fill* settles, the surface of the *leaching bed* will not form any depressions.

(3) The bottom of the stone layer shall be at least 600 mm above the *high ground water table*, rock or *soil* with a *percolation time* greater than 50 min.

(4) The *effluent* shall be distributed over the *Type B dispersal bed* through a *pressurized distribution system* having a pressure head of not less than 600 mm when measured to the most distant point from the pump.

(5) The *distribution pipes* shall

(a) be self-draining so as to prevent freezing of their contents, and

(b) have orifices of at least 3 mm in diameter, spaced equally along the length of the pipes.

(6) The stone layer containing the *distribution pipes* shall

(a) be comprised of washed septic stone, free of fine material, with gradation conforming to Table 8.7.3.4.,

(b) extend not less than 250 mm below the *distribution pipe*, and

(c) extend not less than 50 mm above the *distribution pipe*.

(7) The *distribution pipes* shall be spaced not more than 1.2 m apart with the outermost pipe spaced not more than 600 mm from the edge of the bed.

(8) The pump chamber shall be sized to provide sufficient storage volume so that the *effluent* is evenly dosed on an hourly basis over a 24-hour period.

(9) When there is more than one *Type B dispersal bed* in a *leaching bed*, the *Type B dispersal beds* shall be separated by at least 5 m measured from the edge of the stone layers.

(10) A *Type B dispersal bed* shall not be located closer than the minimum horizontal distances set out in Table 8.2.1.6.B. and these distances shall be increased when required by Sentence 8.7.4.2.(11).

8.7.8.3. Design Requirements (See Note A-8.7.8.3.)

(1) The area of a *Type B dispersal bed* shall not be less than the minimum area determined in accordance with Clause (2)(a) or (b).

(2) For the purposes of Sentence (1), the minimum area is either of the following:

(a) the area calculated based on the *loading rates* for Type 2 effluent set out in the Column headed "Type 2" found in Table 2-8 of the BCMOH, "Sewerage System Standard Practice Manual", or

(b) the value determined by the formula,

$$A = QT/400$$

where,

A = the area of contact in square metres between the stone layer and the underlying *soil*,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the *percolation time* of the underlying *soil*.

(3) The linear *loading rates* of the underlying *soil* shall not be greater than

(a) the linear *loading rates* set out in Table 2-11 of BCMOH, "Sewerage System Standard Practice Manual", where the area of the *Type B dispersal bed* is determined in accordance with Clause (2)(a), or

(b) the following linear *loading rate*, where the area of the *Type B dispersal bed* is determined in accordance with Clause (2)(b)

(i) 40 L/m, for *soil* having a *percolation time* equal to or greater than 24 min, or

(ii) 50 L/m, for *soil* having a *percolation time* less than 24 min.

(4) The width of a *Type B dispersal bed* shall not exceed 4 m.

Section 8.8. Class 5 Sewage Systems

8.8.1. Application

8.8.1.1. Prohibited Installation

(1) Except as provided in Article 8.8.1.2., a Class 5 *sewage system* shall not be installed.

8.8.1.2. Acceptable Installation

(1) A Class 5 *sewage system* may be installed in the following circumstances:

(a) where the proposed use of the *sewage system* is for a temporary operation, excluding seasonal recreational use, not exceeding 12 months in duration,

(b) to remedy an unsafe *sewage system* where the remediation of the unsafe condition by the installation of a Class 4 *sewage system* is impracticable,

(c) to upgrade a *sewage system* serving an existing *building*, where upgrading through the use of a Class 4 *sewage system* is not possible due to lot size, site slope or clearance limitations, or

(d) as an interim measure for a lot or parcel of land until municipal sewers are available, provided that the municipality undertakes to ensure the continued operation of an approved *hauled sewage system* until the municipal sewers are available.

(2) Where a Class 5 *sewage system* is installed, a written agreement for the disposal of *sanitary sewage* from the *sewage system* shall be entered into with a *hauled sewage system* operator.

8.8.2. General Requirements

8.8.2.1. Construction Requirements

(1) All Class 5 *sewage systems* shall be equipped with a device that shall produce an audible and visual warning alarm so located to warn that the *sewage system* is nearing capacity.

(2) The device required in Sentence (1) shall be designed to provide suitable advance warning to the *building* occupants considering

(a) the total daily design *sanitary sewage* flow,

(b) the location of the Class 5 *sewage system*, and

(c) the response time of the *hauled sewage system* contractor.

(3) Except as provided in Sentence (4), all *holding tanks* shall be provided with a vent that

(a) is not less than 3 in. trade *size*,

(b) terminates at least

(i) 300 mm above finished grade with a vent cap, or

(ii) 600 mm above finished grade with a vent cap when the *holding tank* is located in an area subject to flooding, and

(c) terminates at least 3.5 m away from any air inlet, window, or door.

(4) A vent from a *holding tank* may connect into the *venting system* of the *building* served by the *holding tank* provided that

(a) the vent is not less than 3 in. trade *size*, and

(b) the installation of the vent shall conform to the requirements in Part 7.

8.8.2.2. Sizing of Holding Tanks

(1) All *holding tanks* used in residential dwellings shall have a minimum 7 day holding capacity based on the total daily design *sanitary sewage* flow.

Section 8.9. Operation and Maintenance

8.9.1. General

8.9.1.1. Scope

(1) This Section applies to the operation and maintenance of all *sewage systems*.

8.9.1.2. General Requirements for Operation and Maintenance

(1) Every *sewage system* shall be operated and maintained so that

(a) the *sewage system* or any part of it shall not emit, discharge or deposit *sanitary sewage* or *effluent* onto the surface of the ground,

(b) *sanitary sewage* or *effluent* shall not emit, discharge, seep, leak or otherwise escape from the *sewage system* or any part of it other than from a place or part of the *sewage system* where the system is designed or intended to discharge the *sanitary sewage* or *effluent*, and

(c) except as provided in Sentence (2), *sanitary sewage* or *effluent* shall not emit, discharge, seep, leak or otherwise escape from the *sewage system* or any part of it into a piped water supply, well water supply, a watercourse, *ground water* or *surface water*.

(2) Clause (1)(c) does not apply to the use of a *sewage system* designed and operated such that properly treated *effluent* is discharged into *soil*.

8.9.2. Operation

8.9.2.1. Scope

(1) The requirements of this Subsection are in addition to the requirements of Subsection 8.9.1.

8.9.2.2. General

(1) Every *sewage system* shall be operated in accordance with

(a) the basis on which the *construction* and use of the *sewage system* was approved or required under the Act or predecessor legislation, as the case may be, and

(b) the requirements of the manufacturer of the *sewage system*.

8.9.2.3. Class 4 Sewage Systems

(1) Every Class 4 *sewage system* shall be operated in accordance with the literature required by Sentence 8.6.2.2.(6).

(2) No person shall operate a *treatment unit* other than a *septic tank* unless the person has entered into an agreement whereby servicing and maintenance of the *treatment unit* and its related components will be carried out by a person who

(a) possesses a copy of the literature required by Sentence 8.6.2.2.(6), and

(b) is authorized by the manufacturer to service and maintain that type of *treatment unit*.

(3) The person who is authorized by the manufacturer to service and maintain the *treatment unit* and who has entered into the agreement referred to in Sentence (2) with the person operating the *treatment unit* shall notify the *chief building official* if

(a) the agreement is terminated, or

(b) access for service and maintenance of the *treatment unit* is denied by the person operating the *treatment unit*.

8.9.2.4. Sampling of Treatment Units

(1) Every person operating a *treatment unit* that is used in conjunction with a *leaching bed constructed* as a *shallow buried trench*, *Type A dispersal bed* or *Type B dispersal bed* shall

(a) take a grab sample of the *effluent* to determine the level of $CBOD_5$ and suspended solids in the *effluent*,

(b) carry out the sampling required by Clause (a) in accordance with the methods described in the APHA/AWWA/WEF, “Standard Methods for the Examination of Water and Wastewater”, and

(c) promptly submit the results of the sampling required by Clause (a) to the *chief building official*.

(2) Except as provided in Sentence (4), the sampling required by Sentence (1) shall be conducted

(a) initially, once during the first 12 months after the *sewage system* was put into use, and

(b) thereafter, once during every 12-month period, at least 10 months and not more than 18 months after the previous sampling has been completed.

(3) The concentration of $CBOD_5$ and suspended solids in the grab sample described in Sentences (1) and (4) is deemed to comply with the maximum concentration requirements set out in Table 8.6.2.2. when it does not exceed 20 mg/L for each of these parameters.

(4) If the results of the sampling required by Sentence (1) do not comply with Sentence (3), the person operating the *treatment unit* shall

(a) resample the *effluent* in accordance with Clauses (1)(a) and (b) within 6 months after the previous sampling has been completed, and

(b) promptly submit the results of the resampling required by Clause (a) to the *chief building official*.

8.9.2.5. Class 5 Sewage Systems

(1) Every Class 5 *sewage system* shall be operated in accordance with the agreement referred to in Sentence 8.8.1.2.(2).

(2) No Class 5 *sewage system* shall be operated once it is filled with *sanitary sewage* until such time as the *sanitary sewage* is removed from the *sewage system*.

8.9.3. Maintenance

8.9.3.1. Scope

(1) The requirements of this Subsection are in addition to the requirements of Subsection 8.9.1.

8.9.3.2. General

(1) Every *sewage system* shall be maintained so that

(a) the *construction* of the *sewage system* remains in accordance with

(i) the basis on which the *construction* and use of the *sewage system* was approved or required under the Act or predecessor legislation, as the case may be, and

(ii) the requirements of the manufacturer of the *sewage system*, and

(b) all components of the *sewage system* function in their intended manner.

(2) The land in the vicinity of a *sewage system* shall be maintained in a condition that will not cause damage to, or impair the functioning of, the *sewage system*.

8.9.3.3. Interceptors

(1) Every grease *interceptor* referred to in Article 8.1.3.1. shall be maintained in accordance with CSA B481.4, "Maintenance of grease interceptors".

8.9.3.4. Class 4 Sewage Systems

(1) *Septic tanks* and other *treatment units* shall be cleaned whenever sludge and scum occupy one-third of the *working capacity* of the tank.

8.9.3.5. Pressurized Distribution Systems

(1) The pressure head at the furthest point from the pump in all *distribution pipes* shall be checked for compliance with Articles 8.7.6.1. and 8.7.8.2. and the design specification at least every 36 months.

Part 9

295. Section 9.1. of Division B is revoked and the following substituted:

Section 9.1. General

9.1.1. Application

9.1.1.1. Application

(1) The application of this Part shall be as described in Subsection 1.3.3. of Division A.

9.1.1.2. Signs

(1) Signs shall conform to the requirements in Section 3.15.

9.1.1.3. Self-Service Storage Buildings

(1) *Self-service storage buildings* shall conform to the requirements in Section 3.10.

9.1.1.4. Tents and Air-Supported Structures

(1) Tents shall conform to the requirements in Subsection 3.14.1.

(2) *Air-supported structures* shall conform to the requirements in Subsection 3.14.2.

9.1.1.5. Proximity to Existing above Ground Electrical Conductors

(1) Where a *building* is constructed in close proximity to existing above ground electrical conductors, the requirements of Subsection 3.1.20. shall apply.

9.1.1.6. Food Premises

(1) The requirements of Subsection 3.7.6. shall apply to all *food premises*.

9.1.1.7. Radon

(1) In addition to all other requirements, a *building* in the following designated areas shall be designed and constructed so that the annual average concentration of radon 222 does not exceed 200 Bq/m3 of air and the annual average concentration of the short lived daughters of radon 222 does not exceed 0.02 working levels inside the *building* for

(a) the City of Elliot Lake in the Territorial District of Algoma,

(b) the Township of Faraday in the County of Hastings, and

(c) the geographic Township of Hyman in the Territorial District of Sudbury.

9.1.1.8. Building in Flood Plains

(1) *Buildings* constructed on flood plains shall

(a) be designed and constructed in accordance with good engineering practice to withstand anticipated vertical and horizontal hydrostatic pressures acting on the structure, and

(b) incorporate floodproofing measures that will preserve the integrity of *exits* and *means of egress* during times of flooding.

9.1.1.9. Site Assembled and Factory-Built Buildings (See Note A-9.1.1.9.)

(1) Except as provided in Sentence (2) and in Sentence 12.2.1.2.(2), a manufactured *building* is deemed to comply with this Code if it is designed and constructed in compliance with

(a) CSA Z240.2.1, "Structural requirements for manufactured homes", if the building is constructed in sections not wider than 4.88 m, or

(b) CSA A277, "Procedure for certification of prefabricated buildings, modules, and panels".

(2) The requirements of this Code shall apply to,

(a) *building* components designed and constructed outside the place of manufacture, and

(b) site installation of such *buildings*.

9.1.1.10. Public Pools and Public Spas

(1) *Public pools* shall conform to the requirements of Section 3.11. and *public spas* shall conform to the requirements of Section 3.12.

9.1.1.11. Shelf and Rack Storage Systems

(1) *Shelf and rack storage systems* shall conform to the requirements of Section 3.16.

296. Sentence 9.3.1.1.(3) of Division B is revoked and the following substituted:

(3) Except as provided in Sentence (4), Subsection 9.15.4. and Section 9.40., reinforced concrete shall be designed to conform to the requirements of Part 4.

297. Sentence 9.3.1.4.(1) of Division B is revoked and the following substituted:

(1) Aggregates shall

(a) consist of sand, gravel, crushed rock, crushed air-cooled blast furnace slag, expanded shale or expanded clay conforming to CSA A23.1, "Concrete materials and methods of concrete construction," and

(b) be clean, well-graded and free of injurious amounts of organic and other deleterious material.

298. Article 9.3.1.6. of Division B is revoked and the following substituted:

9.3.1.6. Compressive Strength (See also Article 9.12.4.1., Sentence 9.15.4.2.(1) and Article 9.18.6.1.)

(1) Except as provided elsewhere in this Part, the compressive strength of unreinforced concrete after 28 days shall be not less than

(a) 32 MPa for garage floors, carport floors and all exterior flatwork,

(b) 20 MPa for interior floors other than those for garages and carports, and

(c) 15 MPa all other applications.

(2) Site-batched concrete used for garage floors, carport floors and exterior flatwork shall have air entrainment of 5 to 8%.

299. Sentence 9.3.1.7.(1), other than Table 9.3.1.7., of Division B is revoked and the following substituted:

(1) For pre-mixed concrete and for the site-batched concrete mixes described in Table 9.3.1.7., the maximum ratio of water to cementing materials measured by weight shall not exceed

(a) 0.45 for garage and carport floors, and all exterior flatwork,

(b) 0.65 for interior floors other than those in garages and carports, and

(c) 0.70 for all other applications.

300. The heading to Table 9.3.2.1. of Division A is revoked and the following substituted:

Table 9.3.2.1.
Minimum Lumber Grades for Specific End Uses
Forming Part of Sentences 9.3.2.1.(1) and 9.3.2.2.(1)

301. Sentence 9.3.2.9.(3) of Division B is revoked and the following substituted:

(3) Structural wood elements shall be pressure-treated with a preservative to resist decay, where the vertical clearance between structural wood elements and the finished ground level is less than 150 mm. (See Note A-9.3.2.9.(3))

(3.1) In localities where termites are known to occur and where windows or other openings at or below *grade* contain wood elements, the bottom of window wells or

adjacent ground shall be at least 150 mm below the nearest wood unless the wood is pressure-treated with a chemical toxic to termites**.**

302. Sentence 9.4.1.1.(3) of Division B is revoked and the following substituted:

(3) Location-specific information for structural design, including snow and wind loads and seismic spectral accelerations, shall be determined according to MMAH Supplementary Standard SB-1, "Climatic and Seismic Data". (See Note A-9.4.1.1.(3))

303. Sentence 9.4.2.2.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2) to (4), specified snow loads shall be not less than those calculated using the following formula:

$$\mathbf{S = C_b S_s + S_r}$$

where

S = specified snow load,

C_b = basic snow load roof factor, which is 0.45 where the entire width of the roof does not exceed 4.3 m and 0.55 for all other roofs,

S_s = 1-in-50-year ground snow load in kPa, determined according to MMAH Supplementary Standard SB-1, Climate and Seismic Data", and

S_r = associated 1-in-50-year rain load in kPa, determined according to MMAH Supplementary Standard SB-1, "Climate and Seismic Data".

304. Article 9.4.4.1. of Division B is amended by adding the following Sentences:

(2) The design procedures described in Section 4.2. are permitted to be used in lieu of design procedures in this Subsection.

(3) The design procedures described in Section 4.2. shall be used where

(a) *deep foundations* are used,

(b) the footing size falls outside the scoped of this Section, or

(c) the *foundation* is constructed on peat, filled ground or on sensitive clays as described in Article 9.15.1.1.

305. Article 9.4.4.5. of Division B is revoked and the following substituted:

9.4.4.5. Reserved

306. Subsection 9.5.1. of Division B is revoked and the following substituted:

9.5.1. General

9.5.1.0A. Application

(1) Except as otherwise specified in this Part, this Section applies to *dwelling units* that are intended for use on a continuing or year-round basis as the principal residence of the occupant.

9.5.1.1. Method of Measurement

(1) Except as otherwise specified in this Part, the areas, dimensions and heights of rooms or spaces shall be measured between finished wall surfaces and between finished floor and ceiling surfaces.

9.5.1.1A. Floor Areas

(1) Minimum *floor areas* specified in this Section do not include closets or built-in bedroom cabinets unless otherwise indicated.

9.5.1.2. Combination Rooms (See Note A-9.5.1.2.)

(1) Two or more areas may be considered as a combination room if the opening between the areas occupies the larger of 3 m^2 or 40% or more of the area of the wall measured on the side of the dependent area.

(2) Where the dependent area is a bedroom, direct passage shall be provided between the two areas.

(3) The opening required in Sentence (1) shall not contain doors or windows.

9.5.1.3. Lesser Areas and Dimensions

(1) Areas of rooms and spaces are permitted to be less than required in this Section provided it can be shown that the rooms and spaces are adequate for their intended use, such as by the provision of built-in furniture to compensate for reduced sizes.

307. Article 9.5.2.1. of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (2) and Article 3.8.1.1., every *building* shall be designed in conformance with Section 3.8.

(2) The requirements of Section 3.8. need not be provided for detached houses, semi-detached houses, houses with a *secondary suite*, duplexes, triplexes, row houses and boarding or rooming houses with fewer than eight boarders or roomers.

308. Article 9.5.2.3. of Division B is revoked and the following substituted:

9.5.2.3. Reserved

9.5.2.4. Stud Wall Reinforcement

(1) If wood wall studs or sheet steel wall studs enclose the main bathroom in a *dwelling unit*, reinforcement shall be installed to permit the future installation of the following:

(a) for a water closet, a grab bar described in Clauses 3.8.3.8.(3)(a) and a grab bar described in Clause 3.8.3.8.(3)(c),

(b) for a shower, a grab bar described in Clause 3.8.3.13.(2)(g), and

(c) for a bathtub, a grab bar described in Clause 3.8.3.13.(7)(e). (See Note A-9.5.2.4.(1))

309. (1) Sentence 9.5.3.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2) and (3), the ceiling heights and clear heights in rooms or spaces in *residential occupancies* and *live/work units* shall conform to Table 9.5.3.1.

(2) Table 9.5.3.1. of Division B is revoked and the following substituted:

Table 9.5.3.1.
Room Ceiling Heights

Forming Part of Sentences 9.5.3.1.(1) and (4)

Room or Space	Minimum Heights[(1)]
Living room or space, dining room or space, kitchen or kitchen space	2 300 mm over at least 75% of the required floor area with a clear height of 2 100 mm at any point over the required area
Bedroom or bedroom space	2 300 mm over at least 50% of the required area or 2 100 mm over all of the required floor area. Any part of the floor having a clear height of less than 1 400 mm shall not be considered in computing the required floor area
Basement space	2 100 mm over at least 75% of the *basement* area except that under beams and ducts the clearance is permitted to be reduced to 1 950 mm
Bathroom, water closet room or laundry area above *grade*	2 100 mm in any area where a person would normally be in a standing position

Passage, hall or main entrance vestibule and finished rooms not specifically mentioned above	2 100 mm

Notes to Table 9.5.3.1.:

(1) Area of the space shall be measured at floor level.

310. Sentence 9.5.3.2.(1) of Division B is revoked and the following substituted:

(1) The ceiling height above and below a *mezzanine* floor assembly in all *occupancies* shall be not less than 2.1 m.

311. Section 9.5. of Division B is amended by adding the following Subsections:

9.5.3A. Living Rooms or Spaces within Dwelling Units

9.5.3A.1. Areas of Living Rooms and Spaces

(1) Living areas within *dwelling units*, either as separate rooms or in combination with other spaces, shall have an area not less than 13.5 m^2.

(2) Where the area of a living space is combined with a kitchen and dining area, the living area alone in a *dwelling unit* that contains sleeping accommodation for not more than two persons shall be not less than 11 m^2.

9.5.3B. Dining Rooms or Spaces within Dwelling Units

9.5.3B.1. Area of Dining Rooms or Spaces

(1) A dining space in combination with other space shall have an area of not less than 3.25 m^2.

(2) Dining rooms not combined with other space shall have a minimum area of 7 m^2.

9.5.3C. Kitchens within Dwelling Units

9.5.3C.1. Kitchen Areas

(1) Kitchen areas within *dwelling units* either separate from or in combination with other spaces, shall have an area of not less than 4.2 m^2 including the area occupied by the base cabinets, except that in *dwelling units* containing sleeping accommodation for not more than two persons, the minimum area shall be 3.7 m^2.

9.5.3D. Bedrooms or Spaces in Dwelling Units and Dormitories

9.5.3D.1. Areas of Bedrooms

(1) Except as provided in Articles 9.5.3D.2. and 9.5.3D.3., bedrooms in *dwelling units* shall have an area not less than 7 m^2 where built-in cabinets are not provided and not less than 6 m^2 where built-in cabinets are provided.

9.5.3D.2. Areas of Master Bedrooms

(1) Except as provided in Article 9.5.3D.3., at least one bedroom in every *dwelling unit* shall have an area of not less than 9.8 m² where built-in cabinets are not provided and not less than 8.8 m² where built-in cabinets are provided.

9.5.3D.3. Areas of Combination Bedrooms

(1) Bedroom spaces in combination with other spaces in *dwelling units* shall have an area not less than 4.2 m².

9.5.3D.4. Areas of Other Sleeping Rooms

(1) Sleeping rooms other than in *dwelling units* shall have an area not less than 7 m² per person for single *occupancy* and 4.6 m² per person for multiple *occupancy*.

9.5.3D.5. Recreational Camps

(1) *Recreational camps* shall have an area in the sleeping quarters of at least 3.72 m² per camper or, if double or triple tier bunk units are used, 2.79 m² per camper.

9.5.3D.6. Camps for Housing Workers

(1) A *camp for housing of workers* shall have a minimum area of 3.72 m² per employee in every room used for sleeping purposes.

9.5.3E. Combined Spaces

9.5.3E.1. Combined Living, Dining, Bedroom and Kitchen Spaces

(1) Despite Subsections 9.5.3A. to 9.5.3D., where living, dining, bedroom and kitchen spaces are combined in a *dwelling unit* that contains sleeping accommodation for not more than two persons, the area of the combined spaces shall be not less than 13.5 m^2.

9.5.3F. Bathrooms and Water Closet Rooms

9.5.3F.1. Space to Accommodate Fixtures

(1) In every *dwelling unit* an enclosed space of sufficient size shall be provided to accommodate a water closet, lavatory and bathtub or shower stall.

9.5.3F.2. Doors to Rooms Containing Water Closets

(1) A door shall be provided to each room containing a water closet within a *dwelling unit*.

312. Article 9.5.5.3. of Division B is revoked and the following substituted:

9.5.5.3. Doors to Bathrooms

(1) Where a *barrier-free* path of travel conforming to Section 3.8. is provided into a *suite* of *residential occupancy* and where a bathroom within the *suite* is at the level of the *suite* entrance door, the doorway to such bathroom and to each bedroom at the same level as such bathroom shall have, when the door is in the open position, a clear width of not less than

(a) 760 mm where the door is served by a corridor or space not less than 1 060 mm wide, and

(b) 810 mm where the door is served by a corridor or space less than 1 060 mm wide.

313. Article 9.6.1.2. of Division B is amended by adding the following Sentence:

(3) Mirrored glass doors reinforced with a film backing shall meet the impact resistance requirements specified in CAN/CGSB-12.5M, “Mirrors, Silvered”.

314. Article 9.6.1.3. of Division B is revoked and the following substituted:

9.6.1.3. Structural Sufficiency of Glass

(1) Except as provided in Sentence (2), glass shall be designed in conformance with Article 4.3.6.1.

(2) Where the *building* has an essentially uniform distribution of paths for air leakage, including operable openings, but no large openings that would permit wind gusts to rapidly enter the *building* and the *building* is not in an exceptionally exposed location such as a hilltop, the maximum area of individual panes of glass for windows shall conform to

(a) Tables 9.6.1.3.-A to 9.6.1.3.-C, where the *building* has a height from *grade* to the uppermost roof of 12 m or less, and is located in a built-up area, no less than 120 m away from the boundary between this area and open terrain, or

(b) Tables 9.6.1.3.-D to 9.6.1.3.-F. (See Note A-9.6.1.3.(2).)

(3) The maximum area of individual panes of glass for doors shall conform to Table 9.6.1.3.-G.

Table 9.6.1.3.-A
Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.55 kPa(1)

Forming Part of Clause 9.6.1.3.(2)(a)

Type of Glass	Maximum Glass Area, m^2							
	Glass Thickness, mm							
	2.5	3	4	5	6	8	10	12
Annealed	0.58	0.96	1.47	2.04	2.84	4.74	6.65	9.74
Factory-sealed insulated glass (IG) units(2)	1.02	1.71	2.68	3.74	5.24	7.93	9.92	13.92
Heat-strengthened or tempered	1.24	1.93	2.60	3.18	3.99	5.55	6.99	9.74
Wired	0.27	0.45	0.68	0.93	1.31	2.15	3.07	5.03

Notes to Table 9.6.1.3.-A:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

Table 9.6.1.3.-B
Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.75 kPa(1)

Forming Part of Clause 9.6.1.3.(2)(a)

Type of Glass	Maximum Glass Area, m^2							
	Glass Thickness, mm							
	2.5	3	4	5	6	8	10	12
Annealed	0.42	0.68	1.02	1.42	2.04	3.34	4.70	7.65
Factory-sealed insulated glass (IG) units(2)	0.72	1.19	1.85	2.56	3.64	6.01	8.35	11.83
Heat-strengthened	0.88	1.46	2.21	2.71	3.39	4.73	5.92	8.29
Tempered	1.18	1.64	2.21	2.71	3.39	4.73	5.92	8.29
Wired	0.20	0.32	0.50	0.68	0.94	1.55	2.19	3.60

Notes to Table 9.6.1.3.-B:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data".

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

Table 9.6.1.3.-C
Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 1.00 kPa(1)

Forming Part of Clause 9.6.1.3.(2)(a)

Type of Glass	Maximum Glass Area, m^2							
	Glass Thickness, mm							
	2.5	3	4	5	6	8	10	12
Annealed	0.30	0.50	0.77	1.05	1.45	2.40	3.40	5.62
Factory-sealed insulated glass (IG) units(2)	0.52	0.86	1.31	1.86	2.57	4.30	6.10	9.89
Heat-strengthened	0.65	1.04	1.63	2.26	2.92	4.07	5.10	7.14
Tempered	1.01	1.42	1.90	2.33	2.92	4.07	5.10	7.14
Wired	0.16	0.26	0.38	0.52	0.71	1.15	1.63	2.69

Notes to Table 9.6.1.3.-C:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, “Climatic and Seismic Data”.

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

Table 9.6.1.3.-D
Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.55 kPa – OPEN TERRAIN(1)

Forming Part of Clause 9.6.1.3.(2)(b)

Type of Glass	Maximum Glass Area, m^2							
	Glass Thickness, mm							
	2.5	3	4	5	6	8	10	12
Annealed	0.46	0.75	1.16	1.60	2.25	3.76	5.32	8.70
Factory-sealed insulated glass (IG) units(2)	0.80	1.34	2.11	2.93	4.10	6.90	9.66	12.53
Heat-strengthened	0.98	1.74	2.33	2.86	3.59	5.00	6.26	8.78
Tempered	1.25	1.74	2.33	2.86	3.59	5.00	6.26	8.78
Wired	0.22	0.36	0.55	0.76	1.05	1.75	2.47	4.09

Notes to Table 9.6.1.3.-D:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, “Climatic and Seismic Data”.

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

Table 9.6.1.3.-E
Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 0.75 kPa – OPEN TERRAIN(1)

Forming Part of Clause 9.6.1.3.(2)(b)

Type of Glass	Maximum Glass Area, m^2							
	Glass Thickness, mm							
	2.5	3	4	5	6	8	10	12
Annealed	0.33	0.54	0.83	1.14	1.61	2.67	3.75	6.14
Factory-sealed insulated glass (IG) units(2)	0.57	0.94	1.47	2.04	2.85	4.75	6.72	10.97
Heat-strengthened	0.70	1.15	1.79	2.44	3.06	4.36	5.34	7.47
Tempered	1.06	1.48	1.99	2.44	3.06	4.36	5.34	7.47
Wired	0.16	0.26	0.40	0.55	0.76	1.24	1.77	2.93

Notes to Table 9.6.1.3.-E:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, “Climatic and Seismic Data”.

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

Table 9.6.1.3.-F
Maximum Glass Area for Areas for which the 1-in-50 Hourly Wind Pressure (HWP) is less than 1.00 kPa – OPEN TERRAIN(1)

Forming Part of Clause 9.6.1.3.(2)(b)

Type of Glass	Maximum Glass Area, m^2							
	Glass Thickness, mm							
	2.5	3	4	5	6	8	10	12
Annealed	0.25	0.40	0.62	0.84	1.17	1.94	2.75	4.50
Factory-sealed insulated glass (IG) units(2)	0.42	0.68	1.04	1.46	2.05	3.41	4.87	7.92
Heat-strengthened	0.51	0.84	1.30	1.79	2.52	3.69	4.60	6.44
Tempered	0.92	1.28	1.72	2.10	2.63	3.69	4.60	6.44
Wired	0.12	0.20	0.30	0.41	0.57	0.94	1.31	2.18

Notes to Table 9.6.1.3.-F:

(1) The maximum hourly wind pressure with one chance in fifty of being exceeded in any one year, as provided in MMAH Supplementary Standard SB-1, “Climatic and Seismic Data”.

(2) Maximum glass area values apply to IG units of two identical lites (annealed, heat-strengthened or tempered) spaced at 12.7 mm.

Table 9.6.1.3.-G
Glass Area for Doors

Forming Part of Sentence 9.6.1.3.(3)

Glass Thickness, mm	Maximum Glass Area, $m^{2(1)}$						
	Type of Glass						
	Annealed	Annealed, Multiple-Glazed, Factory-Sealed Units	Laminated	Wired	Heat-Strengthened	Fully Tempered	Fully Tempered, Multiple-Glazed, Factory-Sealed
3	0.50	0.70	(2)	(2)	1.00	1.00	2.00
4	1.00	1.50	(2)	(2)	1.50	4.00	4.00
5	1.50	1.50	(2)	(2)	1.50	No limit	No limit
6	1.50	1.50	1.20	1.00	1.50	No limit	No limit

Notes to Table 9.6.1.3.-G:

(1) See Note A-Table 9.6.1.3.-G.

(2) Not generally available.

315. Sentence 9.7.1.1.(1) of Division B is revoked and the following substituted:

(1) This Section applies to

(a) windows, doors and skylights separating *conditioned space* from unconditioned space or the exterior, and

(b) main entrance doors.

316. Sentence 9.7.2.2.(10) of Division B is revoked.

317. Subsection 9.7.2. of Division B is amended by adding the following Article:

9.7.2.3. Minimum Window Areas

(1) Except as required in Article 9.9.10.1 and Sentence (3), the minimum window glass areas for rooms in *buildings* of *residential occupancy* or rooms that are used for sleeping shall conform to Table 9.7.2.3.

Table 9.7.2.3.
Glass Areas for Rooms of Residential Occupancy

Forming Part of Sentence 9.7.2.3.(1)

Location	Minimum Unobstructed Glass Area With No Electric Lighting	Minimum Unobstructed Glass Area With Electric Lighting
Laundry, *basement* recreation room, unfinished *basement*	4% of area served	Windows not required
Water closet room	0.37 m^2	Windows not required
Kitchen, kitchen space, kitchen alcove	10% of area served	Windows not required
Living rooms and dining rooms	10% of area served	10% of area served
Bedrooms and other finished rooms not mentioned above	5% of area served(1)	5% of area served(1)

Notes to Table 9.7.2.3.:

(1) See Subsection 9.9.10.

(2) The unobstructed glass area of a door or skylight is considered equivalent to that of a window.

(3) Work areas in *live/work units* shall conform to Clause 3.7.2.1.(2)(a).

(4) Where rooms with different requirements for window glass area are combined as described in Sentence 9.5.1.2.(1), the more restrictive requirement shall govern.

318. Sentences 9.7.3.1.(2) and (3) of Division B are revoked and the following substituted:

(2) Skylights and their components shall be designed, constructed and installed so that, when in the closed position, they resist snow loads.

(3) Main entrance doors and their components shall be designed, constructed and installed so that, when in the closed position, they

(a) control air leakage,

(b) resist the ingress of insects and vermin,

(c) resist forced entry, and

(d) are easily operable.

319. Sentence 9.7.3.2.(1) of Division B is revoked and the following substituted:

(1) Windows, doors and skylights described in Clause 9.7.1.1.(1)(a) and their components shall be designed, constructed and installed to

(a) minimize surface condensation on the warm side of the component (see Note A-9.7.3.2.(1)(a)), and

(b) ensure comfortable conditions for occupants.

320. Table 9.7.3.3. of Division B is revoked and the following substituted:

Table 9.7.3.3.
Maximum U-value or Minimum Temperature Index (I) for Windows, Doors and Skylights(1)(2)(3)

Forming Part of Sentence 9.7.3.3.(3)

Component	2.5% January Design Temperature			
	Between –15°C and –30°C		Colder than –30°C	
	max. U-value, W/m^2K	min. I	max. U-value, W/m^2K	min. I
Windows and doors	2.0	68	1.7	77
Skylights	3.0	(2)	2.7	(2)

Notes to Table 9.7.3.3.:

(1) U-values for specific products can be determined according to measures referenced in AAMA/WDMA/CSA 101/I.S.2/A440, "North American Fenestration Standard/Specification for windows, doors, and skylights." Temperature index (I) is determined according to the physical test procedure given in CSA A440.2/A440.3, "Fenestration energy performance/User guide to CSA A440.2:19, Fenestration energy performance."

(2) There is no appropriate test procedure available for testing the condensation resistance of sloped glazing.

(3) Where the U-value in this Table differs from the U-value provided in MMA Supplementary Standard SB-10, "Energy Efficiency Requirements" or MMA Supplementary Standard SB-12, "Energy Efficiency for Housing", the most restrictive U-value shall apply.

321. Sentences 9.7.4.3.(1) and (2) of Division B are revoked and the following substituted:

(1) Performance grades for windows, doors and skylights shall be selected according to CSA A440S1, "Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440-17, "North American Fenestration Standard/Specification for windows, doors, and skylights" so as to be appropriate for the conditions and geographic location in which the window, door or skylight will be installed.

(2) Windows, doors and skylights shall conform to the performance grades selected in Sentence (1) when tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, "North American Fenestration Standard/Specification for windows, doors, and skylights" Harmonized Standard).

322. Sentence 9.8.1.1.(1) of Division B is revoked and the following substituted:

(1) This Section applies to the design and construction of interior and exterior stairs, steps, *ramps*, landings, handrails and *guards*.

323. Sentence 9.8.1.2.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentence 9.8.6.2.(3), stairs, *ramps*, landings, handrails and *guards* in a garage that serves a single *dwelling unit* or a house with a *secondary suite* shall conform to the requirements for stairs, *ramps*, landings, handrails and *guards* within a *dwelling unit*.

324. Sentence 9.8.2.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (2) and Article 9.8.4.7., required *exit* stairs and public stairs serving *buildings* of *residential occupancy* shall have a width, measured between wall faces or *guards*, of not less than 900 mm.

325. Article 9.8.3.1. of Division B is revoked and the following substituted:

9.8.3.1. Straight and Curved Runs in Stairs

(1) Except as permitted in Sentence (2), stairs shall consist of

(a) straight *flights*,

(b) curved *flights*, or

(c) spiral stairs.

(2) Stairs within *dwelling units* and houses with a *secondary suite*, including their common spaces, shall consist of

(a) straight *flights*,

(b) except as provided in Sentence (4), curved *flights*,

(c) except as provided in Sentence 9.8.4.7.(2), spiral stairs,

(d) *flights* with rectangular treads and winders, or

(e) *flights* with a mix of rectangular and *tapered treads*.

(3) Curved *flights* in *exits* shall comply with Sentence 3.4.6.9.(2).

(4) Spiral stairs shall comply with Article 9.8.4.7.

326. Article 9.8.4.1. of Division B is revoked and the following substituted:

9.8.4.1. Dimensions for Risers (See Note A-9.8.4.)

(1) Except as provided in Article 9.8.4.7. the rise, which is measured as the vertical nosing-to-nosing distance, shall comply with Table 9.8.4.1.

Table 9.8.4.1.
Rise for Rectangular Treads, Tapered Treads and Winders and Run for Rectangular Treads

Forming Part of Sentence 9.8.4.1.(1) and 9.8.4.2(1)

Stair Type	Max. Rise, mm, for All Steps	Min. Rise, mm, for All Steps	Max. *Run*, mm, for Rectangular Treads	Min. *Run*, mm, for Rectangular Treads
Private stairs(1)	200	125	355	255
Public stairs(2)	180	125	no limit	280
Service stairs(3)	no limit	125	355	no limit
Stairs to unoccupied attic space(4)	no limit	125	355	no limit
Stairs to crawl spaces	no limit	125	355	no limit
Stairs that serve mezzanines not exceeding 20 m^2 within *live/work units*	no limit	125	355	no limit

Notes to Table 9.8.4.1.:

(1) Private stairs are:

(a) interior stairs within a house with a *secondary suite* or an individual *dwelling unit*,

(b) exterior stairs serving a house with a *secondary suite* or an individual *dwelling unit,* and

(c) exterior stairs serving a garage that serves a house with a *secondary suite* or an *individual dwelling unit*.

(2) Public stairs are all stairs not described as service stairs or private stairs.

(3) Service stairs are stairs that serve areas used only as service rooms or service spaces.

(4) Stairs to unoccupied attic space are stairs that serve attics containing no storage or living space.

327. (1) Sentence 9.8.4.2. of Division B is revoked and the following substituted:

(1) The *run* for rectangular treads shall conform with Table 9.8.4.1.

328. Sentence 9.8.4.3.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (2) and Articles 9.8.4.6. and 9.8.4.7., tapered treads shall have a *run* that,

(a) is not less than 150 mm at the narrow end of the tread, and

(b) complies with the dimensions for rectangular treads stated in Table 9.8.4.1. when measured at a point 300 mm from the centre line of the handrail at the narrow end of the tread.

329. Article 9.8.4.6. of Division B is revoked and the following substituted:

9.8.4.6. Winders (See Note A-9.8.4.6.)

(1) Stairs within *dwelling units* are permitted to contain winders that converge to a centre point provided

(a) the winders turn through an angle of not more than 90°,

(b) individual treads turn through an angle of not less than 30° or not more than 45°, and

(c) adjacent winders turn through the same angle.

(2) Where more than one set of winders described in Sentence (1) is provided in a single stairway between adjacent floor levels, such winders shall be separated in plan by at least 1 200 mm.

330. Sentence 9.8.4.7.(3) of Division B is revoked and the following substituted:

(3) Except as permitted by Sentence (2), spiral stairs shall not serve as an *exit.*

331. Subsection 9.8.4. of Division B is amended by adding the following Article:

9.8.4.10. Interior Stairs Extending Through the Roof

(1) Interior stairways extending through the roof of a *building* shall be protected from ice and snow.

332. Sentence 9.8.5.1.(2) of Division B is revoked and the following substituted:

(2) *Ramps* in a *barrier-free* path of travel shall conform to the requirements in Article 3.8.3.4.

333. Sentence 9.8.6.1.(2) of Division B is revoked and the following substituted:

(2) Landings for *ramps* in a *barrier-free* path of travel shall conform to the requirements in Article 3.8.3.4.

334. (1) Sentence 9.8.6.2.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2) to (4) and Sentence 9.9.6.6.(2), a landing shall be provided

(a) at the top and bottom of each *flight* of interior and exterior stairs, including stairs in garages,

(b) at the top and bottom of every *ramp* with a slope greater than 1 in 50, and

(c) where a doorway opens onto a stair or *ramp*.

(2) Article 9.8.6.2. of Division B is amended by adding the following Sentence:

(3.1) Sentence (3) does not apply to an exterior stair serving a secondary entrance to a house with a *secondary suite* that is also a main entrance to a *dwelling unit* in the house.

335. Sentence 9.8.7.1.(2) of Division B is revoked and the following substituted:

(2) Where a stair or *ramp* is required to be at least 2 200 mm wide due to the *occupant load*, a handrail shall be installed such that no position on the stair or *ramp* is more than 825 mm from a handrail. (See Note A-9.8.7.1.(2))

336. Sentence 9.8.7.4.(2) of Division B is revoked and the following substituted:

(2) Except as provided in Sentence (3), Clause 3.8.3.4.(1)(e) and Sentence 9.8.4.7.(1), required handrails shall be 865 mm to 1 070 mm high.

337. Sentence 9.8.7.5.(1) of Division B is revoked and the following substituted:

(1) The clearance between a handrail and the surface behind it shall be not less than

(a) 60 mm, if the surface behind the handrail is rough or abrasive, or

(b) 50 mm in all other cases.

338. Sentence 9.8.7.6.(1) of Division B is revoked and the following substituted:

(1) Handrails and projections below handrails, including handrail supports and stair stringers, shall not project more than 100 mm into the required width of a stair or *ramp*. (See also Articles 9.8.2.1. and 9.8.5.2.)

339. Sentences 9.8.8.1.(6) to (8) of Division B are revoked and the following substituted:

(6) Except as provided in Sentence (7), glazing installed over stairs, *ramps* and landings that extends to less than 1 070 mm above the surface of the treads, *ramp* or landing shall be

(a) protected by *guards*, in accordance with this Subsection, or

(b) non-openable and designed to withstand the specified lateral loads for *guards* as provided in Article 4.1.5.14.

(7) In dwelling units, glazing installed over stairs, *ramps* and landings that extends to less than 900 mm above the surface of the treads, *ramp* or landing shall be

(a) protected by *guards*, in accordance with this Subsection, or

(b) non-openable and designed to withstand the specified lateral loads for *guards* as provided in Article 4.1.5.14.

(8) Glazing installed in public areas that extends to less than 1 m from the floor and is located above the second *storey* in *buildings* of *residential occupancy* shall be

(a) protected by *guards*, in accordance with this Subsection, or

(b) non-openable and designed to withstand the specified lateral loads for *guards* as provided in Article 4.1.5.14.

340. (1) Sentence 9.8.8.2.(1), other than Table 9.8.8.2., of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2), (3), (5) and (6), *guards* shall be designed to resist the specified loads prescribed in Table 9.8.8.2.

(2) Article 9.8.8.2. of Division B is amended by adding the following Sentence:

(6) *Guards* constructed in accordance with the requirements in MMAH Supplementary Standard SB-7, "Guards for Housing and Small Buildings" shall be deemed to satisfy the requirements of Sentence (1).

341. (1) Sentence 9.8.8.3.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2) to (3.1), all *guards* shall be not less than 1 070 mm high.

(2) Article 9.8.8.3. of Division B is amended by adding the following Sentence:

(3.1) The height of *guards* for exterior stairs and landings more than 10 m above adjacent ground level shall be not less than 1500 mm.

342. Sentence 9.8.8.6.(1) of Division B is revoked and the following substituted:

(1) *Guards* required by Article 9.8.8.1., except those in *industrial occupancies* and where it can be shown that the location and size of openings do not represent a hazard, shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above the floor or walking surface protected by the *guard* will facilitate climbing.

343. Sentence 9.8.9.5.(1) of Division B is revoked and the following substituted:

(1) Stair treads of lumber, plywood or O-2 grade OSB within *dwelling units* shall be not less than 25 mm actual thickness, except that, if open risers are used and the distance between stringers exceeds 750 mm, the treads shall be not less than 38 mm actual thickness.

344. Article 9.8.9.6. of Division B is revoked and the following substituted:

9.8.9.6. Finish for Treads, Landings and Ramps (See Note A-9.8.9.6.)

(0.1) Except as required by Sentence (2), the finish for treads, landings and *ramps* shall be

(a) wear-resistant,

(b) slip-resistant, and

(c) smooth, even and free from open defects.

(1) The finish for treads and landings of interior stairs in *dwelling units*, other than stairs to unfinished *basements*, shall consist of hardwood, vertical grain softwood, resilient flooring or other material providing equivalent performance.

(2) Treads and landings of interior and exterior stairs and *ramps*, other than those within *dwelling units* or within houses with a *secondary suite* including their common spaces, shall have a slip-resistant finish or be provided with slip-resistant strips that extend not more than 1 mm above the surface.

(3) Stairs and *ramps*, except those serving a house with a *secondary suite*, an individual *dwelling unit*, *service rooms* or *service spaces*, shall have a colour contrast or a distinctive visual pattern to demarcate

(a) the leading edge of the treads,

(b) the leading edge of the landing, and

(c) the beginning and end of a *ramp*.

(4) Except for stairs serving a house with a *secondary suite*, an individual *dwelling unit*, *service rooms* or *service spaces*, a tactile attention indicator conforming to Article 3.8.3.18. shall be installed

(a) at the top of the stairs, starting one tread depth back from the edge of the top stair, and

(b) at the leading edge of landings where a doorway opens onto stairs, starting one tread depth back from the edge of the landing.

345. Article 9.9.1.3. of Division B is revoked and the following substituted:

9.9.1.3. Occupant Load

(1) The *occupant load* of a *floor area* or part of a *floor area* shall be based on

(a) two persons per sleeping room or sleeping area in a *dwelling unit* or *suite*, and

(b) for *occupancies* other than as described in Clause (a), the number of persons

(i) for which the area is designed, or

(ii) determined from Table 3.1.17.1.

346. Article 9.9.2.1. of Division B is amended by adding the following Sentence:

(2.1) Fire escapes shall not be installed on any new *building*.

347. Article 9.9.2.3. of Division B is amended by adding the following Sentence:

(2) Except for *floor areas* of *mercantile occupancy*, casement windows not less than 1 060 mm high, 560 mm wide, with a sill height not more than 900 mm above the inside floor, are permitted to be considered part of a required *means of egress* to provide access to fire escapes, when fire escapes are permitted.

348. Subsection 9.9.2. of Division B is amended by adding the following Articles:

9.9.2.5. Front Edge of Stair Treads

(1) Except for curved stairs, the front edge of stair treads in *exits* and *access to exits* shall be at right angles to the direction of *exit* travel.

9.9.2.6. Exterior Exit Stairs That Serve a Hotel

(1) Treads and landings of exterior *exit* stairs that serve a *hotel* shall be designed to be free from ice and snow accumulation.

349. (1) Sentence 9.9.4.2.(1) and (2) of Division B are revoked and the following substituted:

(1) Except as provided in Sentence (5) and Article 9.9.8.5., every *exit* other than an *exit* doorway shall be separated from each adjacent *floor area* or from another *exit* by a *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly above the *floor area*.

(2) Where there is no floor assembly above, the *fire-resistance rating* required in Sentence (1) shall not be less than that required by Subsection 9.10.8. for the floor assembly below, but in no case shall the *fire-resistance rating* be less than 45 min**.**

(2) Sentence 9.9.4.2.(5) of Division B is revoked and the following substituted:

(5) The requirements in Sentence (1) do not apply to an exterior *exit* passageway provided the passageway has not less than 50% of its exterior sides open to the outdoors and is served by an *exit* stair at each end of the passageway.

350. Sentence 9.9.4.6.(1) of Division B is revoked and the following substituted:

(1) This Article applies to

(a) *exit* doors serving other than an individual *dwelling unit*, and

(b) *exit* doors serving an individual *dwelling unit* where there is no second and separate *exit* from the *dwelling unit*.

(2) Where an exterior *exit* door described in Sentence (1) in one *fire compartment* is within 3 m horizontally of an *unprotected opening* in another *fire compartment* and the exterior walls of these fire *compartments* intersect at an exterior angle of less than 135°, the opening shall be protected with wired glass in fixed steel frames or glass block conforming to Articles 9.10.13.5. and 9.10.13.7. or with a rated *closure* conforming to Table 9.10.13.1. with respect to the rating of the *fire separation* between the two compartments.

351. Article 9.9.4.7. of Division B is revoked and the following substituted:

9.9.4.7. Stairways in Group D or E Buildings

(1) Notwithstanding the requirements of Sentence 9.9.4.2.(1), 9.9.8.2.(1) and Article 9.10.9.5., where a *suite* of Group D or E *occupancy* is located partly on the *first storey* and partly on the second *storey* or partly on the second *storey* and partly on the third *storey*, stairways serving the *suite* need not be constructed as exit *stairs* provided

(a) the *building* is not greater than three *storeys* in *building height*,

(b) the *suite* is separated from other *occupancies* by a *fire separation* having a *fire-resistance rating* of not less than 45 min,

(c) the area occupied by the *suite* is not greater than 100 m^2 per *storey*, other than the *exit* level *storey*,

(d) the maximum travel distance from any point in the *suite* to an exterior *exit* is not greater than 25 m,

(e) the floor assemblies have a *fire-resistance rating* of not less than 45 min or are of *noncombustible construction*,

(f) the *basement* and *first storey* are separated by a *fire separation* having a *fire-resistance rating* of not less than 45 min, and

(g) a *smoke alarm* is installed on each floor of the *suite*, including the *basement*, in accordance with Subsection 9.10.19.

352. Sentence 9.9.6.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (4), swinging doors in their swing shall conform to Sentences (2) and (3)

(a) at *exi*t doors,

(b) at doors that open into or are located within a *public corridor*, and

(c) at doors that open into or are located within another facility that provides *access to exit* from a *suite*.

353. Sentence 9.9.6.5.(1) of Division B is revoked and the following substituted:

(1) Except as permitted by Sentence (1.1) and except for doors serving a single *dwelling unit* or a house with a *secondary suite*, *exit* doors that are required to swing shall swing in the direction of *exit* travel.

(1.1) An *exit* door need not swing in the direction of *exit* travel where it serves

(a) a room, *suite* or *floor area* having an *occupant load* of not more than 60 persons, or

(b) as part of a *means of egress* from more than one *floor area* and the *floor areas* so served have a total *occupant load* of not more than 60 persons.

354. Sentence 9.9.6.7.(4) of Division B is revoked and the following substituted:

(4) Except for *hotels*, a door opening onto a *public corridor* that provides *access to exit* from *suites* shall be designed not to lock automatically when such doors are equipped with an automatic self-closing device. (See Note A-3.3.4.5.(1))

355. Sentence 9.9.6.8.(1) of Division b is revoked and the following substituted:

(1) Except as required by Sentence 3.8.3.3.(7), every *exit* door, except doors serving a single *dwelling unit* or a house with a *secondary suite*, shall be designed and installed so that when the latch is released the door will open in the direction of *exit* travel under a force of not more than 90 N applied to the door release hardware. (See Sentence 3.8.3.6.(8) for door opening forces in a *barrier-free* path of travel.)

356. Articles 9.9.7.3. and 9.9.7.4. of Division B are revoked and the following substituted:

9.9.7.3. Dead-End Corridors

(1) A dead-end *public corridor* is permitted in an *occupancy* shown in Table 9.9.7.3., where

(a) the dead-end corridor

(i) does not exceed the distance of travel measured from the most remote point of the dead-end to a point where it is possible to go in opposite directions to each of two separate *exits*, and

(ii) is provided with doors equipped with self-closing devices, or

(b) there is a second and separate egress doorway from each room or *suite* not leading into the dead-end corridor.

(2) Dead-end *public corridors* in *residential occupancies* and *business and personal services occupancies* shall contain only *suite* door openings arranged so that not more than two such doors have to be passed to reach the nearest *exit*.

(3) The area of wired glass in doors required by Sentence (2) shall not exceed 645 cm^2.

Table 9.9.7.3.
Dead-End Public Corridors
Forming Part of Sentence 9.9.7.3.(1)

Occupancy	Maximum Length of Dead-End *Public Corridor,* m	Maximum *Occupant Load* or *Suites* Served by Dead-End *Public Corridor*
Group C	6	4 *suites*
Group D	6	30
Group E	9	30
Group F	9	30

9.9.7.4. Number and Spacing of Egress Doors

(1) Except for *dwelling units*, at least two egress doors shall be provided where

(a) the area of a room or *suite* exceeds 200 m^2 in a Group D, E, F2 and F3 *occupancy*, or 150 m^2 in a Group C *occupancy*, or

(b) the distance measured from any point within a room or *suite* to the nearest egress door exceeds 25 m.

(2) Doors required in Sentence (1) shall be spaced so that in the event one door is made inaccessible by a fire within such a room or *suite*, the other door will provide safe egress.

357. (1) Sentence 9.9.8.2.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2) and (3) and Subsection 9.9.9., at least two *exits* shall be provided from every *floor area*, spaced so that the travel distance to the nearest *exit* is not more than

(a) 40 m in the case of *business and personal services occupancies*,

(b) 45 m for all *occupancies* where the *floor area* is *sprinklered*, and

(c) 30 m for all other *occupancies*.

(2) Article 9.9.8.2. of Division B is amended by adding the following Sentence:

(3) In *boarding, lodging or rooming houses*

(d) where sleeping accommodation is provided for not more than eight persons, a single *exit* is permitted from each *floor area*, or

(e) where sleeping accommodation is not provided in the *basement*, a single *exit* is permitted from the *basement floor area*.

358. Article 9.9.8.5. of Division B is revoked and the following substituted:

9.9.8.5. Exiting through a Lobby

(1) Not more than one *exit* from a *floor area* is permitted to lead through a lobby.

(2) The lobby referred to in Sentence (1) shall be not more than 4.5 m above *grade*, and the path of travel through the lobby to the outdoors shall not exceed 15 m.

(3) The lobby referred to in Sentence (1) shall conform in all respects to the requirements for *exits*, except that rooms other than *service rooms*, storage rooms and rooms of *residential* or *industrial occupancy* are permitted to open directly onto such lobby.

(3.1) Except as provided in Sentence (6), an *exit* is permitted to lead through a lobby referred to in Sentence (1) provided the lobby is not located within an *interconnected floor space* other than as described in Sentence 3.2.8.2.(6).

(4) Where the lobby referred to in Sentence (1) and adjacent *occupancies* that are permitted to open into the lobby are *sprinklered*, the *fire separation* between such *occupancies* and the lobby need not have a *fire-resistance rating*. (See Note A-3.4.4.2.(2)(e))

(5) Passenger elevators are permitted to open onto the lobby referred to in Sentence (1) provided the elevator doors are designed to remain closed except while loading and unloading passengers.

(6) An *exit* that serves a *hotel* is permitted to lead through a lobby referred to in Sentence (1) provided the lobby is not located within an *interconnected floor space*.

359. Sentences 9.9.8.6.(1) and (2) of Division B are revoked and the following substituted:

(1) Except as permitted by Sentences (2) and (3), the space above a *mezzanine* shall be served by at least two *means of egress* leading to *exits* accessible at the *mezzanine* level, on the same basis as *floor areas*.

(2) One *means of egress* from a *mezzanine* is permitted where

(a) the *mezzanine* is not required to terminate at a vertical *fire separation*, as permitted by Sentence 9.10.12.1.(2),

(b) the *occupant load* of the *mezzanine* is not more than 60,

(c) the area of the *mezzanine* does not exceed the area limits of Clause 9.9.7.4.(1)(a), and

(d) the distance limits stated of Clause 9.9.7.4.(1)(b) measured along the path of travel, are not exceeded from any point on the *mezzanine* to

(i) an egress door serving the space that the *mezzanine* overlooks if the space is served by a single egress door, or

(ii) an egress stairway leading to an *access to exit* in the space below if that space is required to be served by two or more egress doorways in conformance with Sentence 9.9.7.4.(1).

360. Sentence 9.9.9.1.(2) of Division B is revoked and the following substituted:

(2) Where a *dwelling unit* is not located above or below another *suite*, the travel limit from a floor level in the *dwelling unit* to an *exit* or egress door may exceed 1 *storey* where that floor level is served by an openable window or door

(a) providing an unobstructed opening of not less than 1m in height and 0.55 m in width, and

(b) located so that the sill is not more than

(i) 1 m above the floor, and

(ii) 7 m above adjacent ground level.

361. Article 9.9.10.1. of Division B is revoked and the following substituted:

9.9.10.1. Egress Windows or Doors for Bedrooms

(1) Except where a door on the same floor level as the bedroom provides direct access to the exterior, every floor level containing a bedroom in a *suite* shall be provided with at least one outside window that

(a) is openable from the inside without the use of tools,

(b) provides an individual, unobstructed open portion having a minimum area of 0.35 m^2 with no dimension less than 380 mm, and

(c) maintains the required opening described in Clause (b) without the need for additional support. (See Note A-9.9.10.1.(1))

(2) Except for *basement* areas, the window required in Sentence (1) shall have a maximum sill height of 1 000 mm above the floor. (See Note A-9.9.10.1.(2))

(3) Where a window required in Sentence (1) opens into a window well, a clearance of not less than 550 mm shall be provided in front of the window. (See Note A-9.9.10.1.(3))

(4) Where the sash of a window referred to in Sentence (3) swings towards the window well, the operation of the sash shall not reduce the clearance in a manner that would restrict escape in an emergency.

(5) Where a protective enclosure is installed over the window well referred to in Sentence (3), the enclosure shall be openable from the inside without the use of keys, tools or special knowledge of the opening mechanism.

(6) When sliding windows are used, the minimum dimension described in Sentence (1) shall apply to the openable portion of the window.

(7) Where the sleeping area within a *live/work unit* is on a *mezzanine* with no obstructions more than 1 070 mm above the floor, the window required in Sentence (1) may be provided on the main level of the *live/work unit* provided the *mezzanine* is not more than 25% of the area of the *live/work unit* or 20 m^2, whichever is less, and an unobstructed direct path of travel is provided from the *mezzanine* to this window.

362. Sentence 9.9.11.2.(2) of Division B is revoked and the following substituted:

(2) Where an *exit* door leading directly to the outside is subject to being obstructed by a parked vehicle or storage because of its location, a visible sign prohibiting such obstructions shall be permanently mounted on the exterior side of the door.

363. Article 9.9.11.3. of Division B is revoked and the following substituted:

9.9.11.3. Exit Signs

(1) Except as required in Sentence (7), every *exit* door shall have an *exit* sign placed over it or adjacent to it if the *exit* serves

(a) a *building* that is 3 *storeys* in *building height*,

(b) a *building* having an *occupant load* of more than 150, or

(c) a room or *floor area* that has a fire escape as part of a required *means of egress*.

(2) Except as required in Sentence (6), every exit *sign* shall

(a) be visible on approach to the *exit*,

(b) consist of a green pictogram and a white or lightly tinted graphical symbol meeting the colour specifications referred to in ISO 3864-1, “Graphical

symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings," and

(c) conform to ISO 7010, "Graphical symbols – Safety colours and safety signs – Registered safety signs," for the following symbols:

(i) E001 emergency exit left,

(ii) E002 emergency exit right,

(iii) E005 90-degree directional arrow, and

(iv) E006 45-degree directional arrow.

(3) Internally illuminated *exit* signs shall be continuously illuminated, and

(a) where illumination of the sign is powered by an electrical circuit, be constructed in conformance with CSA C22.2 No. 141, "Emergency lighting equipment," or

(b) where illumination of the sign is not powered by an electrical circuit, be

(i) constructed in conformance with CAN/ULC-S572, "Standard for Photoluminescent and Self-Luminous Exit Signs and Path Marking Systems," and

(ii) labelled in accordance with the time duration for which they have been tested and listed.

(4) Externally illuminated *exit* signs shall be continuously illuminated at all times by a light fixture supplied by an electrical circuit.

(5) The circuitry serving lighting for externally and internally illuminated *exit* signs shall

(a) serve no equipment other than emergency lighting in the area where the exit signs are installed, and

(b) be connected to an emergency power supply as described in Sentences 9.9.12.3.(2), (3) and (7).

(6) An *exit* sign conforming to Clauses (2)(b) and (c) with an arrow or other indicator pointing at the direction of egress shall be provided where no *exit* is visible from

(a) a *public corridor*,

(b) a corridor used by the public, or

(c) a principal route serving an open *floor area* having an *occupant load* of more than 150.

(7) Except for *suite* doors opening directly to the exterior, every *exit* serving a *hotel* shall have an *exit* sign placed over it or adjacent to it.

364. Sentence 9.9.11.5.(1) of Division B is revoked and the following substituted:

(1) Arabic numerals indicating the assigned floor number shall be

(a) except in *hotels*, mounted permanently on the stair side of the wall at the latch side of doors to *exit* stair shafts,

(b) in *hotels*, mounted permanently on each side of the *exit* doors to the *exit* stair shaft,

(c) not less than 60 mm high, raised approximately 0.8 mm above the surface,

(d) located 1 500 mm from the finished floor and not more than 300 mm from the door, and

(e) contrasting in colour with the surface on which they are applied. (See Note A-9.9.11.5.(1)(e))

365. Article 9.10.1.2. of Division B is amended by adding the following Sentence:

(2) Sentence (1) does not apply to a *building* that contains only *dwelling units* and has no *dwelling unit* above another *dwelling unit.*

366. Sentence 9.10.1.3.(5) of Division B is revoked and the following substituted:

(5) Reserved.

367. Articles 9.10.2.1. and 9.10.2.2. of Division B are revoked and the following substituted:

9.10.2.1. Occupancy Classification

(1) Every *building* or part thereof shall be classified according to its *major occupancy* as belonging to one of the groups or divisions described in Table 9.10.2.1.

Table 9.10.2.1.
Occupancy Classification

Forming Part of Sentence 9.10.2.1.(1)

Group	Division	Description of *Major Occupancies*(1)

C	—	*Residential occupancies*
D	—	*Business and personal services occupancies*
E	—	*Mercantile occupancies*
F	2	*Medium-hazard industrial occupancies*
F	3	*Low-hazard industrial occupancies* (Does not include *storage garages* serving individual *dwelling units*)

Notes to Table 9.10.2.1.:

(1) See Note A-3.1.2.1.(1).

9.10.2.2. Reserved

368. Sentence 9.10.3.1.(1) of Division B is revoked and the following substituted:

(1) Where a *fire-resistance rating* or a *fire-protection rating* is required in this Section for an element of a *building*, such rating shall be determined in conformance with

(a) the test methods described in Part 3,

(b) MMAH Supplementary Standard SB-2, "Fire Performance Ratings", or

(c) MMAH Supplementary Standard SB-3, "Fire and Sound Resistance Tables". (See Note A-9.10.3.1.(1))

369. Sentence 9.10.3.2.(1) of Division B is revoked and the following substituted:

(1) Where a *flame-spread rating* is required in this Section for an element of a *building*, such rating shall be determined in accordance with the test methods described in Part 3, or in accordance with MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

370. Sentence 9.10.3.3.(3) of Division B is revoked and the following substituted:

(3) *Firewalls* and interior vertical *fire separations* required to have *fire-resistance ratings* shall be rated for exposure to fire on each side.

371. Sentence 9.10.4.2.(1) of Division B is revoked and the following substituted:

(1) Where more than one level of *mezzanine* is provided in a *storey,* each level additional to the first shall be considered as a *storey*.

372. Sentence 9.10.5.1.(3) of Division B is revoked and the following substituted:

(2.1) Where boxes referred to in Sentence (2) are located on both sides of walls required to provide a *fire-resistance rating*, they shall be offset where necessary to maintain the integrity of the *fire separation*.

(3) A membrane ceiling forming part of an assembly assigned a *fire-resistance rating* on the basis of Table 2 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Tables", is permitted to be pierced by openings leading to ducts within the ceiling space, provided the ducts, the amount of openings and their protection conform to Sentence 9.10.13.14.(1) and the requirements in MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

373. Sentence 9.10.8.1.(1), other than Table 9.10.8.1., of Division B is revoked and the following substituted:

(1) Except as otherwise provided in this Subsection, the *fire-resistance rating* of floors and roofs shall conform to Table 9.10.8.1.

374. Sentence 9.10.8.2.(1) of Division B is revoked and the following substituted:

(1) Except for roofs that support an *occupancy*, the requirements in Table 9.10.8.1. for roof assemblies to have a *fire-resistance rating* are permitted to be waived in *sprinklered buildings* where

(a) the sprinkler system is electrically supervised in conformance with Sentence 3.2.4.9.(3), and

(b) the operation of the sprinkler system will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4).

375. Sentence 9.10.8.3.(2) of Division B is revoked and the following substituted:

(2) Light-frame walls, columns, arches and beams as well as *loadbearing* steel elements that support floors between *dwelling units* in a house with a *secondary suite* including their common spaces shall be protected by not less than 15.9 mm thick Type-X gypsum board**.** (See Note A-9.10.8.3.(2))

376. Article 9.10.8.10. of Division B is revoked and the following substituted:

9.10.8.10. Non-Application to Houses

(1) Table 9.10.8.1. does not apply to

(a) a *dwelling* unit that has no other *dwelling unit* above or below it,

(b) houses with a *secondary suite*, where the floor framing is protected on the underside by a continuous smoke-tight barrier of not less than 15.9 mm thick Type X gypsum board, or

(c) a *dwelling unit* that is not above or below another *major occupancy*.

377. Sentence 9.10.9.3.(2) of Division B is revoked.

378. Sentence 9.10.9.5.(1) of Division B is revoked and the following substituted:

(1) Except as permitted in Article 9.9.4.7., *interconnected floor spaces* shall conform to Subsection 3.2.8.

379. Sentence 9.10.9.11.(1) of Division B is revoked and the following substituted:

(1) Where pockets for the support of beams or joists are formed in a masonry or concrete *fire separation*, the remaining total thickness of masonry and/or grout and/or concrete shall be not less than the required equivalent thickness shown for Type S monolithic concrete in Table 2.1.1. of MMAH Supplementary Standard SB-2, "Fire Performance Ratings", for the required *fire-resistance rating.*

380. Article 9.10.9.13. and 9.10.9.14. of Division B are revoked and the following substituted:

9.10.9.13. Separation of Residential Occupancies

(1) Except as provided in Sentence (2) and (4), *residential occupancies* shall be separated from all other *major occupancies* by a *fire separation* having a *fire-resistance rating* of not less than 1 h.

(2) Except as provided in Sentence (3), a *major occupancy* classified as a *residential occupancy*, including *live/work units*, shall be separated from other *major occupancies* classified as *mercantile* or *medium-hazard industrial occupancies* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

(3) Where not more than two *dwelling units* or *live/work units* are located in a *building* containing a *mercantile occupancy*, such *mercantile occupancy* shall be

separated from the *dwelling units* by a *fire separation* having not less than 1 h *fire-resistance rating*.

(4) The requirement for *fire separations* between *major occupancies* in Sentence (1) is waived for the *occupancies* allowed within *live/work units*.

9.10.9.14. Residential Suites in Industrial Buildings

(1) Except as provided in Sentence (2), not more than one *suite* of *residential occupancy* shall be contained within a *building* classified as a Group F, Division 2 *major occupancy*.

(2) Except where a Group F Division 2 *major occupancy* is directly related to *live/work units*, not more than one *suite* of *residential occupancy* shall be contained within a *building* classified as Group F, Division 2 *major occupancy*.

381. Article 9.10.9.16. of Division B is revoked and the following substituted:

9.10.9.16. Separation of Residential Suites

(1) Except as provided in Sentences (2) and (3) and Article 9.10.21.2., *suites* in *residential occupancies* shall be separated from adjacent rooms and *suites* by a *fire separation* having a *fire-resistance rating* of not less than 45 min.

(2) Sleeping rooms in *boarding, lodging or rooming houses* where sleeping accommodation is provided for not more than 8 boarders or lodgers need not be separated from the remainder of the *floor area* as required in Sentence (1) where the sleeping rooms form part of the proprietor's residence and do not contain cooking facilities.

(3) Except as provided in Sentences (4) and (5), *dwelling units* that contain 2 or more *storeys* including *basements* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 1 h. (See Note A-3.3.4.4.(1))

(4) Walls and floor-ceiling framing in a house with a *secondary suite* that separate *dwelling units* from each other or *dwelling units* from ancillary spaces and common spaces need not comply with Sentence (1), where the walls and floor-ceiling framing are protected by a continuous smoke-tight barrier of not less than 15.9 mm thick Type X gypsum board installed on

(a) both sides of walls, and

(b) the underside of floor-ceiling framing.

(5) The *fire-resistance rating* of the *fire separation* required in Sentence (4) is permitted to be waived where the house with a *secondary suite* is *sprinklered*.

382. Sentences 9.10.9.17.(4) and (5) of Division B are revoked and the following substituted:

(4) Where a *public corridor* is located in a house with a *secondary suite*, a continuous smoke-tight barrier of not less than 15.9 mm thick Type X gypsum board shall be installed on

(a) both sides of walls separating the corridor from the remainder of the *building*, and

(b) the underside of floor-ceiling framing separating the corridor from the remainder of the *building*.

(5) No *fire separation* is required in a *sprinklered floor area* between a *public corridor* and a space containing *plumbing fixtures* required by Article 3.7.4.2. and Section 9.31., provided

(a) the space and the *public corridor* are separated from the remainder of the *storey* by a *fire separation* having a *fire-resistance rating* not less than that required between the *public corridor* and the remainder of the *storey*, and

(b) the *plumbing fixtures* are not located within a *dwelling unit* or *suite.*

383. Sentence 9.10.9.21. of Division B is revoked and the following substituted:

(1) Except as permitted by Sentence 9.10.18.7.(1), a central vacuum system shall serve not more than one *suite*.

384. Sentence 9.10.10.4.(2) of Division B is revoked and the following substituted:

(2) Except as required in the appliance installation standards referenced in Sentences 6.2.1.5.(1), and 9.33.5.3.(1), fuel-fired *space-heating appliances*, space-cooling *appliances*, *service water heaters* and laundry *appliances* need not be separated from the remainder of the building as required in Sentence (1)

(a) where the *appliances* serve

(i) not more than one room or *suite*, or

(ii) a *building* with a *building area* of not more than 400 m^2 and a *building height* of not more than 2 *storeys*, or

(b) where the *appliances*

(i) serve a house with a *secondary suite* including their common spaces, and

(ii) are located in a *service room* where both sides of any wall assemblies and the underside of any floor-ceiling framing separating this room from both *dwelling units* or their common spaces are protected by a continuous smoke-tight barrier consisting of not less than 15.9 mm thick Type X gypsum board.

385. Subsection 9.10.10. of Division B is amended by adding the following Article:

9.10.10.7. Emergency Power Installation

(1) Where a generator intended to supply emergency power for lighting, fire safety and life safety systems is located in a *building*, it shall be located in a room that

a. is separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than

(i) 1 h, if the floor assembly is not required to have a *fire-resistance rating* of more than 1 h, and

(ii) 2 h, if the floor assembly is required to have a *fire-resistance rating* of more than 1 h, and

b. contains only the generating set and equipment that is related to the emergency power supply system.

386. Sentences 9.10.11.2.(1) and (2) of Division B are revoked and the following substituted:

(1) A *party wall* on a property line of a *building* of *residential occupancy* need not be *constructed* as a *firewall*, provided it is *constructed* as *a fire separation* having not less than a 1 h *fire-resistance rating*, where the *party wall* separates

(a) two *dwelling units* where there is no *dwelling unit* above another *dwelling unit*,

(b) a *dwelling unit* and a house with a *secondary suite* including their common spaces, or

(c) two houses with a *secondary suite* including their common spaces.

(2) Reserved.

387. Subsection 9.10.11. of Division B is amended by adding the following Article:

9.10.11.4. Firewalls in Detached Garages

(1) Where a garage is detached from the *dwelling unit* it serves but attached to another garage on the adjacent property, the *party wall* so formed shall be constructed as a *fire separation* having a *fire-resistance rating* of not less than 45 min.

388. Sentence 9.10.12.3.(3) of Division B is revoked and the following substituted:

(3) Where interior walls between *dwelling units*, ancillary spaces or common spaces in a house with a *secondary suite* are not constructed as *fire separations*, the exterior wall of each *dwelling unit*, ancillary space or common space referred to in Sentence (1) within the 1.2 m distance shall be finished on the interior with not less than 15.9 mm thick Type X gypsum board.

389. Sentence 9.10.13.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Article 9.10.13.2., openings in required *fire separations* shall be protected with a *closure* conforming to Table 9.10.13.1. and shall be installed in conformance with NFPA 80, "Standard for Fire Doors and Other Opening Protectives," unless otherwise specified in this Part. (See also Article 9.10.3.1.)

390. Sentence 9.10.13.10.(3) of Division B is revoked and the following substituted:

(2) Self-closing doors are not required between *public corridors* and *suites* in *business and personal services occupancies*, except in dead-end corridors, or a corridor that serves a *hotel*.

391. Sentence 9.10.14.1.(2) of Division B is revoked and the following substituted:

(2) This Subsection does not apply to a house with a *secondary suite*.

392. Sentence 9.10.14.2.(3) of Division B is revoked and the following substituted:

(3) For the purpose of using Table 9.10.14.5. to determine the required type of construction, cladding and *fire-resistance rating* for an irregularly-shaped or skewed exterior wall

(a) the *exposing building face* is permitted to be divided into any number of portions and the *fire-resistance rating*, type of cladding and percentage of *unprotected openings* limitations is permitted to be determined individually for each portion based on the *limiting distance* for each portion so divided,

(b) the *exposing building face* shall be taken as the projection of the exterior wall onto a vertical plane located so that no portion of the exterior wall of the *building* is between the vertical plane and the line to which the *limiting distance* is established in Clause (a), and

(c) for the purpose of determining the actual area of *unprotected openings* permitted in an exterior wall, the *unprotected openings* shall be projected onto the vertical plane established in Clause (b).

(4) The required *limiting distance* for an *exposing building face* is permitted to be measured to a point beyond the property line that is not the centre line of a street, lane or public thoroughfare if

(a) the owners of the properties on which the *limiting distance* is measured and the *municipality* enter into an agreement in which such owners agree that

(i) each owner covenants that, for the benefit of land owned by the other covenantors, the owner will not construct a *building* on his or her property unless the *limiting distance* for *exposing building faces* in respect of the proposed construction is measured in accordance with the agreement,

(ii) the covenants contained in the agreement are intended to run with the lands, and the agreement shall be binding on the parties and their respective heirs, executors, administrators, successors and assigns,

(iii) the agreement shall not be amended or deleted from title without the consent of the *municipality*, and

(iv) they will comply with such other conditions as the *municipality* considers necessary, including indemnification of the *municipality* by the other parties, and

(b) the agreement referred to in Clause (a) is registered against the title of the properties to which it applies.

(5) Where an agreement referred to in Sentence (4) is registered against the title of a property, the *limiting distance* for *exposing building faces* in respect of the construction of any *buildings* on the property shall be measured to the point referred to in the agreement.

393. Articles 9.10.14.3. of Division B is revoked and the following substituted:

9.10.14.3. Reserved

9.10.14.3A. Inadequate Firefight Facilities

(1) Where there is no fire department or where a fire department is not organized, trained and equipped to meet the needs of the community, the required *limiting distance* determined from Sentences 9.10.14.4.(2), (5) and (6) and Sentence 9.10.14.5.(6), shall be doubled for a *building* that is not *sprinklered*.

394. Sentences 9.10.14.4.(1) to (5) of Division B are revoked and the following substituted:

(1) Except as provided in Sentences (6) to (10) and Sentence 9.10.14.6.(1), the maximum aggregate area of *unprotected openings* in an *exposing building face* shall

(a) conform to Table 9.10.14.4.,

(b) conform to Subsection 3.2.3., or

(c) where the *limiting distance* is not less than 1.2 m, be equal to or less than

(i) the *limiting distance* squared, for *residential occupancies, business and personal services occupancies* and *low-hazard industrial occupancies*, and

(ii) half the *limiting distance* squared, for *mercantile occupancies* and *medium-hazard industrial occupancies*.

Table 9.10.14.4.
Maximum Aggregate Area of Unprotected Openings in Exterior Walls

Forming Part of Sentence 9.10.14.4.(1)

Occupancy Classification of *Building*	Maximum Total Area of *Exposing Building Face*, m²	Maximum Aggregate Area of *Unprotected Openings*, % of *Exposing Building Face* Area													
		Limiting Distance, m													
		Less than 1.2	1.2	1.5	2	2.5	3	4	6	8	10	12	16	20	25
Residential, *business and personal services*, and *low-hazard industrial*	10	0	8	12	21	33	55	96	100	100	100	100	100	100	100
	15	0	8	10	17	25	37	67	100	100	100	100	100	100	100
	20	0	8	10	15	21	30	53	100	100	100	100	100	100	100
	25	0	8	9	13	19	26	45	100	100	100	100	100	100	100
	30	0	7	9	12	17	23	39	88	100	100	100	100	100	100
	40	0	7	8	11	15	20	32	69	100	100	100	100	100	100
	50	0	7	8	10	14	18	28	57	100	100	100	100	100	100
	100	0	7	8	9	11	13	18	34	56	84	100	100	100	100
	Over 100	0	7	7	8	9	10	12	19	28	40	55	92	100	100
	10	0	4	6	10	17	25	48	100	100	100	100	100	100	100

Mercantile and *medium-hazard industrial*	15	0	4	5	8	13	18	34	82	100	100	100	100	100	100
	20	0	4	5	7	11	15	27	63	100	100	100	100	100	100
	25	0	4	5	7	9	13	22	51	94	100	100	100	100	100
	30	0	4	4	6	9	12	20	44	80	100	100	100	100	100
	40	0	4	4	6	8	10	16	34	61	97	100	100	100	100
	50	0	4	4	5	7	9	14	29	50	79	100	100	100	100
	100	0	4	4	4	5	6	9	17	28	42	60	100	100	100
	Over 100	0	4	4	4	4	5	6	10	14	20	27	46	70	100

(2) Except as provided in Sentence 9.10.14.6.(1), openings in a wall having a *limiting distance* of less than 1.2 m shall be protected by *closures*, of other than wired glass or glass block, whose *fire-protection rating* is in conformance with the *fire-resistance rating* required for the wall.

(3) Reserved.

(4) Reserved.

(5) Reserved.

395. Article 9.10.14.5. of Division B is revoked and the following substituted:

9.10.14.5. Construction of Exposing Building Face and Walls Above Exposing Building Face

(1) Except as permitted in Sentences (4) to (14), each *exposing building face* and any exterior wall located above an *exposing building face* that encloses an *attic or roof space* shall be constructed in conformance with Table 9.10.14.5. and Subsection 9.10.8. (See Note A-9.10.14.5.(1))

Table 9.10.14.5.
Minimum Construction Requirements for Exposing Building Faces

Forming Part of Sentence 9.10.14.5.(1)

Occupancy Classification of *Building*	Maximum Area of *Unprotected Openings* Permitted, % of *Exposing Building Face* Area	Minimum Required *Fire-Resistance Rating*	Type of Construction Required	Type of Cladding Required
Residential, *business and personal services*, and *low-hazard industrial*	0 to 10	1h	*Noncombustible*	*Noncombustible*
	> 10 but ≤25	1h	*Combustible* or *noncombustible*	*Noncombustible*
	> 25 to < 100	45 min	*Combustible* or *noncombustible*	*Combustible* or *noncombustible*
Mercantile and	0 to 10	2h	*Noncombustible*	*Noncombustible*

medium-hazard industrial	> 10 but ≤25	2h	*Combustible* or *noncombustible*	*Noncombustible*
	> 25 to < 100	1h	*Combustible* or *noncombustible*	*Combustible* or *noncombustible*

(2) Cladding on *exposing building faces* and exterior walls located above *exposing building faces* need not conform to the type of cladding required by Table 9.10.14.5. where

(a) the *exposing building face* is constructed with no *unprotected openings*,

(b) the *limiting distance* is not less than 0.6 m, and

(c) the cladding

(i) conforms to Subsection 9.27.12.,

(ii) is installed without furring members over not less than 12.7 mm thick gypsum sheathing or over masonry,

(iii) has a *flame-spread rating* not more than 25 when tested in accordance with Sentence 3.1.12.1.(2), and

(iv) is not more than 2 mm in thickness exclusive of fasteners, joints and local reinforcements.

(3) Reserved.

(4) Except as provided in Sentence (5), where a garage or *accessory building* serves one *dwelling unit* only and is detached from any *building*, the *exposing building face*

(a) need not conform to the minimum required *fire-resistance rating* stated in Table 9.10.14.5., where the *limiting distance* is 0.6 m or more,

(b) shall have a *fire-resistance rating* of not less than 45 min, where the *limiting distance* is less than 0.6 m, and

(c) need not conform to the type of cladding and type of construction required by Table 9.10.14.5., regardless of the *limiting distance*.

(5) The requirements regarding *fire-resistance rating*, type of construction and type of cladding need not apply to the *exposing building face* of a detached garage or *accessory building* facing a *dwelling unit*, where

(a) the detached garage or *accessory building* serves only one *dwelling unit*,

(b) the detached garage or *accessory building* is located on the same property as that *dwelling unit*, and

(c) the *dwelling unit* served by the detached garage or *accessory building* is the only *major occupancy* on the property.

(6) Except for *buildings* containing one or two *dwelling units* only, *combustible* projections on the exterior of a wall that are more than 1 m above ground level and that could expose an adjacent *building* to fire spread shall not be permitted within

(a) 1.2 m of a property line or the centre line of a public way, or

(b) 2.4 m of a combustible projection on another *building* on the same property.

(7) Reserved.

(8) Reserved.

(9) Reserved.

(10) Reserved.

(11) Reserved.

(12) Where roof soffits project to less than 1.2 m from the property line, the centre line of a public way, or an imaginary line between two *buildings* or *fire compartments* on the same property, they shall

(a) have no openings, and

(b) be protected by

(i) not less than 0.38 mm thick sheet steel,

(ii) unvented aluminum conforming to CAN/CGSB-93.2-M, "Prefinished Aluminum Siding, Soffits, and Fascia, for Residential Use,"

(iii) not less than 12.7 mm thick gypsum soffit board or gypsum ceiling board installed according to CSA A82.31-M, "Gypsum Board Application,"

(iv) not less than 11 mm thick plywood,

(v) not less than 12.5 mm thick OSB or waferboard, or

(vi) not less than 11 mm thick lumber. (See Note A-3.2.3.6.(2))

(13) Heavy timber and steel columns need not conform to the requirements of Sentence (1), provided the *limiting distance* is not less than 3 m.

(14) Non-*loadbearing* wall components need not have a minimum *fire-resistance rating*, where the *building*

(a) is 1 *storey* in *building height*,

(b) is of *noncombustible construction*,

(c) is classified as a *low-hazard industrial occupancy* and used only for low *fire load occupancies*, such as power-generating plants or plants for the manufacture or storage of *noncombustible* materials, and

(d) has a *limiting distance* of 3 m or more.

9.10.14.6. Minor Openings in Exposing Building Face

(1) An opening in an *exposing building face* not more than 130 cm^2 shall not be considered an *unprotected opening*.

396. (1) Sentences 9.10.15.2.(1) and (2) of Division B are revoked and the following substituted:

(1) The area of an *exposing building face* shall be

(a) taken as the exterior wall area facing in one direction on any side of a *building*, and

(b) calculated as

(i) the total area measured from the finished ground level to the uppermost ceiling,

(ii) the area for each *fire compartment*, where a *building* is divided into *fire compartments* by *fire separations* with *fire-resistance ratings* not less than 45 min, or

(iii) where Table 9.10.15.4. is used to determine the maximum aggregate area of glazed openings, the area of any number of individual portions of the *exposing building face*. (See Note A-9.10.15.4.(2).)

(2) Reserved.

(2) Article 9.10.15.2. of Division B is amended by adding the following Sentences:

(5) The required *limiting distance* for an *exposing building face* is permitted to be measured to a point beyond the property line that is not the centre line of a street, lane or public thoroughfare if

(a) the owners of the properties on which the limiting distance is measured and the *municipality* enter into an agreement in which such owners agree that

(i) each owner covenants that, for the benefit of land owned by the other covenantors, the owner will not construct a *building* on his or her property unless the *limiting distance* for *exposing building faces*

in respect of the proposed construction is measured in accordance with the agreement,

(ii) the covenants contained in the agreement are intended to run with the lands, and the agreement shall be binding on the parties and their respective heirs, executors, administrators, successors and assigns,

(iii) the agreement shall not be amended or deleted from title without the consent of the *municipality*, and

(iv) they will comply with such other conditions as the *municipality* considers necessary, including indemnification of the *municipality* by the other parties, and

(b) the agreement referred to in Clause (a) is registered against the title of the properties to which it applies.

(6) Where an agreement referred to in Sentence (5) is registered against the title of a property, the *limiting distance* for *exposing building faces* in respect of the construction of any *buildings* on the property shall be measured to the point referred to in the agreement.

397. Article 9.10.15.3. of Division B is revoked and the following substituted:

9.10.15.3. Reserved

9.10.15.3A. Inadequate Firefighting Facilities

(1) Where there is no fire department or where a fire department is not organized, trained and equipped to meet the needs of the community, the required *limiting distance* determined from Sentences 9.10.15.4.(2) and (5) and Sentence 9.10.15.5.(6), shall be doubled for a *building* that is not *sprinklered* throughout.

398. Article 9.10.15.4. of Division B is revoked and the following substituted:

9.10.15.4. Glazed Openings in Exposing Building Face

(1) Except as provided in Sentences (6) to (9), the maximum aggregate area of glazed openings in an *exposing building face* shall

(a) conform to Table 9.10.15.4.,

(b) conform to Subsection 3.2.3., or

(c) where the *limiting distance* is not less than 1.2 m, be equal to or less than the *limiting distance* squared.

Table 9.10.15.4.
Maximum Area of Glazed Openings in Exterior Walls of Houses
Forming Part of Subclause 9.10.15.2.(1)(b)(iii) and Sentences 9.10.15.4.(1) and (2)

Maximum Total Area of *Exposing Building Face*, m²	Maximum Aggregate Area of Glazed Openings, % of *Exposing Building Face* Area													
	Limiting Distance, m													
	Less than 1.2	1.2	1.5	2	2.5	3	4	6	8	10	12	16	20	25
10	0	8	12	21	33	55	96	100	100	100	100	100	100	100
15	0	8	10	17	25	37	67	100	100	100	100	100	100	100
20	0	8	10	15	21	30	53	100	100	100	100	100	100	100
25	0	8	9	13	19	26	45	100	100	100	100	100	100	100
30	0	7	9	12	17	23	39	88	100	100	100	100	100	100
40	0	7	8	11	15	20	32	69	100	100	100	100	100	100
50	0	7	8	10	14	18	28	57	100	100	100	100	100	100
100	0	7	8	9	11	13	18	34	56	84	100	100	100	100
Over 100	0	7	7	8	9	10	12	19	28	40	55	92	100	100

(2) Where the limits on the area of glazed openings are determined for individual portions of the *exposing building face*, as described in Subclause 9.10.15.2.(1)(b)(iii), the maximum aggregate area of glazed openings for any portion shall be determined using the values in Table 9.10.15.4. corresponding to

(a) the maximum total area of *exposing building face*, which is equal to the sum of all portions of the *exposing building face*, and

(b) the *limiting distance* of each portion. (See Note A-9.10.15.4.(2))

(3) Reserved.

(4) Reserved.

(5) Reserved.

(6) The limits on the area of glazed openings shall not apply to the *exposing building face* of a *dwelling unit* facing a detached garage or accessory *building*, where

(a) the detached garage or accessory *building* serves only one *dwelling unit*,

(b) the detached garage or accessory *building* is located on the same property as that *dwelling unit*, and

(c) the *dwelling unit* served by the detached garage or accessory *building* is the only *major occupancy* on the property.

(7) The maximum aggregate area of glazed openings in an *exposing building face* is permitted to be up to twice the area determined in accordance with Sentence (1), where

(d) the glazed openings consist of glass blocks, as described in Article 9.10.13.7., or

(e) the *building* is *sprinklered*, provided all rooms, including closets, bathrooms and attached garages, that are adjacent to the *exposing building face* and that have glazed openings are *sprinklered*, notwithstanding any exemptions in the sprinkler standards referenced in Article 3.2.5.12.

(8) Except as provided in Sentence (9), openings in a wall having a *limiting distance* of less than 1.2 m shall be protected by *closures*, of other than wired glass or glass block, whose *fire-protection rating* is in conformance with the *fire-resistance rating* required for the wall.

(9) An opening in an *exposing building face* not more than 130 cm^2 need not be protected by a *closure*.

399. Article 9.10.15.5. of Division B is revoked and the following substituted:

9.10.15.5. Construction of Exposing Building Face of Houses

(1) Except as provided in Sentences (1.1), (2), (4) and (6), each *exposing building face* and any exterior wall located above an *exposing building face* that encloses an *attic or roof space* shall be constructed in conformance with Subsection 9.10.8.

(a) for the *exposing building face* as a whole, or

(b) for any number of separate portions of the *exposing building face.*

(1.1) Sentence (1) does not apply where

(a) the *limiting distance* is not less than 1.2 m,

(b) the *limiting distance* is less than 1.2 m but not less than 0.6 m, provided that the *exposing building face* has a *fire-resistance rating* of not less than 45 min, or

(c) the *limiting distance* is less than 0.6 m, provided that the *exposing building face* has a *fire-resistance rating* of not less than 45 min and is clad with *noncombustible* material.

(2) Except as provided in Sentences (4) and (5), where the *limiting distance* is less than 0.6 m, the *exposing building face* and exterior walls located above *the exposing building face* that enclose an *attic or roof space* shall have a *fire-resistance rating* of not less than 45 min, and

(a) the cladding shall be metal or *noncombustibl*e cladding installed in accordance with Section 9.20., 9.27. or 9.28. (see Note A-9.10.14.5.(1)),

(b) the cladding shall

(i) conform to Subsection 9.27.12.,

(ii) be installed without furring members over gypsum sheathing at least 12.7 mm thick or over masonry,

(iii) have a *flame-spread rating* not greater than 25 when tested in accordance with Sentence 3.1.12.1.(2), and

(iv) not exceed 2 mm in thickness exclusive of fasteners, joints and local reinforcements, or

(c) the wall assembly shall comply with Clause 3.1.5.5.(1)(b) when tested in conformance with CAN/ULC-S134, "Standard Method of Fire Test of Exterior Wall Assemblies."

(3) Reserved.

(4) The requirements regarding *fire-resistance rating* and type of cladding-sheathing assembly shall not apply to the *exposing building face* or projections from an *exposing building face* of a *dwelling unit* facing a detached garage or *accessory building*, or a garage or *accessory building* facing a *dwelling unit*, where

(a) the detached garage or *accessory building* serves only one *dwelling unit*,

(b) the detached garage or *accessory building* is located on the same property as that *dwelling unit*, and

(c) the *dwelling unit* served by the detached garage or *accessory building* is the only *major occupancy* on the property.

(5) Except for *buildings* containing 1 or 2 *dwelling units* only, *combustible* projections on the exterior of a wall that are more than 1 m above ground level and that could expose an adjacent *building* to fire spread shall not be permitted within

(a) 1.2 m of a property line or the centre line of a *public way*, or

(b) 2.4 m of a *combustible* projection on another *building* on the same property.

(6) Reserved.

(7) Reserved.

(8) Reserved.

(9) Reserved.

(10) Reserved.

(11) Reserved.

(12) Reserved.

(13) Heavy timber and steel columns need not conform to the requirements of Sentence (1), provided the *limiting distance* is not less than 3 m.

400. Sentences 9.10.16.1.(1) and (2) of Division B are revoked and the following substituted:

(1) Concealed spaces in interior walls, ceilings, floors and crawl spaces shall be separated by *fire blocks* from concealed spaces in exterior walls and *attic or roof spaces*.

(2) Reserved.

401. Sentence 9.10.17.10.(3) of Division B is revoked and the following substituted:

(3) Thermosetting foamed plastic insulation having a *flame-spread rating* of not more than 200 is permitted to be used in factory-assembled doors in *storage garages* serving *buildings* of *residential occupancy* provided that

(a) the insulation is covered on the interior with a metallic foil,

(b) the assembly has a *flame-spread rating* of not more than 200, and

(c) the assembly incorporates no air spaces.

402. Sentence 9.10.18.2.(1) of Division B is revoked and the following substituted:

(1) Reserved.

(2) Sentences 9.10.18.2.(3) and (4) of Division B are revoked and the following substituted:

(3) Reserved.

(4) Reserved.

403. Sentences 9.10.18.3.(1) and (2) of Division B are revoked and the following substituted:

(1) Except as stated in Sentence (2) and as required by this Subsection, where fire alarm, fire detection and smoke detection devices and systems are installed, these devices and systems and their installation shall conform to Subsection 3.2.4., 3.2.7.8. and 3.2.7.10. (See Note A-9.10.18.3.(1))

(2) The following Articles in Subsection 3.2.4. regarding fire alarm systems do not apply to Part 9 *buildings*: Articles 3.2.4.1., 3.2.4.10., 3.2.4.11., 3.2.4.12., 3.2.4.13., 3.2.4.20 and 3.2.4.22.

404. Sentence 9.10.18.4.(3) of Division B is revoked and the following substituted:

(3) Except as required in Sentence (4), *heat detectors* and *smoke detectors* described in Sentence (2) are not required in *dwelling units* or in *sprinklered buildings* in which the sprinkler system is electrically supervised and equipped with a water flow alarm.

(4) Where a fire alarm system is required in a *hotel*, *heat detectors* shall be installed in every room in a *suite* and in every room not located in a *suite* in a *floor area* containing a *hotel*, other than washrooms within a *suite*, saunas, refrigerated areas and swimming pools.

405. Subsection 9.10.18. of Division B is amended by adding the following Articles:

9.10.18.9. Fire Alarm System in a Hotel

(1) If a fire alarm system is required in a *building* containing a *hotel*, a single stage fire alarm system shall be provided.

9.10.18.10. Commissioning of Life Safety and Fire Protection Systems

(1) Where fire protection and life safety systems, and systems with fire protection and life safety functions, are integrated with each other, the systems shall be tested as a whole in accordance with CAN/ULC-S1001, "Integrated Systems Testing of Fire Protection and Life Safety Systems," to verify that the systems have been properly integrated.

(2) Sentence (1) does not apply to a *building* that contains only *dwelling units* and has no *dwelling unit* above another *dwelling unit*.

406. Article 9.10.19.1. of Division B is revoked and the following substituted:

9.10.19.1. Required Smoke Alarms (See Notes A-9.10.19.1. and A-9.10.19.3.)

(1) Except as permitted by Article 9.10.19.8., *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*.

(2) *Smoke alarms* required in Sentence (1) shall have a visual signalling component conforming to the requirements in 18.5.3. (Light, Color and Pulse Characteristics) of NFPA 72, "National Fire Alarm and Signaling Code".

(3) The visual signalling component required in Sentence (2) need not

(a) be integrated with the smoke alarm provided it is interconnected to it,

(b) be on battery backup, or

(c) have synchronized flash rates, when installed in a house with a *secondary suite* or an individual *dwelling unit*.

(4) The luminous intensity for visual signalling components required in Sentence (2) that are installed in sleeping rooms shall be a minimum of 175 cd.

407. Article 9.10.19.3. of Division B is revoked and the following substituted:

9.10.19.3. Location of Smoke Alarms (See Notes A-9.10.19.1. and A-9.10.19.3.)

(1) Except as permitted in Article 9.10.19.8., within *dwelling units*, sufficient *smoke alarms* shall be installed so that

(a) there is at least one *smoke alarm* installed on each *storey*, including *basements,* and

(b) on any *storey* of a *dwelling unit* containing sleeping rooms, a *smoke alarm* is installed

(i) in each sleeping room, and

(ii) 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. (See Note A-9.10.19.3.(1))

(1.1) Except as permitted in Article 9.10.19.8., within a house with a *secondary suite* that contains an interior shared *means of egress* or common area, a *smoke alarm* shall be installed in each shared *means of egress* and common area.

(2) A *smoke alarm* required by Sentences (1) and (1.1) shall be installed in conformance with CAN/ULC-S553, "Standard for the Installation of Smoke Alarms."

(3) *Smoke alarms* required in Article 9.10.19.1. and Sentences (1) and (1.1) shall be installed on or near the ceiling.

(4) A *smoke alarm* required in Sentences (1) and (1.1) shall have a visual signalling component conforming to the requirements in 18.5.3. (Light, Color and Pulse Characteristics) of NFPA 72, "National Fire Alarm and Signaling Code".

(5) The visual signalling component required in Sentence (4) need not

(a) be integrated with the smoke alarm provided it is interconnected to it,

(b) be on battery backup, or

(c) have synchronized flash rates, when installed in a house with a secondary suite or an individual dwelling unit.

(6) The luminous intensity for visual signalling components required in Sentence (4) that are installed in sleeping rooms shall be a minimum of 175 cd.

408. Sentence 9.10.19.4.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2) and (3), *smoke alarms* described in Sentence 9.10.19.1.(1) and 9.10.19.3.(1.1) shall

(a) be installed with permanent connections to an electrical circuit (see Note A-3.2.4.20.(9)(a)),

(b) have no disconnect switch between the overcurrent device and the *smoke alarm*, and

(c) in case the regular power supply to the *smoke alarm* is interrupted, be provided with a battery as an alternative power source that can continue to provide power to the *smoke alarm* for a period of no less than 7 days in the normal condition, followed by 4 minutes of alarm.

409. Sentence 9.10.20.4.(1) of Division B is revoked and the following substituted:

(1) Portable extinguishers shall be installed in all *buildings*, except within *dwelling units*, in conformance with the provisions of the Fire Code made under the *Fire Protection and Prevention Act, 1997*.

410. Sentence 9.10.21.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Articles 9.10.21.2. to 9.10.21.9., *camps for housing of workers* in construction camps shall conform to Subsections 9.10.1. to 9.10.20.

411. Sentence 9.10.21.2.(1) of Division B is revoked and the following substituted:

(1) Except for sleeping rooms within *dwelling units*, sleeping rooms in a *building* in a *camp for housing of workers* shall be separated from each other and from the remainder of the *building* by a *fire separation* having not less than a 30 min *fire-resistance rating*.

412. Sentence 9.10.21.3.(1) of Division B is revoked and the following substituted:

(1) Except in a *dwelling unit*, a floor assembly in a *building* in a *camp for housing of workers* separating the *first storey* and the second *storey* shall be constructed as a *fire separation* having not less than a 30 min *fire-resistance rating*.

413. Sentence 9.10.21.5.(1) of Division B is revoked and the following substituted:

(1) *Buildings* in a *camp for housing of workers* shall be separated from each other by a distance of not less than 10 m except as otherwise permitted in Subsection 9.10.14.

414. Sentence 9.10.21.7.(1) of Division B is revoked and the following substituted:

(1) Except in *dwelling units*, corridors providing *access to exit* from sleeping rooms in every *building* in a *camp for housing of workers* with sleeping accommodation for more than 10 persons shall be provided with a *smoke detector* connected to the *building* alarm system.

415. Sentence 9.10.21.8.(1) of Division B is revoked and the following substituted:

(1) Each *building* in a *camp for housing of workers* shall be provided with portable fire extinguishers in conformance with the provisions of the Fire Code made under the *Fire Protection and Prevention Act, 1997.*

416. Sentence 9.10.21.9.(1) of Division B is revoked and the following substituted:

(1) Every *building* in a *camp for housing of workers* providing sleeping accommodation for more than 30 persons shall be provided with a hose station that is

protected from freezing and is equipped with a hose of sufficient length so that every portion of the *building* is within reach of a hose stream.

417. Sentence 9.10.22.1.(1) of Division B is revoked and the following substituted:

(1) Reserved.

418. Article 9.11.1.1. of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (3) a *dwelling unit* and a *suite* in a *hotel* shall be separated from every other space in a *building* in which noise may be generated by

(a) a separating assembly and adjoining constructions, which, together, provide an *apparent sound transmission class (ASTC)* rating of not less than 47, or

(b) a separating assembly that provides a *sound transmission class (STC)* rating of 50 and adjoining constructions that conform to Article 9.11.1.4.

(2) Reserved.

(3) Construction separating a *dwelling unit* or *suite* in a *hotel* from an elevator shaft or refuse chute shall have an *STC* rating of not less than 55.

419. Sentences 9.11.1.3.(1) and (2) of Division B are revoked and the following substituted:

(1) Compliance with the required *STC* ratings shall be demonstrated through

(a) measurements carried out in accordance with Sentence 9.11.1.2.(1), or

(b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, “Fire and Sound Resistance Tables”, as applicable.

(2) Compliance with the required *ASTC* ratings shall be demonstrated through

(a) measurements or calculations carried out in accordance with Sentence 9.11.1.2.(2), or

(b) the construction of separating assemblies conforming to Table 1 or 2 of MMAH Supplementary Standard SB-3, “Fire and Sound Resistance Tables”, as applicable, that have an *STC* rating of not less than 50 in conjunction with flanking assemblies constructed in accordance with Article 9.11.1.4.

420. Table 9.11.1.4. of Division B is revoked and the following substituted:

Table 9.11.1.4.
Floor Treatments for Flanking Wood-Framed Floor Assemblies in Horizontally Adjoining Spaces

Forming Part of Sentence 9.11.1.4.(4)

Type of Separating Wall Assembly with *STC* ≥ 50 from MMAH Supplementary Standard SB-3, "Fire and Sound Resistance Tables"	Minimum Requirements for Floor Treatments Applied over Subfloor of Wood-Framed Flanking Floor Assemblies on Both Sides of Floor/Wall Junction
W5, W6, W10, W12 (staggered studs)	• Wood strip flooring not less than 16 mm thick aligned parallel to separating wall, • one layer OSB or plywood not less than 15.5 mm thick plus finished flooring, or • one additional material layer plus finished flooring having a combined mass per area not less than 8 kg/m^2[(1)]
W4, W11 (staggered studs)	• One layer of OSB or plywood not less than 12.5 mm thick plus hardwood strip flooring not less than 19 mm thick aligned parallel to separating wall, or • one additional material layer plus finished flooring having a combined mass per area 16 kg/m^2[(1)]
W8, W9 (staggered studs)	• Concrete or gypsum concrete topping not less than 19 mm thick bonded to the subfloor plus finished flooring, or • one additional material layer plus finished flooring having a combined mass per area not less than 32 kg/m^2[(1)]

W13, W14, W15 (double stud walls)	• Where a continuous subfloor or other rigid materials at the floor/wall junction provide structural connection between the two rows of studs in the separating wall:
	  ◦ hardwood strip flooring not less than 16 mm thick aligned parallel to separating wall,
	  ◦ one layer OSB or plywood not less than 15.5 mm thick plus finished flooring, or
	  ◦ one additional material layer plus finished flooring having a combined mass per area not less than 8 kg/m^2.[(1)]
	• Any finished flooring where the subfloor and other rigid materials are not connected at the floor/wall junction and where there are no structural connections between the two rows of studs in the separating wall

B1 to B10	• Any finished flooring

Notes to Table 9.11.1.4.:

(1) See Note A-Table 9.11.1.4.

421. Subsection 9.12.1. of Division B is amended by adding the following Article:

9.12.1.4. Precautions During Excavation

(1) Every *excavation* shall be undertaken in such a manner to prevent damage to adjacent property, existing structures, utilities, roads and sidewalks at all stages of construction.

(2) Material shall not be placed nor shall equipment be operated or placed in or adjacent to an *excavation* in a manner that may endanger the integrity of the *excavation* or its supports.

422. (1) Sentence 9.12.2.2.(6) of Division B is revoked and the following substituted:

(6) The *foundation* depths required by Sentence (1) do not apply to *foundations* for

(a) *buildings*

(i) that are not of masonry or masonry veneer construction, and

(ii) whose superstructure conforms to the requirements of the deformation resistance test in CSA Z240.2.1, "Structural requirements for manufactured homes," or

(b) accessory *buildings*

(i) that are not of masonry or masonry veneer construction,

(ii) not more than 1 *storey* in *building height*,

(iii) not more than 55 m^2 in *building area*, and

(iv) where the distance from finished ground to the underside of the floor joists is not more than 600 mm.

(2) Sentence 9.12.2.2.(8) of Division B is revoked.

423. Sentence 9.12.3.3.(2) of Division B is revoked and the following substituted:

(2) Except as provided in Sentence (3), backfill shall not contain pyritic material or material that is susceptible to ice lensing in concentrations that will damage the *building* to a degree that would adversely affect its stability or the performance of assemblies separating dissimilar environments. (See Note A-9.4.4.4.(1))

424. Subsection 9.12.3. of Division B is amended by adding the following Article:

9.12.3.4. Lateral Support of Foundation Wall

(1) Where the height of *foundation* wall is such that lateral support is required, or where the required concrete strength of the wall has not been reached, the wall shall be braced or laterally supported before backfilling.

425. Article 9.13.2.1. of Division B is revoked and the following substituted:

9.13.2.1. Required Dampproofing

(1) Except as provided in Sentence (4) and Article 9.13.3.1., where the exterior finished ground level is at a higher elevation than the ground level inside the *foundation* walls, exterior surfaces of f*oundation* walls below ground level shall be dampproofed.

(2) Except as provided in Sentence (3) and Article 9.13.3.1., floors-on-ground shall be dampproofed.

(3) Floors in garages, floors in unenclosed portions of *buildings* and floors installed over granular fill in conformance with Article 9.16.2.1. need not be dampproofed.

(4) Damproofing in Sentence (1) is not required where the exterior surfaces of *foundation* walls below ground level are waterproofed.

426. Subsection 9.13.2. of Division B is amended by adding the following Article:

9.13.2.7. Dampproofing of Preserved Wood Foundation Walls

(1) Preserved wood *foundation* walls shall be dampproofed as described in CSA S406, “Specification of permanent wood foundations for housing and small buildings.”

427. Article 9.13.4.1. of Division B is amended by adding the following Sentence:

(3) In areas of the province where radon gases are known to be a problem, the *building* shall be designed and constructed to meet the radon limitations in Article 9.1.1.7.

428. Sentence 9.13.4.2.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (1.1), all wall, roof and floor assemblies in contact with the ground shall be constructed to resist the leakage of *soil* gas from the ground into the *building* in accordance with Subsection 9.25.3. or MMAH Supplementary Standard SB-9, "Requirements for Soil Gas Control".

(1.1) Construction to resist leakage of *soil* gas into the *building* is not required for garages and unenclosed portions of *buildings*.

(1.2) Where polyethylene is used to provide a barrier to *soil* gas ingress through floors-on-ground, it shall conform to CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet, for Use in Building Construction".

429. Article 9.14.2.1. of Division B is revoked and the following substituted:

9.14.2.1. Foundation Wall Drainage

(1) Unless it can be shown to be unnecessary, drainage shall be provided at the bottom of every *foundation* wall that contains the *building* interior.

(1.1) Except as provided in Sentences (3) and (4), where the insulation on a *foundation* wall extends to more than 900 mm below the adjacent exterior ground level

(a) a drainage layer shall be installed adjacent to the exterior surface of a *foundation* wall consisting of

(i) not less than 19 mm mineral fibre insulation with a density of not less than 57 kg/m^3, or

(ii) not less than 100 mm of free draining granular material, or

(b) a system shall be installed that can be shown to provide equivalent performance to that provided by the materials described in Clause (a). (See Note A-9.14.2.1.(1.1))

(2) Where mineral fibre insulation, crushed *rock* backfill or other drainage layer medium is provided adjacent to the exterior surface of a *foundation* wall

(a) the insulation, backfill or other drainage layer medium shall extend to the footing level to facilitate the drainage of ground water to the *foundation*'s drainage system and (See Note A-9.14.2.1.(1.1))

(b) any pyritic material in the crushed *rock* shall be limited to a concentration that will not damage the *building* to a degree that would adversely affect its

stability or the performance of assemblies separating dissimilar environments. (See Note A-9.4.4.4.(1)) (see Sentence 9.12.3.3.(2))

(3) Except when the insulation provides the drainage layer required in Clause (2)(a), when exterior insulation is provided, the drainage layer shall be installed on the exterior face of the insulation.

(4) The drainage layer required in Sentence (2) is not required

(a) when the *foundation* wall is not required to be dampproofed, or

(b) when the *foundation* wall is waterproofed.

(5) Where drainage is required in Sentence (1), the drainage shall conform to Subsection 9.14.3. or 9.14.4.

430. Sentence 9.14.4.1.(1) of Division B is revoked and the following substituted:

(1) Granular material used to drain the bottom of a *foundation* shall consist of a continuous layer of crushed stone or other coarse clean granular material containing

(a) not more than 10% of material that will pass a 4 mm sieve, and

(b) no pyritic material in a concentration that would adversely affect its stability or the performance of assemblies separating dissimilar environments.

431. Sentence 9.14.6.1.(1) of Division B is revoked and the following substituted:

(1) The *building* shall be located or the *building* site graded so that water will not accumulate at or near the *building* and will not adversely affect adjacent properties.

432. Sentence 9.14.6.2.(1) of Division B is revoked and the following substituted:

(1) Surface drainage shall be directed away from the location of a water supply well or *leaching bed*.

433. Article 9.15.1.1. of Division B is amended by adding the following Sentences:

(3) Where a *foundation* is erected on filled ground, peat or sensitive clay, the footing sizes shall be designed in conformance with Section 4.2.

(4) For the purpose of Sentence (3), sensitive clay means the grain size of the majority of the particles is smaller than 0.002 mm, including leda clay.

434. Sentence 9.15.3.2.(2) of Division B is revoked and the following substituted:

(2) Granular *fill* shall not contain pyritic material in a concentration that would adversely affect its stability or the performance of assemblies separating dissimilar environments. (See also Article 9.4.4.4. and Note A-9.4.4.4.(1))

435. Article 9.15.4.2. of Division B is amended by adding the following Sentence:

(2.1) *Foundation* walls made of flat insulating concrete form units shall be laterally supported at the top and at the bottom.

436. (1) Sentence 9.15.4.5.(1) of Division B is revoked and the following substituted:

(1) Horizontal reinforcement in flat insulating concrete form *foundation* walls shall

(a) consist of

(i) one 10M bar placed not more than 300 mm from the top of the wall, and

(ii) 10M bars spaced not more than 600 mm o.c., and

(b) be located

(i) in the inside half of the wall section, and

(ii) with a minimum cover of 30 mm from the inside face of the concrete.

(2) Sentence 9.15.4.5.(3) of Division B is revoked and the following substituted:

(3) Cold joints in flat insulating concrete form *foundation* walls shall be reinforced with at least one 15M bar spaced not more than 600 mm o.c. and embedded not less than 300 mm on both sides of the joint.

437. Sentence 9.17.2.2.(3) of Division B is revoked and the following substituted:

(3) Columns need not be provided with lateral support as described in Sentence (2), where

(a) the length of the columns are not more than 600 mm measured from the finished ground to the underside of the supported member, and

(b) the columns support a deck with no superstructure.

438. Sentence 9.17.3.3.(1) of Division B is revoked and the following substituted:

(1) Exterior steel columns susceptible to corrosion shall be treated on the outside surface with at least one coat of rust-inhibitive paint.

439. Sentence 9.17.3.4.(2) of Division B is revoked and the following substituted:

(2) Adjustable steel columns other than those described in Sentence (1) shall be designed in accordance with Part 4.

440. Subsection 9.17.4. of Division B is amended by adding the following Article:

9.17.4.4. Wood Column Termite Protection

(1) Where termites are known to exist, exterior wood columns, such as porch supports, shall be

(a) pressure-treated with a chemical that is toxic to such termites, in accordance with Article 9.3.2.9., or

(b) supported on non-cellulosic material extending not less than 150 mm above the finished ground and shall be located not less than 50 mm from the exterior wall of an adjacent *building*.

441. Sentence 9.18.1.1.(1) of Division B is revoked and the following substituted:

(1) In this Section a crawl space refers to an enclosed space between the underside of a floor assembly and the ground cover directly below, with a clearance less than 1 800 mm in height.

442. Sentence 9.18.1.3.(1) of Division B is revoked and the following substituted:

(1) Crawl spaces shall be considered to be heated where the space

(a) is used as a warm air *plenum*,

(b) contains heating ducts or heating pipes that are not sealed and insulated to minimize heat loss to the space, or

(c) is not separated from heated space in accordance with Section 9.25.

443. Sentences 9.18.7.1.(3) and (4) of Division B are revoked and the following substituted:

(3) *Combustible* ground cover used as enclosing material in Sentence (2) shall be covered with *noncombustible* material. (See Note A-9.18.7.1.(3) and (4))

(4) *Noncombustible* material described in Sentence (3) shall

(a) extend not less than 300 mm beyond the projection of a register opening, and

(b) have turned-up edges. (See Note A-9.18.7.1.(3) and (4))

444. Sentence 9.19.1.1.(1) of Division B is revoked and the following substituted:

(1) Except where it can be shown to be unnecessary, where insulation is installed between a ceiling and the underside of the roof sheathing, a space shall be provided between the insulation and the sheathing, and vents shall be installed to permit the movement of air from the space to the exterior. (See Note A-9.19.1.1.(1))

445. Sentence 9.19.1.2.(4) of Division B is revoked and the following substituted:

(4) Except where each roof joist space referred to in Sentence (2) is separately vented, roof joist spaces shall be interconnected by installing purlins not less than 38 mm by 38 mm on the top of the roof joists.

446. Sentence 9.19.1.3.(1) and (2) of Division B are revoked and the following substituted:

(1) Except as provided in Sentence (2), where venting is provided to a roof joist space, not less than 63 mm of space shall be provided between the top of the insulation and the underside of the roof sheathing.

(2) Where venting is provided at the junction of sloped roofs and exterior walls and where preformed baffles are used to contain the insulation, the baffles shall

(a) provide an unobstructed air space, between the insulation and the underside of the roof sheathing, that is

(i) not less than 25 mm in dimension, and

(ii) of sufficient cross area to meet the *attic or roof space* venting requirements of Article 9.19.1.2., and

(b) extend vertically not less than 50 mm above the top of the insulation.

447. Sentence 9.19.2.1.(1) of Division B is revoked and the following substituted:

(1) Every *attic or roof space* shall be provided with an access hatch where the *attic or roof space*

(a) measures not less than

(i) 10 m² in area,

(ii) 1 000 mm in length or width, and

(iii) 600 mm in height over at least the area described in Subclauses (i) and (ii), or

(b) contains a fuel-fired *appliance*. (See Note A-9.19.2.1.(1))

448. Article 9.20.1.2. of Division B is revoked and the following substituted:

9.20.1.2. Earthquake Reinforcement (See Note A-9-20.1.2.)

(1) In locations where the seismic spectral acceleration, $S_a(0.2)$, is greater than 0.55, *loadbearing* elements of masonry *buildings* more than 1 *storey* in *building height* shall be reinforced with not less than the minimum amount of reinforcement required by Subsection 9.20.15.

(2) In locations where the seismic spectral acceleration, $S_a(0.2)$, is greater than 0.35 but less than or equal to 0.55, *loadbearing* elements of masonry *buildings* 3 *storeys* in *building height* shall be reinforced with not less than the minimum amount of reinforcement required by Subsection 9.20.15.

449. Sentence 9.20.4.1.(2) of Division B is revoked and the following substituted:

(2) Permitted tolerances in head and bed joints shall be not more than -5 mm to +10 mm.

450. Article 9.20.5.2. of Division B is revoked and the following substituted:

9.20.5.2. Lintels or Arches

(1) Masonry over openings shall be supported by steel, reinforced concrete lintels, or masonry arches designed to support the imposed loads.

(2) Except as provided in Sentences (3) and (5), steel angle lintels supporting masonry above openings shall conform to Table 9.20.5.2.-A.

(3) Steel angle lintels supporting masonry veneer above openings shall conform to Table 9.20.5.2.-B.

(3.1) Steel lintels described in Sentences (2) and (3) shall

(a) have even and level bearing and shall have not less than 150 mm length of bearing at end supports, and

(b) bear on masonry, concrete or steel.

(4) Steel angle lintels supporting masonry shall be prime painted or otherwise protected from corrosion.

(5) Steel beams supporting masonry veneer and wood stud walls above openings shall conform to Table 9.20.5.2.-C.

(6) Steel beams described in Sentence (5) shall be supported at each end by a steel column, and have a minimum 6 mm plate welded to the flange to support the masonry veneer.

Table 9.20.5.2.-A
Loose Steel Lintels for Masonry – No. & Size of Angles Required[(1)(2)]

Forming Part of Sentence 9.20.5.2.(2)

Clear Span[(3)(5)]	Exterior Angles, mm		Wall Thickness, mm	Interior Angles, mm						
	For Brick	For Stone		Maximum Floor Loads per Metre of Span in Newtons[(4)(6)(7)]						
	100 mm	100 mm + 50 mm stone facing		None	3 650	7 300	10 950	14 600	18 250	21 900
	No Floor Load									
1.2 m or less	L-89 × 89 × 6.4	L-127 × 89 × 7.9	203	L-89	L-89	L-89	L-102	L-127	L-127	L-127
				× 89	× 89	× 89	× 89	× 89	× 89	× 89
				× 6.4	× 6.4	× 7.9	× 7.9	× 7.9	× 11	× 13
			305	2Ls-89	2Ls-89	2Ls-89	2Ls-89	2Ls-89	2Ls-102	2Ls-102
				× 89	× 89	× 89	× 89	× 89	× 89	× 89
				× 7.9	× 7.9	× 7.9	× 7.9	× 7.9	× 7.9	× 7.9

1.5 m	L-89 × 89 × 7.9	L-127 × 89 × 7.9	203	L-89	L-89	L-127	L-127	L-127	L-152	
				× 89	× 89	× 89	× 89	× 89	× 89	
				× 7.9	× 7.9	× 7.9	× 11	× 13	× 11	
			305	2Ls-89	2Ls-89	2Ls-89	2Ls-127	2Ls-127	2Ls-127	2Ls-127
				× 89	× 89	× 89	× 89	× 89	× 89	× 89
				× 7.9	× 7.9	× 7.9	× 7.9	× 7.9	× 7.9	× 11
1.8 m	L-102 × 89 × 7.9	L-127 × 127 × 7.9	203	L-102	L-127	L-127	L-152			
				× 89	× 89	× 89	× 102			
				× 7.9	× 7.9	× 7.9	× 11			
			305	2Ls-102	2Ls-102	2Ls-127	2Ls-127	2Ls-127	2Ls-152	2Ls-152
				× 89	× 89	× 89	× 89	× 89	× 102	× 102
				× 7.9	× 7.9	× 7.9	× 7.9	× 11	× 11	× 11
2.1 m	L-102 × 89 × 7.9	L-127 × 127 × 7.9	203	L-102	L-127	L-152				
				× 89	× 89	× 102				
				× 7.9	× 11	× 11				
			305	2Ls-102	2Ls-127	2Ls-127	2Ls-152	2Ls-152		
				× 89	× 89	× 89	× 102	× 102		
				× 7.9	× 11	× 11	× 11	× 11		
2.4 m	L-127 × 89 × 7.9	L-127 × 127 × 7.9	203	L-127	L-152					
				× 89	× 102					
				× 7.9	× 11					
			305	2Ls-127	2Ls-127	2Ls-152				
				× 89	× 89	× 102				
				× 7.9	× 13	× 11				
2.7 m	L-127 × 89 × 11	L-127 × 127 × 11	203	L-127						
				× 89						
				× 11						
			305	2Ls-127	2Ls-152					
				× 152	× 102					
				× 11	× 11					
3.0 m	L-152 × 102 × 11	L-127 × 127 × 13	203	L-152						
				× 102						
				× 11						
			305	2Ls-152						
				× 102						
				× 11						

Notes to Table 9.20.5.2.-A:

(1) The figures in the Table indicating wall thickness and angle cross-section are in mm.

(2) fs = 138 MPa., Deflection maximum = 1/700 span.

(3) See Sentence 9.20.5.2.(3.1).

(4) Omit floor load in lintel when distance to bottom of floor construction is greater than width of opening.

(5) Interior and exterior angles in 200 mm walls and interior angles in 300 mm walls are bolted together when clear span is over 1 800 mm.

(6) When masonry lighter than brick is used over interior angles floor load may be increased by the difference in weight per square metre times the width of the opening. Not generally available.

(7) Interior angles have been designed for floor load plus brick masonry of height equal to width of opening.

Table 9.20.5.2.-B
Maximum Allowable Spans for Steel Lintels Supporting Masonry Veneer, m
Forming Part of Sentence 9.20.5.2.(3)

Minimum Angle Size, mm Vertical Leg	Minimum Angle Size, mm Horizontal Leg	Minimum Angle Size, mm Thickness	Maximum Allowable Spans, m 70 mm Brick	Maximum Allowable Spans, m 90 mm Brick	Maximum Allowable Spans, m 100 mm Stone
89	76	6.4	2.55	---	---
89	89	6.4	2.59	2.47	2.30
102	89	6.4	2.79	2.66	2.48
127	89	7.9	3.47	3.31	3.08
127	89	11	3.64	3.48	3.24
127	89	13	3.82	3.59	3.33
152	89	11	4.06	3.82	3.54
152	89	13	4.32	4.07	3.77
152	102	13	4.37	4.12	3.82
178	102	11	4.57	4.30	3.99
178	102	13	4.87	4.59	4.25

Table 9.20.5.2.-C
Maximum Allowable Spans for Steel Beams Supporting Masonry Veneer, m[(1)(2)(3)]
Forming Part of Sentence 9.20.5.2.(5)

Section	70 mm Brick	90 mm Brick	100 mm Stone
W 150 × 22	4.23	4.09	3.92
W 150 × 30	4.68	4.52	4.32
W 200 × 27	5.26	5.08	4.84
W 200 × 31	5.57	5.37	5.11
W 200 × 36	5.70	5.49	5.23

Notes to Table 9.20.5.2.-C:

(1) These spans assume that the beam supports the veneer, a wood stud wall and a maximum specified roof live load of 2.3 kN/m.

(2) Where the steel beam carries floor loads or larger roof loads, refer to Article 9.23.4.3.

(3) See Note A-Table 9.20.5.2.-C.

451. Sentence 9.20.6.4.(1) of Division B is revoked and the following substituted:

(1) Except for masonry veneer where each masonry unit is supported individually by the structural backing, masonry veneer shall consist of *solid masonry units* not less than 70 mm thick.

452. Sentence 9.20.6.5.(2) of Division B is revoked and the following substituted:

(2) A parapet wall shall be *solid masonry* that extends from the top of the parapet wall to not less than 300 mm below the adjacent roof level.

(3) Where semi-solid or hollow units are used in a parapet wall, the cells of those units shall be filled with mortar, grout or concrete.

453. (1) Sentence 9.20.9.5.(1), other than Table 9.20.9.5., of Division B is revoked and the following substituted:

(1) Masonry veneer 70 mm or more in thickness and resting on a bearing support shall be tied to masonry backing or to wood framing members with straps that are

(a) corrosion-resistant,

(b) not less than 0.76 mm thick,

(c) not less than 22 mm wide,

(d) shaped to provide a key with the mortar,

(e) pre-bent during manufacture to a right angle within 6 mm of the fastener hole,

(f) fastened with

(i) corrosion-resistant wood screws conforming to Sentence 9.23.3.1.(3) that have a minimum diameter of 4.16 mm (No. 8) and a wood penetration of not less than 38 mm, or

(ii) corrosion-resistant common spiral nails conforming to Sentence 9.23.3.1.(1) that are not less than 76 mm long and have a wood penetration of not less than 63 mm, and

(g) spaced in accordance with Table 9.20.9.5.

(2) Article 9.20.9.5. of Division B is amended by adding the following Sentence:

(4) The straps described in Sentence (1) may be installed against one of the sheathings listed in Table 9.23.17.2.-A provided that

(a) the tie is in contact with the exterior surface of the sheathing, and

(b) the sheathing beneath the tie is not compressed.

454. Sentence 9.20.9.6.(1) of Division B is revoked and the following substituted:

(1) Glass block shall have horizontal joint reinforcement of two corrosion-resistant bars of not less than 3.76 mm diam or expanded metal strips not less than 75 mm wide

(a) spaced at vertical intervals of not more than 600 mm for units 190 mm or less in height, and

(b) installed in every horizontal joint for units higher than 190 mm.

455. Sentence 9.20.10.1.(4) of Division B is revoked and the following substituted:

(4) Floor and roof structural elements providing lateral support for walls as required in Sentence (1) shall be constructed to transfer lateral loads to walls or buttresses approximately at right angles to the laterally supported walls.

456. Article 9.20.11.3. of Division B is revoked and the following substituted:

9.20.11.3. Anchoring Intersecting Wood-Frame Walls to Masonry Walls

(1) Wood-frame walls shall be tied to intersecting masonry with not less than 4.76 mm diam corrosion-resistant steel rods spaced not more than 900 mm o.c. vertically.

(2) Ties required in Sentence (1) shall be anchored to the wood framing at one end and shaped to provide a mechanical key at the other end to develop the strength of the tie.

457. Sentence 9.20.11.4.(1) of Division B is revoked and the following substituted:

(1) Except as permitted in Sentence (2), roof systems of wood-frame construction shall be tied to exterior masonry walls by not less than 12.7 mm diam anchor bolts

(a) spaced not more than 2.4 m apart,

(b) embedded not less than 90 mm into the masonry, and

(c) fastened to a rafter plate of not less than 38 mm thick lumber.

458. Article 9.20.13.3. of Division B is amended by adding the following Sentence:

(2) Throughwall flashing shall be provided in a masonry veneer wall such that any moisture that accumulates in the air space will be directed to the exterior of the *building*.

459. Article 9.20.13.4. of Division B is revoked and the following substituted:

9.20.13.4. Extension of Flashing

(1) When installed beneath jointed masonry window sills and jointed masonry copings or over the heads of openings, flashing shall extend from the front edge of the masonry up behind the sill or lintel.

(2) A flashing may be omitted when the masonry at the sill of a wall opening or the top of a wall is protected by an impervious non-jointed masonry coping that conforms to Article 9.20.13.12.

460. The heading to Article 9.20.13.5. of Division B is revoked and the following substituted:

9.20.13.5. Flashing for Weep Holes in Masonry Veneer/Masonry Walls

461. Article 9.20.13.8. of Division B is amended by adding the following Sentence:

(3) The weep holes required in Sentence (1) shall be in a location such that any water that collects in the cavity or space will be directed to the exterior of the *building*.

462. Article 9.20.13.9. of Division B is revoked and the following substituted:

9.20.13.9. Protection if Interior Finish

(1) Except as provided in Sentence (3), where the interior finish of the exterior walls of a *building* is a type that may be damaged by moisture, exterior masonry walls, other than *cavity walls* or walls that are protected for their full height by a roof of a carport or porch, shall be

(a) parged on the interior surface, and

(b) covered with No. 15 breather-type asphalt-saturated paper conforming to CAN/CGSB-51.32-M, “Sheathing, Membrane, Breather Type”, and shall be lapped not less than 100 mm at the joints.

(2) In situations described in Sentence (1), flashing shall be provided where water will accumulate, to lead it to the exterior.

(3) Where insulation effectively limits the passage of water vapour and is applied by a waterproof adhesive or by mortar directly to the masonry, the requirements for sheathing paper do not apply. (See Note A-9.20.13.9.(3))

463. Sentence 9.20.13.12.(1) of Division B is revoked and the following substituted:

(1) Except for wall openings located less than 150 mm above ground level, where a concealed flashing is not installed beneath window and door sills, such sills shall be provided with an outward slope and a drip located not less than 25 mm from the wall surface.

464. Sentences 9.20.17.2.(1) and (2) of Division B are revoked and the following substituted:

(1) Horizontal reinforcement in above-grade flat insulating concrete form walls shall

(a) consist of

(i) one 10M bar placed not more than 300 mm from the top of the wall, and

(ii) 10M bars spaced not more than 600 mm o.c., and

(b) be placed in the middle third of the wall section.

(2) Vertical reinforcement in above-grade flat insulating concrete form walls shall

(a) consist of 10M bars spaced not more than 400 mm o.c., and

(b) be placed in the middle third of the wall section.

465. Article 9.21.1.1. of Division B is revoked and the following substituted:

9.21.1.1. Application

(1) This Section applies to

(a) rectangular *masonry* or *concrete chimneys* not more than 12 m in height serving fireplaces or serving *appliances* having a combined total rated heat output of 120 kW or less, and

(b) *flue pipes* serving solid fuel-burning *appliances*.

(2) Reserved.

(3) Except as provided in Sentence 9.21.1.3.(1), *chimneys* (other than those described in Sentences (1) and Sentence 9.21.1.2.(1)), *gas vents* and *flue pipes* serving gas-, oil- or solid fuel-burning *appliances* and associated equipment shall conform to Section 6.3.

466. Subsection 9.21.1. of Division B is amended by adding the following Articles:

9.21.1.3. Factory-Built Chimneys

(1) Factory-built *chimneys* serving solid fuel-burning *appliances*, and their installation, shall conform to CAN/ULC-S629-M, "Standard for 650°C Factory-Built Chimneys". (See Note A-9.21.1.3.(1))

9.21.1.4. Flue Pipes

(1) *Flue pipes* serving solid fuel-burning *stoves, cooktops* and *space heaters* shall conform to CSA B365, "Installation code for solid-fuel-burning appliances and equipment".

467. Sentence 9.21.2.1.(3) of Division B is revoked and the following substituted:

(3) A *chimney flue* that serves a solid-fuel-burning *appliance* shall not be connected to an oil-burning *appliance* unless the solid-fuel-burning *appliance* is *listed* for such installation and the installation of both *appliances* meets their respective installation requirements.

468. (1) Sentence 9.21.2.2.(1) of Division B is revoked and the following substituted:

(1) Except as required by Article 9.21.2.1., two or more fuel-burning *appliances* are permitted to be connected to the same *chimney flue* provided adequate draft is maintained for the connected *appliances* and the connections are made as described in Sentences (2) and (3).

(2) Sentence 9.21.2.2.(4) of Division B is revoked.

469. Article 9.21.2.4. of Division B is revoked and the following substituted:

9.21.2.4. Size of Chimney Flues

(1) Except for *chimneys* serving fireplaces, the size of a *chimney flue* shall conform to the requirements of the solid fuel-burning *appliance* installation standards referenced in Sentences 6.2.1.4.(1) and Article 9.33.5.3.

(2) Where a *chimney flue* serves only one solid fuel-burning *appliance*, the *flue* area shall be at least equal to that of the *flue pipe* connected to it.

470. Sentence 9.21.3.6.(2) of Division B is revoked and the following substituted:

(2) Except as provided in Sentence 9.22.10.2.(3), metal liners referred to in Sentence (1) shall only be used in *chimneys* serving gas- or oil-burning *appliances.*

471. Sentence 9.21.4.3.(1) of Division B is revoked and the following substituted:

(1) Footings for masonry *chimneys* and concrete *chimneys* shall conform to Section 9.15.

472. Sentence 9.21.4.7.(1) of Division B is revoked and the following substituted:

(1) Except for a *chimney flue* constructed to serve a masonry fireplace, a cleanout opening with a metal frame and a tight-fitting metal door shall be installed near the base of the *chimney flue*.

473. Sentence 9.21.4.8.(1) of Division B is revoked and the following substituted:

(1) The walls of a masonry *chimney* shall be built of *solid masonry units* not less than 70 mm thick.

474. Sentence 9.21.4.9.(1) of Division B is revoked and the following substituted:

(1) *Flue* liners in the same *chimney* shall be separated by not less than 75 mm of masonry or concrete exclusive of liners where clay liners are used, or 90 mm of firebrick where firebrick liners are used.

475. Sentence 9.21.5.1.(3) of Division B is revoked and the following substituted:

(3) *Combustible* flooring, subflooring and ceiling finishes shall have not less than a 12 mm clearance from masonry or concrete *chimneys*.

476. Article 9.22.1.4. of Division B is amended by adding the following Sentences:

(0.1) Every solid fuel-fired fireplace, including a factory-built fireplace, shall have a supply of combustion air from outdoors in accordance with Sentences (0.2) to (1).

(0.2) The combustion air shall be supplied by a *noncombustible* and corrosion-resistant supply duct.

(0.3) The supply duct shall have

(a) a diameter of not less than 100 mm or equivalent area, and

(b) an exterior intake for entry of air from the outdoors.

(0.4) The supply duct shall contain a tight-fitting damper that shall be located close to the interior outlet and be operable from the room containing the fireplace.

(0.5) The operating mechanism shall clearly indicate the actual position of the damper.

(0.6) The interior outlet shall

(a) be located as close as possible to the opening in the face of the fireplace, and

(b) be designed to prevent embers from entering the supply duct.

477. Sentence 9.22.5.1.(1) of Division B is revoked and the following substituted:

(1) Except as required in Sentence (2), fireplaces shall have a *noncombustible* hearth extending not less than 400 mm in front of the fireplace opening measured from the facing, and not less than 200 mm beyond each side of the fireplace opening.

478. Article 9.22.10.2. of Division B is amended by adding the following Sentences:

(2) Fireplace inserts and hearth mounted *stoves* vented through the throat of a fireplace described in Sentence (1) may be installed in existing fireplaces only if a minimum thickness of 190 mm of solid masonry is provided between the smoke chamber and any existing *combustible* materials, unless the insert is listed for lesser clearances.

(3) A fireplace insert installed in a masonry fireplace shall have

(a) a listed metal chimney liner installed from the insert collar to the top of the chimney, or

(b) a direct sealed connection to the *chimney flue* where such provision is part of an insert conforming to Sentence 9.22.10.1.(1).

479. Article 9.23.3.4. of Division B is revoked and the following substituted:

9.23.3.4. Nailing of Framing

(1) Except as provided in Sentence (2), nailing of framing shall conform to Table 9.23.3.4.

(2) Where the bottom wall plate or sole plate of an exterior wall is not nailed to joists or blocking in conformance with Table 9.23.3.4., the exterior wall is permitted to be fastened to the floor framing by

(a) having plywood, OSB or waferboard sheathing extend down over floor framing and fastened to the floor framing by nails or staples conforming to Article 9.23.3.5., or

(b) tying the wall framing to the floor framing by galvanized-metal strips

(i) 50 mm wide,

(ii) not less than 0.41 mm thick,

(iii) spaced not more than 1.2 m apart, and

(iv) fastened at each end with at least two 63 mm nails.

Table 9.23.3.4.
Nailing for Framing
Forming Part of Sentences 9.23.3.4.(1), (2) and 9.23.14.4.(2)

Construction Detail	Minimum Length of Nails, mm	Minimum Number or Maximum Spacing of Nails
Floor joist or blocking perpendicular to sill plate or top wall plate below – toe nail	82	2 per floor joist or blocking
Rim joist, trimmer joist or blocking – supporting walls with required *braced wall panels* – to sill plate or top wall plate – toe nail	82	150 mm o.c.
Wood or metal strapping to underside of floor joists	57	2
Cross-bridging to joists	57	2 at each end
Double header or trimmer joists	76	300 mm o.c.
Floor joist to stud (balloon construction)	76	2
Ledger strip to wood beam	82	2 per joist
Joist to joist splice (See also Table 9.23.14.8.)	76	2 at each end
Header joist end nailed to joists along perimeter	101	3
Tail joist to adjacent header joist	82	5
(end nailed) around openings	101	3
Each header joist to adjacent trimmer joist	82	5
(end nailed) around openings	101	3
Stud to wall plate (each end) toe nail	63	4
or end nail	82	2
Doubled studs at openings, or studs at walls or wall intersections and corners	76	750 mm o.c.
Doubled top wall plates[(1)]	76	600 mm o.c.
Bottom wall plate or sole plate to floor joists, *rim joists* or blocking (exterior walls)[(2)]	82	400 mm o.c.
Bottom wall plate or sole plate – in required *braced wall panels* – to floor joists, *rim joists* or blocking (exterior walls)[(2)]	82	150 mm o.c.
Interior walls to framing or subflooring	82	600 mm o.c.
Required *braced wall panels* – in interior walls – to framing above and below	82	150 mm o.c.

Horizontal member over openings in non-*loadbearing* walls – each end	82	2
Lintels to studs	82	2 at each end
Ceiling joist to plate – toe nail each end	82	2
Roof rafter, roof truss or roof joist to plate – toe nail(3)	82	3
Rafter plate to each ceiling joist	101	2
Rafter to joist (with ridge supported)	76	3
Rafter to joist (with ridge unsupported)	76	See Table 9.23.14.8.
Gusset plate to each rafter at peak	57	4
Rafter to ridge board – toe nail – end nail	82	3
Collar tie to rafter – each end	76	3
Collar tie lateral support to each collar tie	57	2
Jack rafter to hip or valley rafter	82	2
Roof strut to rafter	76	3
Roof strut to *loadbearing* wall – toe nail	82	2
38 mm × 140 mm or less plank decking to support	82	2
Plank decking wider than 38 mm × 140 mm to support	82	3
38 mm edge laid plank decking to support (toe nail)	76	1
38 mm edge laid plank to each other	76	450 mm o.c.
End-joist or end-rafter to built-up wall stud(4)	76	5 or 8(5)

Notes to Table 9.23.3.4.:

(1) See Article 9.23.11.4. for requirements on the nailing of top plates in *braced wall bands*.

(2) See Sentence 9.23.3.4.(2).

(3) See Sentence 9.23.3.4.(3).

(4) See Sentence 9.23.13.5.(3).

(5) Where heavyweight construction is used in the roof of the space, at least 8 nails are required. (See Note A-9.23.13.2.(1)(a)(i))

480. Article 9.23.3.5. of Division B is amended by adding the following Sentence:

(7.1) Where roof sheathing supports are spaced at more than 400 mm o.c., the maximum spacing of fasteners for roof sheathing shall be 150 mm along edges and intermediate supports.

481. (1) Sentence 9.23.4.3.(1) of Division B is revoked and the following substituted:

(1) The spans for steel beams with laterally supported top flanges shall conform to Table 9.23.4.3. for floors and Span Tables 9.23.4.3.-A to 9.23.4.3-J for roofs and floors. (See Note A-9.23.4.3.(1))

(2) Article 9.24.4.3. of Division B is amended by adding the following Sentence and Tables:

(3) A beam may be considered to be laterally supported if

(a) the wood joists bear on its top flange at intervals of 600 mm or less over its entire length,

(b) the load being applied to this beam is transmitted through the joists, and

(c) 19 mm by 38 mm wood strips in contact with the top flange are nailed on both sides of the beam to the bottom of the joist supported.

Table 9.23.4.3.-A
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Exterior Stud Walls With Brick Veneer – 1.0 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load,* kPa		1.0							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	2.96	2.79	2.86	2.71	2.78	2.65	2.71	2.59
	W 150 × 30	3.32	3.14	3.22	3.05	3.13	2.98	3.04	2.91
	W 150 × 37	3.62	3.41	3.50	3.32	3.40	3.24	3.32	3.17
	W 200 × 27	3.80	3.59	3.68	3.49	3.58	3.41	3.49	3.33
	W 200 × 31	4.06	3.83	3.93	3.73	3.82	3.64	3.72	3.56
	W 200 × 36	4.17	3.94	4.04	3.83	3.93	3.74	3.82	3.65
	W 200 × 42	4.42	4.18	4.29	4.06	4.16	3.96	4.05	3.87
	W 250 × 33	4.71	4.44	4.56	4.32	4.43	4.22	4.31	4.12
	W 250 × 39	5.04	4.76	4.88	4.63	4.75	4.52	4.62	4.41
	W 250 × 49	5.32	5.02	5.15	4.89	5.01	4.77	4.87	4.66
	W 310 × 39	5.66	5.34	5.49	5.20	5.33	5.07	5.19	4.96
	W 310 × 45	5.96	5.62	5.77	5.47	5.61	5.34	5.46	5.22
	W 310 × 52	6.33	5.98	6.13	5.82	5.96	5.67	5.8	5.54
	W 310 × 60	6.50	6.14	6.30	5.98	6.12	5.83	5.96	5.69
	W 360 × 33	5.61	5.29	5.43	5.15	5.28	5.03	5.14	4.91
	W 360 × 39	6.01	5.68	5.83	5.53	5.66	5.39	5.51	5.27
	W 360 × 45	6.38	6.03	6.19	5.87	6.01	5.72	5.85	5.59
	W 360 × 51	6.70	6.32	6.49	6.16	6.31	6.00	6.14	5.87
	W 360 × 57	7.00	6.61	6.78	6.43	6.59	6.28	6.42	6.13

Notes to Table 9.23.4.3.-A:

(1) Supported roof length means half the sum of the roof framing spans on both sides of the beam.

(2) Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3.-B
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Interior Stud Walls or Exterior Stud Walls With Siding – 1.0 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load,* kPa		1.0							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	4.20	3.82	3.98	3.67	3.81	3.51	3.66	3.35
	W 150 × 30	4.72	4.30	4.48	4.13	4.28	3.98	4.11	3.85
	W 150 × 37	5.14	4.68	4.88	4.49	4.66	4.33	4.48	4.19
	W 200 × 27	5.41	4.92	5.13	4.72	4.90	4.56	4.71	4.41
	W 200 × 31	5.77	5.25	5.48	5.04	5.23	4.86	5.02	4.71
	W 200 × 36	5.93	5.40	5.63	5.18	5.38	5.00	5.16	4.84
	W 200 × 42	6.29	5.72	5.97	5.50	5.70	5.30	5.47	5.13
	W 250 × 33	6.69	6.09	6.35	5.85	6.06	5.64	5.82	5.45
	W 250 × 39	7.17	6.52	6.80	6.26	6.49	6.04	6.24	5.85
	W 250 × 49	7.56	6.88	7.17	6.61	6.85	6.37	6.58	6.17
	W 310 × 39	8.05	7.32	7.63	7.03	7.29	6.78	7.01	6.56
	W 310 × 45	8.47	7.71	8.03	7.40	7.68	7.14	7.37	6.91

Notes to Table 9.23.4.3.-B:

(1) Supported roof length means half the sum of the roof framing spans on both sides of the beam.

(2) Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3.-C
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Exterior Stud Walls With Brick Veneer – 1.5 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load,* kPa		1.5							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	2.86	2.71	2.74	2.62	2.64	2.53	2.55	2.46
	W 150 × 30	3.22	3.05	3.08	2.94	2.97	2.85	2.87	2.76
	W 150 × 37	3.50	3.32	3.36	3.20	3.23	3.10	3.13	3.01
	W 200 × 27	3.68	3.49	3.53	3.37	3.40	3.26	3.29	3.16
	W 200 × 31	3.93	3.73	3.77	3.60	3.63	3.48	3.51	3.38
	W 200 × 36	4.04	3.83	3.88	3.70	3.73	3.58	3.61	3.47
	W 200 × 42	4.29	4.06	4.11	3.92	3.96	3.79	3.82	3.68
	W 250 × 33	4.56	4.32	4.37	4.17	4.21	4.03	4.07	3.91
	W 250 × 39	4.88	4.63	4.68	4.47	4.51	4.32	4.36	4.19
	W 250 × 49	5.15	4.89	4.94	4.71	4.76	4.56	4.60	4.42
	W 310 × 39	5.49	5.20	5.26	5.01	5.06	4.85	4.89	4.71
	W 310 × 45	5.77	5.47	5.53	5.28	5.33	5.11	5.15	4.95
	W 310 × 52	6.13	5.82	5.88	5.61	5.66	5.43	5.47	5.26
	W 310 × 60	6.30	5.98	6.04	5.76	5.81	5.57	5.62	5.41
	W 360 × 33	5.43	5.15	5.21	4.97	5.01	4.81	4.85	4.66
	W 360 × 39	5.83	5.53	5.58	5.33	5.38	5.15	5.20	5.00
	W 360 × 45	6.19	5.87	5.93	5.65	5.71	5.47	5.52	5.31
	W 360 × 51	6.49	6.16	6.22	5.93	5.99	5.74	5.79	5.57
	W 360 × 57	6.78	6.43	6.50	6.20	6.26	6.00	6.05	5.82

Notes to Table 9.23.4.3.-C:

[1] Supported roof length means half the sum of the roof framing spans on both sides of the beam.

[2] Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3.-D
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Interior Stud Walls or Exterior Stud Walls With Siding – 1.5 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load,* kPa		1.5							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	3.98	3.67	3.73	3.48	3.53	3.30	3.36	3.12
	W 150 × 30	4.48	4.13	4.19	3.91	3.97	3.74	3.78	3.59
	W 150 × 37	4.88	4.49	4.56	4.26	4.32	4.07	4.12	3.91
	W 200 × 27	5.13	4.72	4.80	4.48	4.54	4.28	4.33	4.11
	W 200 × 31	5.48	5.04	5.12	4.78	4.85	4.57	4.62	4.39
	W 200 × 36	5.63	5.18	5.27	4.92	4.98	4.70	4.75	4.51
	W 200 × 42	5.97	5.50	5.58	5.21	5.28	4.98	5.04	4.78
	W 250 × 33	6.35	5.85	5.94	5.54	5.62	5.30	5.36	5.09
	W 250 × 39	6.80	6.26	6.36	5.94	6.02	5.67	5.74	5.45
	W 250 × 49	7.17	6.61	6.71	6.27	6.35	5.99	6.06	5.75
	W 310 × 39	7.63	7.03	7.14	6.67	6.76	6.37	6.45	6.12
	W 310 × 45	8.03	7.40	7.52	7.02	7.11	6.71	6.78	6.44

Notes to Table 9.23.4.3.-D:

(1) Supported roof length means half the sum of the roof framing spans on both sides of the beam.

(2) Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3.-E
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Exterior Stud Walls With Brick Veneer – 2.0 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load*, kPa		2.0							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	2.78	2.65	2.64	2.53	2.53	2.43	2.43	2.35
	W 150 × 30	3.13	2.98	2.97	2.85	2.84	2.74	2.73	2.64
	W 150 × 37	3.40	3.24	3.23	3.10	3.09	2.98	2.97	2.88
	W 200 × 27	3.58	3.41	3.40	3.26	3.25	3.13	3.13	3.02
	W 200 × 31	3.82	3.64	3.63	3.48	3.47	3.34	3.34	3.23
	W 200 × 36	3.93	3.74	3.73	3.58	3.57	3.44	3.43	3.32
	W 200 × 42	4.16	3.96	3.96	3.79	3.78	3.64	3.64	3.52
	W 250 × 33	4.43	4.22	4.21	4.03	4.02	3.88	3.87	3.74
	W 250 × 39	4.75	4.52	4.51	4.32	4.31	4.15	4.15	4.01
	W 250 × 49	5.01	4.77	4.76	4.56	4.55	4.38	4.37	4.23
	W 310 × 39	5.33	5.07	5.06	4.85	4.84	4.66	4.65	4.50
	W 310 × 45	5.61	5.34	5.33	5.11	5.10	4.91	4.90	4.74
	W 310 × 52	5.96	5.67	5.66	5.43	5.41	5.21	5.21	5.03
	W 310 × 60	6.12	5.83	5.81	5.57	5.56	5.36	5.35	5.17
	W 360 × 33	5.28	5.03	5.01	4.81	4.80	4.62	4.61	4.46
	W 360 × 39	5.66	5.39	5.38	5.15	5.14	4.95	4.94	4.78
	W 360 × 45	6.01	5.72	5.71	5.47	5.46	5.26	5.25	5.08
	W 360 × 51	6.31	6.00	5.99	5.74	5.73	5.52	5.51	5.33
	W 360 × 57	6.59	6.28	6.26	6.00	5.99	5.77	5.76	5.57

Notes to Table 9.23.4.3.-E:

[1] Supported roof length means half the sum of the roof framing spans on both sides of the beam.

[2] Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3.-F
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Interior Stud Walls or Exterior Stud Walls With Siding – 2.0 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load,* kPa		2.0							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	3.81	3.54	3.53	3.33	3.32	3.13	3.15	2.94
	W 150 × 30	4.28	3.98	3.97	3.74	3.73	3.55	3.54	3.39
	W 150 × 37	4.66	4.33	4.32	4.07	4.06	3.86	3.85	3.69
	W 200 × 27	4.90	4.56	4.54	4.28	4.27	4.06	4.05	3.88
	W 200 × 31	5.23	4.86	4.85	4.57	4.56	4.34	4.32	4.14
	W 200 × 36	5.38	5.00	4.98	4.70	4.68	4.46	4.45	4.26
	W 200 × 42	5.70	5.30	5.28	4.98	4.96	4.72	4.71	4.51
	W 250 × 33	6.06	5.64	5.62	5.30	5.28	5.03	5.01	4.80
	W 250 × 39	6.49	6.04	6.02	5.67	5.66	5.38	5.37	5.14
	W 250 × 49	6.85	6.37	6.35	5.99	5.97	5.68	5.67	5.43
	W 310 × 39	7.29	6.78	6.76	6.37	6.35	6.04	6.03	5.77
	W 310 × 45	7.68	7.14	7.11	6.71	6.69	6.36	6.35	6.08

Notes to Table 9.23.4.3.-F:

(1) Supported roof length means half the sum of the roof framing spans on both sides of the beam.

(2) Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3.-G
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Exterior Stud Walls With Brick Veneer – 2.5 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load*, kPa		2.5							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	2.71	2.59	2.55	2.46	2.43	2.35	2.33	2.26
	W 150 × 30	3.04	2.91	2.87	2.76	2.73	2.64	2.62	2.54
	W 150 × 37	3.32	3.17	3.13	3.01	2.97	2.88	2.85	2.77
	W 200 × 27	3.49	3.33	3.29	3.16	3.13	3.02	2.99	2.91
	W 200 × 31	3.72	3.56	3.51	3.38	3.34	3.23	3.20	3.10
	W 200 × 36	3.82	3.65	3.61	3.47	3.43	3.32	3.29	3.19
	W 200 × 42	4.05	3.87	3.82	3.68	3.64	3.52	3.48	3.38
	W 250 × 33	4.31	4.12	4.07	3.91	3.87	3.74	3.71	3.60
	W 250 × 39	4.62	4.41	4.36	4.19	4.15	4.01	3.97	3.85
	W 250 × 49	4.87	4.66	4.60	4.42	4.37	4.23	4.19	4.07
	W 310 × 39	5.19	4.96	4.89	4.71	4.65	4.50	4.46	4.33
	W 310 × 45	5.46	5.22	5.15	4.95	4.90	4.74	4.69	4.55
	W 310 × 52	5.80	5.54	5.47	5.26	5.21	5.03	4.98	4.84
	W 310 × 60	5.96	5.69	5.62	5.41	5.35	5.17	5.12	4.97
	W 360 × 33	5.14	4.91	4.85	4.66	4.61	4.46	4.42	4.29
	W 360 × 39	5.51	5.27	5.20	5.00	4.94	4.78	4.73	4.60
	W 360 × 45	5.85	5.59	5.52	5.31	5.25	5.08	5.03	4.88
	W 360 × 51	6.14	5.87	5.79	5.57	5.51	5.33	5.27	5.12
	W 360 × 57	6.42	6.13	6.05	5.82	5.76	5.57	5.51	5.35

Notes to Table 9.23.4.3.-G:

(1) Supported roof length means half the sum of the roof framing spans on both sides of the beam.

(2) Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3.-H
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Interior Stud Walls or Exterior Stud Walls With Siding – 2.5 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load,* kPa		2.5							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	3.66	3.43	3.36	3.19	3.15	2.98	2.98	2.79
	W 150 × 30	4.11	3.85	3.78	3.59	3.54	3.39	3.35	3.23
	W 150 × 37	4.48	4.19	4.12	3.91	3.85	3.69	3.64	3.51
	W 200 × 27	4.71	4.41	4.33	4.11	4.05	3.88	3.83	3.69
	W 200 × 31	5.02	4.71	4.62	4.39	4.32	4.14	4.09	3.94
	W 200 × 36	5.16	4.84	4.75	4.51	4.45	4.26	4.21	4.05
	W 200 × 42	5.47	5.13	5.04	4.78	4.71	4.51	4.46	4.30
	W 250 × 33	5.82	5.46	5.36	5.09	5.01	4.80	4.74	4.54
	W 250 × 39	6.24	5.85	5.74	5.45	5.37	5.14	5.08	4.90
	W 250 × 49	6.58	6.17	6.06	5.75	5.67	5.43	5.36	5.17
	W 310 × 39	7.01	6.56	6.45	6.12	6.03	5.78	5.70	5.47
	W 310 × 45	7.37	6.91	6.78	6.44	6.35	6.08	6.00	5.79

Notes to Table 9.23.4.3.-H:

(1) Supported roof length means half the sum of the roof framing spans on both sides of the beam.

(2) Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3-I
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Exterior Stud Walls With Brick Veneer – 3.0 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load,* kPa		3.0							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	2.64	2.53	2.48	2.39	2.35	2.28	2.24	2.18
	W 150 × 30	2.97	2.85	2.78	2.69	2.64	2.56	2.52	2.45
	W 150 × 37	3.23	3.10	3.03	2.93	2.87	2.79	2.74	2.67
	W 200 × 27	3.40	3.26	3.19	3.08	3.02	2.93	2.88	2.81
	W 200 × 31	3.63	3.48	3.40	3.28	3.22	3.13	3.08	3.00
	W 200 × 36	3.73	3.58	3.50	3.38	3.31	3.21	3.16	3.08
	W 200 × 42	3.96	3.79	3.71	3.58	3.51	3.41	3.35	3.26
	W 250 × 33	4.21	4.03	3.94	3.81	3.74	3.62	3.57	3.47
	W 250 × 39	4.51	4.32	4.23	4.08	4.00	3.88	3.82	3.72
	W 250 × 49	4.76	4.56	4.46	4.30	4.22	4.10	4.03	3.93
	W 310 × 39	5.06	4.85	4.74	4.58	4.49	4.36	4.29	4.18
	W 310 × 45	5.33	5.11	4.99	4.82	4.73	4.59	4.51	4.40
	W 310 × 52	5.66	5.43	5.31	5.12	5.03	4.88	4.80	4.67
	W 310 × 60	5.81	5.57	5.45	5.26	5.16	5.01	4.93	4.80
	W 360 × 33	5.01	4.81	4.70	4.54	4.45	4.32	4.25	4.14
	W 360 × 39	5.38	5.15	5.04	4.86	4.77	4.63	4.56	4.44
	W 360 × 45	5.71	5.47	5.35	5.16	5.07	4.92	4.84	4.71
	W 360 × 51	5.99	5.74	5.61	5.42	5.32	5.16	5.08	4.94
	W 360 × 57	6.26	6.00	5.87	5.66	5.56	5.39	5.31	5.17

Notes to Table 9.23.4.3.-I:

[1] Supported roof length means half the sum of the roof framing spans on both sides of the beam.

[2] Supported floor length means half the sum of the floor framing spans on both sides of the beam.

Table 9.23.4.3-J
Maximum Spans for Steel Beams Supporting a Roof and One Floor in Dwelling Units
Where Beams Support Interior Stud Walls or Exterior Stud Walls With Siding – 3.0 kPa Specified Roof Design Snow Load
Forming Part of Sentence 9.23.4.3.(1)

Maximum Span, m									
Roof *Live Load,* kPa		3.0							
Supported Roof Length, m[1]		2.4		3.6		4.8		6.0	
Supported Floor Length, m[2]		2.4	3.6	2.4	3.6	2.4	3.6	2.4	3.6
Steel Beam Section	W 150 × 22	3.53	3.33	3.23	3.08	3.01	2.85	2.83	2.66
	W 150 × 30	3.97	3.74	3.63	3.47	3.38	3.26	3.19	3.09
	W 150 × 37	4.32	4.07	3.95	3.77	3.68	3.55	3.48	3.37
	W 200 × 27	4.54	4.28	4.15	3.97	3.87	3.73	3.65	3.52
	W 200 × 31	4.85	4.57	4.43	4.23	4.13	3.98	3.90	3.78
	W 200 × 36	4.98	4.70	4.56	4.35	4.25	4.09	4.01	3.88
	W 200 × 42	5.28	4.98	4.83	4.61	4.50	4.34	4.25	4.12
	W 250 × 33	5.62	5.30	5.14	4.91	4.79	4.61	4.52	4.33
	W 250 × 39	6.02	5.67	5.51	5.26	5.13	4.94	4.84	4.69
	W 250 × 49	6.35	5.99	5.81	5.55	5.42	5.21	5.11	4.95
	W 310 × 39	6.76	6.37	6.18	5.90	5.76	5.55	5.44	5.21
	W 310 × 45	7.11	6.71	6.51	6.21	6.07	5.84	5.72	5.54

Notes to Table 9.23.4.3.-J:

(1) Supported roof length means half the sum of the roof framing spans on both sides of the beam.

(2) Supported floor length means half the sum of the floor framing spans on both sides of the beam.

482. Sentence 9.23.8.2.(1) of Division B is revoked and the following substituted:

(1) Exterior steel beams shall be shop primed with rust-inhibitive paint.

483. Sentence 9.23.9.8.(4) of Division B is revoked and the following substituted:

(4) *Loadbearing* interior walls parallel to floor joists shall be supported by beams or walls of sufficient strength to safely transfer the design loads to the vertical supports.

484. Article 9.23.10.1. of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (2), the size and spacing of studs shall conform to Table 9.23.10.1.

(2) Studs for walls not listed in Table 9.23.10.1. and supporting roof loads shall conform to Span Tables 9.23.10.1.-A to 9.23.10.1.-D, provided

(a) the studs are clad with not less than 9.5 mm thick plywood, OSB or waferboard sheathing on the exterior face, and not less than 12.5 mm gypsum board on the interior face,

(b) solid bridging is provided at not more than 1.2 m o.c,

(c) the studs are fastened to the top and bottom plates with no fewer than three 82 mm toe nails,

(d) the double top plates are fastened together with not less than 76 mm nails spaced not more than 200 mm o.c,

(e) roof framing members spaced not more than 600 mm are fastened to the top plates with no fewer than four 82 mm toe nails, and

(f) the bottom plate is fastened to the floor joists, blocking or rim joist with not less than 82 mm nails spaced not more than 200 mm o.c.

Table 9.23.10.1.
Size and Spacing of Studs

Forming Part of Sentence 9.23.10.1.(1)

Type of Wall	Supported Loads (including *dead loads*)	Minimum Stud Size, mm	Maximum Stud Spacing, mm	Maximum Unsupported Height, m
Interior	No load	38 × 38 38 × 89 flat(1)	400 400	2.4 3.6
	Attic not accessible by a stairway	38 × 64 38 × 64 flat(1) 38 × 89 38 × 89 flat(1)	600 400 600 400	3.0 2.4 3.6 2.4
	Attic accessible by a stairway plus one floor Roof load plus one floor Attic not accessible by stairway plus 2 floors	38 × 89	400	3.6
	Roof load	38 × 64	400	2.4

	Attic accessible by a stairway Attic not accessible by a stairway plus one floor	38 × 89	600	3.6
	Attic accessible by a stairway plus 2 floors Roof load plus 2 floors	38 × 89 64 × 89 38 × 140	300 400 400	3.6 3.6 4.2
	Attic accessible by a stairway plus 3 floors Roof load plus 3 floors	38 × 140	300	4.2
Exterior	Roof with or without attic storage	38 × 64 38 × 89	400 600	2.4 3.0
	Roof with or without attic storage plus one floor	38 × 89 38 × 140	400 600	3.0 3.0
	Roof with or without attic storage plus 2 floors	38 × 89 64 × 89 38 × 140	300 400 400	3.0 3.0 3.6
	Roof with or without attic storage plus 3 floors	38 × 140	300	1.8

Notes to Table 9.23.10.1.:

(1) See Article 9.23.10.3.

Table 9.23.10.1.-A
Sizes for Spruce-Pine-Fir No. 2 Grade Exterior Wall Studs With Brick Veneer(1)(2)
Forming Part of Sentence 9.23.10.1.(2)

Stud Size and Spacing									
Hourly Wind Pressure (1/50), kPa		0.40		0.45		0.50		0.60	
Specified Roof Snow Load, kPa	Stud Length, m	Supported Roof Length, m		Supported Roof Length, m		Supported Roof Length, m		Supported Roof Length, m	
		3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
1.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	B	B	B	B
	4.6	B	B	B	B	C	C	C	C
	5.0	C	C	C	C	C	C	D	D
	5.3	C	C	C	C	D	D	D	D
	5.6	C	C	D	D	D	D		
1.5	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	B	B	B	B
	4.6	B	B	B	B	C	C	C	C
	5.0	C	C	C	C	C	C	D	D
	5.3	C	C	C	C	D	D	D	D

	5.6	C	C	D	D	D	D		
2.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	B	B	B	B
	4.6	B	B	B	B	C	C	C	C
	5.0	C	C	C	C	C	C	D	D
	5.3	C	C	C	C	D	D	D	D
	5.6	C	C	D	D	D	D		
2.5	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	B	B	B	B
	4.6	B	B	B	B	C	C	C	C
	5.0	C	C	C	C	C	C	D	D
	5.3	C	C	C	C	D	D	D	D
	5.6	C	C	D	D	D	D		
3.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	B	B	B	B
	4.6	B	B	B	B	C	C	C	C
	5.0	C	C	C	C	C	C	D	D
	5.3	C	C	C	C	D	D	D	D
	5.6	C	C	D	D	D	D		

Legend - Stud Size and Spacing

A = 38 × 140 mm at 400 mm on centre
B = 38 × 140 mm at 300 mm on centre
C = two 38 × 140 mm studs at 400 mm on centre
D = two 38 × 140 mm studs at 300 mm on centre

Notes to Table 9.23.10.1.-A:

(1) A roof dead load of 0.5 kPa has been assumed. The Table does not apply where the stud supports additional loads from heavy roofing materials such as concrete tiles or clay roofing tiles.
(2) Wall construction shall conform to the requirements of Sentence 9.23.10.1.(2).

Table 9.23.10.1.-B
Sizes for Spruce-Pine-Fir No. 2 Grade Exterior Wall Studs With Siding(1)(2)
Forming Part of Sentence 9.23.10.1.(2)

Stud Size and Spacing									
Hourly Wind Pressure (1/50), kPa		0.40		0.45		0.50		0.60	
Specified Roof Snow Load, kPa	Stud Length, m	Supported Roof Length, m		Supported Roof Length, m		Supported Roof Length, m		Supported Roof Length, m	
		3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
1.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	A	A
	5.0	A	A	A	A	A	A	B	B
	5.3	A	A	A	A	B	B	B	B

	5.6	A	A	B	B	B	B	C	C
1.5	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	A	A
	5.0	A	A	A	A	A	A	B	B
	5.3	A	A	A	A	B	B	B	B
	5.6	A	A	B	B	B	B	C	C
2.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	A	A
	5.0	A	A	A	A	A	A	B	B
	5.3	A	A	A	A	B	B	B	B
	5.6	A	A	B	B	B	B	C	C
2.5	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	A	A
	5.0	A	A	A	A	A	A	B	B
	5.3	A	A	A	A	B	B	B	B
	5.6	A	B	B	B	B	B	C	C
3.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	A	A
	5.0	A	A	A	A	A	A	B	B
	5.3	A	B	A	B	B	B	B	B
	5.6	A	B	B	B	B	B	C	C

Legend - Stud Size and Spacing

A = 38 × 140 mm at 400 mm on centre
B = 38 × 140 mm at 300 mm on centre
C = two 38 × 140 mm studs at 400 mm on centre
D = two 38 × 140 mm studs at 300 mm on centre

Notes to Table 9.23.10.1.-B:

(1) A roof dead load of 0.5 kPa has been assumed. The Table does not apply where the stud supports additional loads from heavy roofing materials such as concrete tiles or clay roofing tiles.

(2) Wall construction shall conform to the requirements of Sentence 9.23.10.1.(2).

Table 9.23.10.1.-C
Sizes for Northern Species No. 2 Grade Exterior Wall Studs With Brick Veneer(1)(2)
Forming Part of Sentence 9.23.10.1.(2)

Stud Size and Spacing									
Hourly Wind Pressure (1/50), kPa		0.40		0.45		0.50		0.60	
Specified Roof Snow Load, kPa	Stud Length, m	Supported Roof Length, m		Supported Roof Length, m		Supported Roof Length, m		Supported Roof Length, m	
		3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0

1.0	3.8	A	A	A	A	B	B	B	B
	4.2	B	B	B	B	C	C	C	C
	4.6	C	C	C	C	C	C	D	D
	5.0	C	C	D	D	D	D		
	5.3	D	D	D	D				
	5.6								
1.5	3.8	A	A	A	A	B	B	B	B
	4.2	B	B	B	B	C	C	C	C
	4.6	C	C	C	C	C	C	D	D
	5.0	C	C	D	D	D	D		
	5.3	D	D	D	D				
	5.6								
2.0	3.8	A	A	A	A	B	B	B	B
	4.2	B	B	B	B	C	C	C	C
	4.6	C	C	C	C	C	C	D	D
	5.0	C	C	D	D	D	D		
	5.3	D	D	D	D				
	5.6								
2.5	3.8	A	A	A	A	B	B	B	B
	4.2	B	B	B	B	C	C	C	C
	4.6	C	C	C	C	C	C	D	D
	5.0	C	C	D	D	D	D		
	5.3	D	D	D	D				
	5.6								
3.0	3.8	A	A	A	A	B	B	B	B
	4.2	B	B	B	B	C	C	C	C
	4.6	C	C	C	C	C	C	D	D
	5.0	C	C	D	D	D	D		
	5.3	D	D	D	D				
	5.6								

Legend - Stud Size and Spacing

A = 38 × 140 mm at 400 mm on centre
B = 38 × 140 mm at 300 mm on centre
C = two 38 × 140 mm studs at 400 mm on centre
D = two 38 × 140 mm studs at 300 mm on centre

Notes to Table 9.23.10.1.-C:

(1) A roof dead load of 0.5 kPa has been assumed. The Table does not apply where the stud supports additional loads from heavy roofing materials such as concrete tiles or clay roofing tiles.

(2) Wall construction shall conform to the requirements of Sentence 9.23.10.1.(2).

Table 9.23.10.1.-D
Sizes for Northern Species No. 2 Grade Exterior Wall Studs With Siding[1][2]
Forming Part of Sentence 9.23.10.1.(2)

Stud Size and Spacing									
Hourly Wind Pressure (1/50), kPa		0.40		0.45		0.50		0.60	
Specified Roof Snow Load, kPa	Stud Length, m	Supported Roof Length, m		Supported Roof Length, m		Supported Roof Length, m		Supported Roof Length, m	
		3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
1.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	B	B
	5.0	A	A	B	B	B	B	C	C
	5.3	B	B	B	B	C	C	C	C
	5.6	C	C	C	C	C	C	D	D
1.5	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	B	B
	5.0	A	A	B	B	B	B	C	C
	5.3	B	B	B	B	C	C	C	C
	5.6	C	C	C	C	C	C	D	D
2.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	B	B
	5.0	A	A	B	B	B	B	C	C
	5.3	B	B	B	B	C	C	C	C
	5.6	C	C	C	C	C	C	D	D
2.5	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	A	A	A	A	A	B	B
	5.0	A	B	B	B	B	B	C	C
	5.3	B	B	B	B	C	C	C	C
	5.6	C	C	C	C	C	C	D	D
3.0	3.8	A	A	A	A	A	A	A	A
	4.2	A	A	A	A	A	A	A	A
	4.6	A	B	A	B	A	B	B	B
	5.0	A	B	B	B	B	B	C	C
	5.3	B	C	B	C	C	C	C	C
	5.6	C	C	C	C	C	C	D	D

Legend - Stud Size and Spacing

A = 38 × 140 mm at 400 mm on centre

C = two 38 × 140 mm studs at 400 mm on centre

B = 38 × 140 mm at 300 mm on centre D = two 38 × 140 mm studs at 300 mm on centre

Notes to Table 9.23.10.1.-D:
(1) A roof dead load of 0.5 kPa has been assumed. The Table does not apply where the stud supports additional loads from heavy roofing materials such as concrete tiles or clay roofing tiles.
(2) Wall construction shall conform to the requirements of Sentence 9.23.10.1.(2).

485. Article 9.23.10.2. of Division B is revoked and the following substituted:

9.23.10.2. Bracing and Lateral Support (See Note A-9.23.10.2.)

(0.1) Except as provided in Sentence (0.2), each exterior wall in each *storey* shall be braced with at least one diagonal brace conforming to Sentence (0.3).

(0.2) Bracing is not required where the walls

(a) have an interior finish conforming to the requirements of Section 9.29., or

(b) where the walls are

(i) clad with panel-type siding,

(ii) diagonally sheathed with lumber, or

(iii) sheathed with plywood, OSB, waferboard, gypsum or fibreboard sheathing.

(0.3) Where bracing is required, it shall

(a) consist of not less than 19 mm by 89 mm wood members,

(b) be applied to the studs at an angle of approximately 45° to the horizontal, and

(c) extend the full height of the wall on each *storey*.

(0.4) Bracing described in Sentence (3) shall be nailed to each stud and wall plate by at least two 63 mm nails.

(1) Where *loadbearing* interior walls are not finished in accordance with Sentence (0.2), blocking or strapping shall be fastened to the studs at mid-height to prevent sideways buckling.

486. Subsection 9.23.10.7. of Division B is amended by adding the following Article:

9.23.10.7. Stud Posts Building into Walls

(1) Except as provided in Sentences (2) and (3), stud posts shall be designed in accordance with Part 4.

(2) The number of studs in a wall directly below a girder truss or roof beam shall conform to Tables 9.23.10.7-A to 9.23.10.7.-D, provided

(a) the studs are fastened together to form a post in accordance with Sentence 9.17.4.2.(2),

(b) the wall is not less than 1.2 m long and sheathed on at least one side with plywood, OSB, waferboard or gypsum sheathing, and

(c) the wall sheathing is fastened to the stud post with at least one row of fasteners conforming to Article 9.23.3.5. and spaced not more than 150 mm o.c. (See Note A-9.23.10.7.(2))

(3) The width of the stud post shall be not less than the width of the girder or beam that it supports.

Table 9.23.10.7.-A
Minimum Number of 38 × 89 mm Spruce-Pine-Fir Stud Posts in Exterior Stud Walls Supporting Girder Trusses and Roof Beams[1][2][3]

Forming Part of Sentence 9.23.10.7.(2)

Minimum Number of Studs																					
Stud Height, m	Span of Beam or Girder, m	Specified Roof Snow Load, kPa																			
		1.0				1.5				2.0				2.5				3.0			
		Supported Length, m				Supported Length, m				Supported Length, m				Supported Length, m				Supported Length, m			
		2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0
2.4	2.4	1	1	2	2	1	2	2	2	1	2	2	3	2	2	3	3	2	2	3	3
	3.6	1	2	2	2	2	2	3	3	2	2	3	4	2	3	4	4	2	3	4	5
	4.8	2	2	3	3	2	3	3	4	2	3	4	5	3	4	5		3	4	5	
	6.0	2	2	3	4	2	3	4	5	3	4	5		3	4			3	5		
	7.2	2	3	4	4	3	4	5		3	4			4	5			4			
	8.4	2	3	4	5	3	4	5		3	5			4				5			
	9.6	3	4	5		3	5			4				5				5			
	10.8	3	4	5		4	5			4				5							
	12.0	3	4			4				5											
3.0	2.4	1	2	2	2	2	2	3	3	2	2	3	4	2	3	4	4	2	3	4	5
	3.6	2	2	3	3	2	3	4	4	2	3	4	5	3	4	5		3	4		
	4.8	2	3	4	4	3	4	5		3	4			4	5			4			
	6.0	2	3	4	5	3	4			4	5			4				5			
	7.2	3	4	5		4	5			4				5							
	8.4	3	4			4				5											
	9.6	4	5			5															
	10.8	4				5															
	12.0	4																			

Notes to Table 9.23.10.7.-A:

[1] A roof dead load of 0.62 kPa has been assumed.

[2] Roof beams require a minimum bearing length of 89 mm.

[3] Girder trusses require a minimum bearing length of 89 mm unless otherwise specified by the truss manufacturer.

Table 9.23.10.7.-B
Minimum Number of 38 × 140 mm Spruce-Pine-Fir Stud Posts in Exterior Stud Walls Supporting Girder Trusses and Roof Beams[1][2][3]

Forming Part of Sentence 9.23.10.7.(2)

Minimum Number of Studs																					
Stud Height, m	Span of Beam or Girder, m	Specified Roof Snow Load, kPa																			
		1.0				1.5				2.0				2.5				3.0			
		Supported Length, m				Supported Length, m				Supported Length, m				Supported Length, m				Supported Length, m			
		2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0
3.0	2.4	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	1	1	2	2
	3.6	1	1	1	1	1	1	2	2	1	1	2	2	1	2	2	2	1	2	2	3
	4.8	1	1	2	2	1	2	2	2	1	2	2	3	2	2	3	3	2	2	3	4
	6.0	1	1	2	2	1	2	2	3	2	2	3	3	2	2	3	4	2	3	4	4
	7.2	1	2	2	2	2	2	3	3	2	2	3	4	2	3	4	4	2	3	4	5
	8.4	1	2	2	3	2	2	3	4	2	3	4	4	2	3	4	5	3	4	5	
	9.6	2	2	3	3	2	3	3	4	2	3	4	5	3	4	5		3	4	5	
	10.8	2	2	3	3	2	3	4	4	2	3	4	5	3	4	5		3	5		
	12.0	2	2	3	4	2	3	4	5	3	4	5		3	4			4	5		
3.6	2.4	1	1	1	1	1	1	1	2	1	1	2	2	1	1	2	2	1	2	2	2
	3.6	1	1	1	2	1	1	2	2	1	2	2	3	1	2	2	3	2	2	3	3
	4.8	1	1	2	2	1	2	2	3	2	2	3	3	2	2	3	4	2	3	4	4
	6.0	1	2	2	3	2	2	3	3	2	3	3	4	2	3	4	5	2	3	4	5
	7.2	1	2	2	3	2	2	3	4	2	3	4	5	2	3	4	5	3	4	5	
	8.4	2	2	3	3	2	3	4	4	2	3	4	5	3	4	5		3	4		
	9.6	2	2	3	4	2	3	4	5	3	4	5		3	4			4	5		
	10.8	2	3	3	4	2	3	4	5	3	4	5		3	5			4			
	12.0	2	3	4	5	3	4	5		3	5			4	5			4			

Notes to Table 9.23.10.7.-B:

(1) A roof dead load of 0.62 kPa has been assumed.

(2) Roof beams require a minimum bearing length of 140 mm.

(3) Girder trusses require a minimum bearing length of 140 mm unless otherwise specified by the truss manufacturer.

Table 9.23.10.7.-C
Minimum Number of 38 × 89 mm Northern Species Stud Posts in Exterior Stud Walls Supporting Girder Trusses and Roof Beams[1][2][3]

Forming Part of Sentence 9.23.10.7.(2)

Minimum Number of Studs																					
Stud Height, m	Span of Beam or Girder, m	Specified Roof Snow Load, kPa																			
		1.0				1.5				2.0				2.5				3.0			
		Supported Length, m				Supported Length, m				Supported Length, m				Supported Length, m				Supported Length, m			
		2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0
2.4	2.4	1	2	2	2	2	2	3	3	2	2	3	4	2	3	4	4	2	3	4	5
	3.6	2	2	3	3	2	3	4	4	2	3	4	5	3	4	5		3	4		
	4.8	2	3	4	4	3	4	5		3	4			4	5			4			
	6.0	2	3	4	5	3	4			4	5			4				5			
	7.2	3	4	5		4	5			4				5							
	8.4	3	4			4				5											
	9.6	4	5			5															
	10.8	4				5															
	12.0	4																			
3.0	2.4	2	2	3	3	2	3	3	4	2	3	4	5	3	4	5		3	4		
	3.6	2	3	4	5	3	4	5		3	5			4	5			4			
	4.8	3	4	5		3	5			4				5							
	6.0	3	5			4				5											
	7.2	4	5			5															
	8.4	4																			
	9.6	5																			
	10.8	5																			
	12.0																				

Notes to Table 9.23.10.7.-C:

[1] A roof dead load of 0.62 kPa has been assumed.

[2] Roof beams require a minimum bearing length of 89 mm.

[3] Girder trusses require a minimum bearing length of 89 mm unless otherwise specified by the truss manufacturer.

Table 9.23.10.7.-D
Minimum Number of 38 × 140 mm Northern Species Stud Posts in Exterior Stud Walls Supporting Girder Trusses and Roof Beams[1][2][3]
Forming Part of Sentence 9.23.10.7.(2)

Minimum Number of Studs																					
Stud Height, m	Span of Beam or Girder, m	Specified Roof Snow Load, kPa																			
		1.0				1.5				2.0				2.5				3.0			
		Supported Length, m				Supported Length, m				Supported Length, m				Supported Length, m				Supported Length, m			
		2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0	2.4	3.6	4.8	6.0
3.0	2.4	1	1	1	1	1	1	2	2	1	1	2	2	1	2	2	2	1	2	2	3
	3.6	1	1	2	2	1	2	2	2	1	2	2	3	2	2	3	3	2	3	3	4
	4.8	1	2	2	2	2	2	3	3	2	2	3	4	2	3	4	4	2	3	4	5
	6.0	1	2	2	3	2	2	3	4	2	3	4	5	2	3	4	5	3	4	5	
	7.2	2	2	3	3	2	3	4	4	2	3	4	5	3	4	5		3	5		
	8.4	2	3	3	4	2	3	4	5	3	4	5		3	5			4	5		
	9.6	2	3	4	4	3	4	5		3	4			4	5			4			
	10.8	2	3	4	5	3	4	5		3	5			4				5			
	12.0	2	3	4	5	3	4			4	5			4				5			
3.6	2.4	1	1	1	2	1	1	2	2	1	2	2	3	1	2	2	3	2	2	3	3
	3.6	1	2	2	2	1	2	2	3	2	2	3	4	2	3	3	4	2	3	4	5
	4.8	1	2	2	3	2	2	3	4	2	3	4	5	2	3	4	5	3	4	5	
	6.0	2	2	3	4	2	3	4	5	3	4	5		3	4	5		3	5		
	7.2	2	3	3	4	2	3	4	5	3	4	5		3	5			4			
	8.4	2	3	4	5	3	4	5		3	5			4				4			
	9.6	2	3	4	5	3	4			4	5			4				5			
	10.8	3	4	5		3	5			4				5							
	12.0	3	4	5		4	5			5				5							

Notes to Table 9.23.10.7.-D:
[1] A roof dead load of 0.62 kPa has been assumed.
[2] Roof beams require a minimum bearing length of 140 mm.
[3] Girder trusses require a minimum bearing length of 140 mm unless otherwise specified by the truss manufacturer.

487. Sentence 9.23.15.1.(1) of Division B is revoked and the following substituted:

(1) Subflooring shall be provided beneath finish flooring where the finish flooring does not have adequate strength to support the design loads. (see Subsection 9.30.3.)

488. Sentences 9.23.16.5.(2) and (3) of Division B are revoked.

489. Sentence 9.23.16.6.(1) of Division B is revoked and the following substituted:

(1) Except as permitted in Sentence (2), where panel-type roof sheathing requires edge support, the support shall consist of metal H clips or not less than 38 mm by 38 mm blocking securely nailed between framing members.

(2) The supports referred to in Sentence (1) are not required when tongued-and-grooved edged panel-type sheathing board is used.

490. Article 9.23.17.3. of Division B is amended by adding the following Sentence:

(2) Nails used in attaching the materials listed in Sentence (1) shall be not less than 3.2 mm diam with a minimum head diameter of 11 mm.

491. Sentences 9.24.3.2.(4) and (5) of Division B are revoked and the following substituted:

(4) The lower runner required in Sentence (3) shall be cut through the flanges and be bent at each end to extend upwards at least 150 mm and fastened to the adjacent studs.

492. Article 9.25.1.1. of Division B is revoked and the following substituted:

9.25.1.1. Scope and Application

(1) This Section applies to heat, air and water vapour transfer and measures to control condensation.

(2) All walls, ceilings and floors separating *conditioned space* from unconditioned space, the exterior air or the ground shall be

(a) provided with

(i) thermal insulation conforming to Subsection 9.25.2.,

(ii) an *air barrier system* conforming to Subsection 9.25.3., and

(iii) a *vapour barrier* conforming to Subsection 9.25.4., and

(b) constructed in such a way that the properties and relative position of all materials conform to Subsection 9.25.5. (See Note A-9.25.1.1.(2))

(3) Insulation and sealing of heating and ventilating ducts shall conform to Sections 9.32. and 9.33.

493. Article 9.25.2.2. of Division B is amended by adding the following Sentence:

(4) Type 1 expanded polystyrene insulation as described in CAN/ULC-S701.1, "Standard for Thermal Insulation, Polystyrene Boards", shall not be used as roof insulation applied above the roofing membrane.

494. Sentence 9.25.2.3.(7) of Division B is revoked and the following substituted:

(7) Except as permitted in Sentence (7.1), insulation and *vapour barrier* located in areas where it may be subject to mechanical damage shall be protected by a covering such as gypsum board, plywood, particleboard, OSB, waferboard or hardboard.

(7.1) In unfinished *basements*, the protection required in Sentence (7) need not be provided for mineral fibre insulation, provided it is covered with a membrane which complies with the requirements of Section 9.25.4.

495. Article 9.25.3.1. of Division B is amended by adding the following Sentence:

(2) The continuity of the *air barrier system* shall extend throughout the *basement*.

496. Sentence 9.25.3.2.(1) of Division B is revoked and the following substituted:

(1) Sheet and panel type materials intended to provide the principal resistance to air leakage shall have an air leakage characteristic not greater than 0.02 L/(s·m^2) measured at an air pressure differential of 75 Pa.

497. Articles 9.25.3.3. to 9.25.3.6. of Division B are revoked and the following substituted:

9.25.3.3. Continuity of the Air Barrier System

(1) Where the *air barrier system* consists of an air-impermeable panel-type material, all joints shall be sealed to prevent air leakage.

(2) Where the *air barrier system* consists of flexible sheet material, all joints shall be

(a) sealed with compatible material such as tape or flexible sealant, or

(b) except as required by Sentence (2.1), lapped not less than 100 mm and clamped, such as between framing members, furring or blocking, and rigid panels.

(2.1) Where an *air barrier system* consisting of flexible sheet material is installed at locations where it is not supported by an interior finish, such as a behind a bathtub, shower enclosure or fireplace, the continuity of the air barrier shall be maintained by sealing its joints.

(3) Where an interior wall meets an exterior wall, ceiling, floor or roof required to be provided with air barrier protection, the *air barrier system* shall extend across the intersection and shall be sealed in accordance with Sentences (1) and (2).

(4) Where an interior wall projects through a ceiling or extends to become an exterior wall, spaces in the wall shall be blocked to provide continuity across those spaces with the *air barrier system* in the abutting walls or ceiling by

(a) sealing each air barrier to the blocking, or

(b) wrapping each air barrier around the transition and sealing in accordance with Sentences (1) and (2)

(5) Where an interior floor projects through an exterior wall or extends to become an exterior floor

(a) the air barrier of the wall under the floor shall be continuous with or sealed to the subfloor or the air barrier on the underside of the floor,

(b) the air barrier of the wall above the floor shall be continuous with or sealed to the subfloor or the air barrier on the top of the floor, and

(c) the spaces between floor joists shall be blocked and sealed.

(5.1) Where a header wrap is used as an air barrier, it shall be sealed or lapped to the wall air barrier above and below in accordance with Sentences (1) and (2).

(6) Penetrations of the *air barrier system*, such as those created by the installation of electrical wiring, electrical boxes, piping or ductwork, shall be sealed to maintain the integrity of the *air barrier system* over the entire surface.

(**6.1)** Where an interior air barrier is penetrated by doors, windows and other fenestration, the air barrier shall be sealed to the door frame or window frame with

(a) compatible tape, or

(b) spray foam insulation.

(6.2) Where an exterior air barrier is penetrated by doors, windows and other fenestration, the air barrier shall be sealed to the door frame or window frame with

(a) compatible flexible flashing material,

(b) caulking, or

(c) spray foam insulation.

(7) Where access hatches and sump pit covers are installed through assemblies constructed with an *air barrier system*, they shall be weatherstripped around their perimeters to prevent air leakage.

(8) Clearances between *chimneys* or *gas vents* and the surrounding construction that would permit air leakage from within the *building* into a wall or *attic or roof space* shall be sealed by *noncombustible* material to prevent such leakage and shall be sealed to the air barrier with tape or another compatible material, and to the vent with high temperature caulking in accordance with the manufacturer's installation instructions.

(9) Reserved.

(10) Sump pit covers shall be sealed to maintain continuity of the *air barrier system*.

9.25.3.3A. Vapour Barriers used as Air Barriers

(1) A *vapour barrier* used as an air barrier shall comply with the requirements of this Subsection.

9.25.3.4. Reserved

9.25.3.5. Reserved

9.25.3.6. Reserved

498. Sentence 9.25.4.2.(8) of Division B is revoked and the following substituted:

(8) Where insulation functions as the *vapour barrier*, it shall be sufficiently thick so as to meet the requirement of Sentence (1).

499. Sentence 9.25.5.2.(2) of Division B is revoked and the following substituted:

(2) For walls, the air space described in Clause (1)(c) shall be drained and ventilated and shall be not less than 10 mm deep behind the cladding, over the full height and width of the wall.

500. Subsection 9.26.1. of Division B is amended by adding the following Article:

9.26.1.4. Solar Collection Systems

(1) A solar collector system is permitted to be installed above roofing materials conforming to Sentence 9.26.2.1.(1).

501. Table 9.26.3.1. of Division B is revoked and the following substituted:

Table 9.26.3.1.
Roofing Types and Slope Limits
Forming Part of Sentence 9.26.3.1.(1)

Type of Roofing	Minimum Slope	Maximum Slope
Asphalt Shingles		
Low slope application	1 in 6	no limit
Normal application	1 in 3	no limit
Built-up Roofing		
Asphalt base (without gravel)	1 in 25	1 in 2
Asphalt base (gravelled)	1 in 50(1)	1 in 4
Coal-tar base (gravelled)	1 in 50(1)	1 in 25
Cold process	1 in 25	1 in 1.33
Cedar Shakes	1 in 3	no limit
Clay Tile	1 in 2	no limit
Glass Fibre Reinforced Polyester Roofing Panels	1 in 4	no limit
Modified Bituminous Membranes	1 in 50	1 in 4
Profiled Metal Roofing	1 in 4(2)	no limit
Roll Roofing		
480 mm wide selvage asphalt roofing	1 in 6	no limit
Cold application felt	1 in 50	1 in 1.33
Smooth and mineral surfaced	1 in 4	no limit
Sheet Metal Shingles	1 in 4(2)	no limit
Slate Shingles	1 in 2	no limit
Wood Shingles	1 in 4	no limit

Notes to Table 9.26.3.1.:

(1) See Sentence 9.26.3.1.(2).

(2) See Sentence 9.26.3.1.(3).

502. Sentence 9.26.4.1.(2) of Division B is revoked.

503. Article 9.26.4.3. of Division B is amended by adding the following Sentence:

(3.1) Closed valley flashing shall consist of sheet metal, self sealing composite membranes consisting of polyethylene and bituminous material or one layer of either Type S smooth surface roll roofing or Type M mineral surface roll roofing (mineral surface down) not less than 600 mm wide, and nails shall not penetrate the flashing within 75 mm of its edge or 124 mm of the bottom of the valley centreline.

504. Sentence 9.26.7.2.(3) of Division B is revoked and the following substituted:

(3) Starter strips need not be provided where eave protection of not less than Type M mineral-surfaced roll roofing is provided or self-sealing composite membranes consisting of polyethylene and bituminous material is provided.

505. Sentence 9.26.9.1.(1) of Division B is revoked and the following substituted:

(1) Decking for wood shingled roofs may be continuous or spaced.

506. Sentence 9.26.10.5.(1) of Division B is revoked and the following substituted:

(1) The exposure of wood shakes shall not exceed

(a) 190 mm for shakes not less than 450 mm long, and

(b) 240 mm for shakes not less than 600 mm long.

507. Sentence 9.26.11.4.(1) of Division B is revoked and the following substituted:

(1) Aggregate used for surfacing built-up roofs shall be clean, dry and durable and shall consist of particles of gravel, crushed stone or air-cooled blast furnace slag having a size of from 6 mm to 15 mm.

508. Sentence 9.26.13.2.(1) of Division B is revoked and the following substituted:

(1) Where sheet metal roofing is not supported by roof decking but spans between spaced supports, the panels shall be designed to support the specified *live loads* for roofs.

509. Sentence 9.26.14.1.(1) of Division B is revoked and the following substituted:

(1) Where glass-reinforced polyester roofing panels are not supported by roof decking but span between spaced supports, the panels shall be designed to support the specified *live loads* for roofs.

510. Sentence 9.26.17.1.(1) of Division B is revoked and the following substituted:

(1) Concrete roof tiles shall be installed according to CAN/CSA-A220 Series, "Concrete Roof Tiles." (See Note A-9.26.17.1.(1))

511. (1) Sentences 9.27.2.2.(1) to (3) of Division B are revoked and the following substituted:

(1) Reserved.

(2) Reserved.

(3) Reserved.

(2) Sentences 9.27.2.2.(5) and (6) of Division B are revoked and the following substituted:

(5) Reserved.

(6) Reserved.

512. Sentence 9.27.3.3.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Articles 9.27.3.4. to 9.27.3.6., at least one layer of sheathing membrane shall be applied beneath siding, stucco or masonry veneer.

513. Sentence 9.27.7.1.(3) of Division B is revoked and the following substituted:

(3) Eastern white cedar shingles shall be at least B (clear) grade, except that C grade may be used for undercoursing.

514. Sentence 9.27.7.3.(1) of Division B is revoked and the following substituted:

(1) Shingles or shakes shall be fastened with nails located approximately 20 mm from each edge and not less than 25 mm above the exposure line for single-course applications, or approximately 50 mm above the butt for double-course applications.

515. Sentence 9.27.14.1.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentence (2), this Subsection applies to exterior insulation finish systems (EIFS) that

(a) are covered in the scope of CAN/ULC-S716.1, "Standard for Exterior Insulation and Finish Systems (EIFS) - Materials and Systems," and

(b) have a geometrically defined drainage cavity with a minimum cavity depth of 6 mm and an open area equal to not less than 13% of the area of a full-size EIFS panel.

516. Article 9.27.14.3. of Division B is revoked and the following substituted:

9.27.14.3. Design and Installation

(1) The design of an exterior insulation finish system shall comply with CAN/ULC-S716.3, "Standard for Exterior Insulation and Finish Systems (EIFS) - Design Application."

(2) The installation of an exterior insulation finish system shall comply with CAN/ULC-S716.2, "Standard for Exterior Insulation and Finish Systems (EIFS) - Installation of EIFS Components and Water Resistive Barrier."

517. Sentence 9.28.4.6.(4) of Division B is revoked and the following substituted:

(4) Fasteners on horizontal surfaces shall be spaced not more than

(a) 150 mm o.c. along the framing members when members are spaced not more than 400 mm o.c., and

(b) 100 mm o.c. along the framing members when members are spaced not more than 600 mm o.c.

518. Sentence 9.29.5.2.(1) of Division B is revoked and the following substituted:

(1) Gypsum products shall conform to

(a) CAN/CSA-A82.27-M, "Gypsum Board",

(b) ASTM C1178/C1178M, "Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel," or

(c) ASTM C1396/C1396M, "Standard Specification for Gypsum Board," except that the flame-spread rating of gypsum board shall be determined in accordance with CAN/ULC-S102, "Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies."

519. Sentence 9.29.5.9.(5) of Division B is revoked and the following substituted:

(5) Where a *fire-resistance rating* is determined based on Table 1 of MMAH Supplementary Standard SB-3, "Fire and Sound Resistance Tables" need not apply for the purpose of fire protection.

520. The heading to Table 9.29.6.1. of Division B is revoked and the following substituted:

Table 9.29.6.1.
Thickness of Plywood Interior Finish

Forming Part of Articles 9.29.6.1., 9.29.6.2. and 9.29.9.2.

521. Sentence 9.29.10.5.(1) of Division B is revoked and the following substituted:

(1) The joints between wall tiles and a bathtub or shower shall be suitably caulked with material conforming to CAN/CGSB-19.22-M, "Mildew-Resistant Sealing Compound for Tubs and Tiles."

522. Sentence 9.30.1.2.(1) of Division B is revoked and the following substituted:

(1) Finished flooring in bathrooms, kitchens, public entrance halls, laundry and general storage areas shall consist of resilient flooring, felted-synthetic-fibre floor coverings, concrete, terrazzo, ceramic tile, mastic or other types of flooring providing similar degrees of water resistance. (See Note A-9.30.1.2.(1))

523. Article 9.30.2.1. of Division B is amended by adding the following Sentence:

(4) Panel-type underlay shall be provided under resilient flooring on waferboard or strandboard subflooring.

524. Sentence 9.30.2.2.(2) of Division B is revoked.

525. Article 9.30.3.4. of Division B is revoked and the following substituted:

9.30.3.4. Staples

(1) Staples are permitted to be used to fasten wood strip flooring not more than 7.9 mm in thickness and not more than 50 mm in width provided the staples

(a) are not less than 29 mm long,

(b) have a shank diameter of not less than 1.19 mm,

(c) have a crown of not less than 4.7 mm, and

(d) are spaced not more than 400 mm o.c.

(2) Staples are permitted to be used to fasten wood strip flooring not more than 19 mm in thickness and not more than 83 mm in width provided the staples

(a) are not less than 51 mm long,

(b) have a shank diameter of not less than 1.82 mm,

(c) have a crown of not less than 12.7 mm, and

(d) are spaced not more than 400 mm o.c.

526. Sentences 9.31.1.1.(3) and (4) of Division B are revoked and the following substituted:

(3) Medical gas piping systems shall conform to Subsection 3.7.5.

527. Sentence 9.31.3.1.(1) of Division B is revoked and the following substituted:

(1) Every *dwelling unit* shall be supplied with a *water distribution system* where a *drinking water system* is available.

528. Sentence 9.31.3.2.(1) of Division B is revoked and the following substituted:

(1) Where a *water distribution system* is available, piping for hot and cold water shall be connected to every kitchen sink, lavatory, bathtub, shower, slop sink and laundry area.

529. Subsections 9.31.4. and 9.31.5. of Division B are revoked and the following substituted:

9.31.4. Required Facilities

9.31.4.1. Required Fixtures

(1) A kitchen sink, lavatory, bathtub or shower, and water closet shall be provided for every *dwelling unit* where a *water distribution system* is available.

9.31.4.1A. Laundry Fixtures

(1) Laundry facilities or a space for laundry facilities shall be provided in every *dwelling unit* or grouped elsewhere in the *building* in a location conveniently accessible to occupants of every *dwelling unit*.

9.31.4.2. Hot Water Supply

(1) Where a water *distribution system* is available, a hot water supply shall be provided in every *dwelling unit*.

(2) A *water distribution system* supplying hot water to *plumbing fixtures* shall conform to the requirements in Subsection 7.2.10.

9.31.4.3. Floor Drains

(1) Where gravity drainage to a sewer, drainage ditch or dry well is possible, a floor drain shall be installed in a *basement* forming part of a *dwelling unit*.

9.31.5. Reserved

530. Subsection 9.31.6. of Division B is amended by adding the following Article:

9.31.6.1A. Hot Water Temperature

(1) Where a hot water supply is required by Article 9.31.4.3., equipment shall be installed to provide to every *dwelling unit* an adequate supply of service hot water with a temperature range from 45°C to 60°C.

(2) An electric *storage-type service water heater* shall have a minimum set storage temperature of 60°C.

531. Sentences 9.31.6.2.(1) and (2) of Division B are revoked and the following substituted:

(1) Every *service water heater* and its installation shall conform to Part 7.

(2) Reserved.

532. Sentence 9.32.1.1.(4) of Division B is revoked.

533. Sentence 9.32.1.3.(3) of Division B is revoked and the following substituted:

(3) Where collective venting of multiple installations of laundry-drying equipment is used, the ventilation system shall

(a) be connected to a common *exhaust duct* that is vented by one central exhaust fan, and incorporates one central lint trap,

(b) include an interlock to activate the central exhaust fan when laundry-drying equipment is in use, and

(c) where required by Article 9.32.3.8., be provided with make-up air.

534. Table 9.32.3.4. of Division B is revoked and the following substituted:

Table 9.32.3.4.
Maximum Outdoor Airflow

Forming Part of Sentence 9.32.3.4.(2)

January 2.5% Temperature as per Supplementary Standard SB-1, °C	Maximum Outdoor Airflow for Indicated Mixed Temperature, L/s																	
	0	0	0	-10	-10	-10	-20	-20	-20	-30	-30	-30	-40	-40	-40	-50	-50	-50
Minimum Mixed Air Temperature, °C	15	10	5	15	10	5	15	10	5	15	10	5	15	10	5	15	10	5
Furnace Airflow, L/s																		
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	32	55	77	22	38	53	17	29	40	13	23	33	11	19	27	10	17	24
200	64	109	155	44	75	106	33	57	81	27	46	65	23	39	55	19	33	47
300	—	—	—	66	113	159	50	86	121	40	69	98	34	58	82	29	50	71
400	—	—	—	—	—	—	—	—	—	54	92	131	45	77	110	39	67	94
500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	49	83	118

535. Article 9.32.3.9. of Division B is revoked and the following substituted:

9.32.3.9. Application of Carbon Monoxide Alarms (See Note A-9.32.3.9.)

(1) Article 9.32.3.9A. applies to every *building* that

(a) contains a *residential occupancy*, and contains a fuel-burning *appliance* or a *storage garage*, or

(b) contains a *residential occupancy* and is served by a forced-air fuel-burning *appliance* not contained within the *building*.

(2) Articles 9.32.3.9B. and 9.32.3.9C. apply to every *building*.

9.32.3.9A. Location of Carbon Monoxide Alarms

(1) A *carbon monoxide alarm* shall be installed in a *suite* of *residential occupancy* where

(a) a fuel-burning *appliance* or a *flue* is installed in the *suite*,

(b) a forced-air fuel-burning *appliance* provides heated air directly to the *suite*,

(c) a fuel-burning *appliance* or a *flue* is located in a room, *suite* or area that shares a common wall or floor or ceiling assembly with the *suite*, or

(d) a *storage garage* shares a common wall or floor or ceiling assembly with the *suite*.

(2) Where a *carbon monoxide alarm* is required by Sentence (1) to be installed in a *suite* of *residential occupancy*, other than a *suite* that consists of a combined living and sleeping area, a *carbon monoxide alarm* shall be installed

(a) adjacent to each sleeping room in the *suite*, and

(b) on each *storey* without a sleeping room in the *suite*.

(3) Where a *carbon monoxide alarm* is required by Sentence (1) to be installed in a *suite* of *residential occupancy* that consists of a combined living and sleeping area, a *carbon monoxide alarm* shall be installed in the combined living and sleeping area.

(4) In addition to the *carbon monoxide alarms* required to be installed in a *suite* of *residential occupancy* in accordance with Sentence (2), a *carbon monoxide alarm* shall be installed in each sleeping room within the *suite* where the sleeping room

(a) contains a fuel-burning *appliance* or a *flue*, or

(b) shares a common wall or floor or ceiling assembly

  (i) with a room, *suite* or area that is located outside the *suite* and contains a fuel-burning *appliance* or a *flue*,

  (ii) with a *storage garage*, or

  (iii) that is adjacent to an attic or crawl space to which the *storage garage* is also adjacent.

(5) *Carbon monoxide alarm*s shall be installed in *public corridors* serving *suite*s of *residential occupancy* where the corridor is directly heated by a forced-air fuel-burning *appliance*.

(6) Where *carbon monoxide alarms* are required by Sentence (5) to be installed in a *public corridor*, the *carbon monoxide alarms* shall be installed such that

(a) there is at least one *carbon monoxide alarm* in each portion of a divided corridor, and

(b) each *carbon monoxide alarm* in an undivided portion of a corridor is spaced not more than 25 m apart.

9.32.3.9B. Location of Carbon Monoxide Alarms in All Buildings

(1) A *carbon monoxide alarm* shall be installed in *service rooms* or other areas of a *building* where the *service room* or other area

(a) contains a fuel-burning *appliance* used for *building* services or laundry drying equipment, and

(b) is not located within a *suite* of *residential occupancy*.

9.32.3.9C. Installation and Conformance to Standards

(1) The *carbon monoxide alarms* required by Articles 9.32.3.9A. and 9.32.3.9B. shall

(a) except as permitted in Sentence (2), be permanently connected to an electrical circuit and shall have no disconnect switch between the overcurrent device and the *carbon monoxide alarm*,

(b) in case the regular power supply to the *carbon monoxide alarm* is interrupted, be provided with a battery as an alternative power source that can continue to provide power to the *carbon monoxide alarm* for a period of not less than 8 h in the standby condition, followed by the operation of the *carbon monoxide alarm* for an alarm signal for at least 12 h,

(c) be wired so that

  (i) activation of one *carbon monoxide alarm* within a *suite* of *residential occupancy* will activate all *carbon monoxide alarms* within the *suite*,

  (ii) activation of one *carbon monoxide alarm* within a house with a *secondary suite* will activate all *carbon monoxide alarms* within the house with a *secondary suite* including their common spaces, and

  (iii) activation of one *carbon monoxide alarm* located in a *public corridor* serving *suites* of *residential occupancy* will activate all *carbon monoxide alarm*s within the corridor,

(d) be audible within sleeping rooms when the intervening doors are closed, where located adjacent to a sleeping room in a *suite* of *residential occupancy*, and

(e) conform to

  (i) CAN/CSA-6.19, “Residential Carbon Monoxide Alarming Devices”, or

  (ii) UL 2034, “Single and Multiple Station Carbon Monoxide Alarms”.

(2) Where the *building* is not supplied with electrical power, *carbon monoxide alarms* are

(a) are permitted to be battery operated, and
(b) need not have a visual signaling component.

(3) Except as permitted in Sentence (2), the *carbon monoxide alarms* required by Articles 9.32.3.9A. and 9.32.3.9B. shall have a visual signalling component conforming to the requirements in 18.5.3. (Light, Color and Pulse Characteristics) of NFPA 72, "National Fire Alarm and Signaling Code".

(4) The luminous intensity for visual signaling components required by Sentence (3) that are installed in sleeping rooms or combined living and sleeping areas shall be a minimum of 175 cd.

(5) The visual signaling component required by Sentence (3) need not

(a) be integrated with the *carbon monoxide alarm* provided it is interconnected to it,
(b) be on battery backup, or
(c) have synchronized flash rates, when installed in a *dwelling unit*.

(6) The *carbon monoxide alarms* required by Articles 9.32.3.9A. and 9.32.3.9B. shall be installed

(a) at the manufacturer's recommended height, or
(b) in the absence of specific instructions, on or near the ceiling.

536. (1) Article 9.33.1.1. of Division B is amended by adding the following Sentence:

(2.1) Repairs or component replacements that change the capacity or extent of safety of an existing heating, ventilating or *air-conditioning* system and that alter the method of operation shall conform to this Code.

(2) Sentence 9.33.1.1.(4) of Division B is revoked.

537. Sentence 9.33.3.2.(1) of Division B is revoked and the following substituted:

(1) The outdoor conditions to be used in designing heating, ventilating and *air-conditioning* systems shall be the appropriate values for the location as set out in MMAH Supplementary Standard SB-1, "Climatic and Seismic Data," using 2.5 percent design temperature criteria.

538. Sentence 9.33.4.1.(1) of Division B is revoked and the following substituted:

(1) Heating, ventilating and *air-conditioning* systems, including related mechanical refrigeration systems, shall be designed, constructed and installed to conform to good engineering practice appropriate to the circumstances such as described in

(a) the ASHRAE Handbooks and Standards,

(b) CSA F280, "Determining the required capacity of residential space heating and cooling appliances,", and the outside winter design temperatures shall conform to MMAH Supplementary Standard SB-1, "Climatic and Seismic Data",

(c) CAN/CSA-F326-M, "Residential Mechanical Ventilation Systems,"

(d) the NFPA Standards,

(e) the HRAI Digest,

(f) the Hydronics Institute Manuals, and

(g) the SMACNA Manuals.

539. Sentence 9.33.4.2.(1) of Division B is revoked and the following substituted:

(1) The design and installation of hydronic heating systems shall conform to

(a) CSA B214, "Installation code for hydronic heating systems", or

(b) good engineering practice appropriate to the circumstances such as described in Article 9.33.4.1.

540. Sentence 9.33.4.3.(1) of Division B is revoked and the following substituted:

(1) Each *dwelling unit* shall be provided with a temperature control in accordance with Article 12.3.1.3.

541. Article 9.33.5.1. of Division B is revoked and the following substituted:

9.33.5.1. Capacity of Heating Appliances

(1) The heating system capacity shall be based on the heating load calculated in accordance with Sentence 9.33.4.1.(1).

(2) Where a cooling system is installed, the cooling system capacity shall be based on the cooling load calculated in accordance with Sentence 9.33.4.1.(1).

(3) The oversizing and undersizing of heating and cooling equipment capacities shall be determined in accordance with the requirements of CSA F280, "Determining the required capacity of residential space heating and cooling appliances."

542. Sentence 9.33.5.2.(1) of Division B is revoked and the following substituted:

(1) The design and installation of earth energy systems shall conform to CAN/CSA-C448.2, "Design and installation of earth energy systems for residential and other small buildings," where such systems use groundwater, submerged heat exchangers or ground heat exchangers to serve

(a) a house with or without a *secondary unit*, or

(b) a *building*, other than a house with or without a *secondary unit*, where the *conditioned space* is not more than 1 400 m^2.

(2) Except for a house with or without a *secondary unit*, the design and installation of earth energy systems shall conform to CAN/CSA-C448.1, "Design and installation of earth energy systems for commercial and institutional buildings," where such systems use groundwater, submerged heat exchangers or ground heat exchangers to condition a floor space area more than 1 400 m^2.

543. Article 9.33.5.3. of Division B is amended by adding the following Sentence:

(2) Solid fuel-burning *stoves*, *furnaces* and hydronic heating systems designed to burn solid fuels, other than coal, shall conform to the particulate emission limits of

(a) CSA B415.1, "Performance Testing of Solid-Fuel-Burning Heating Appliances", or

(b) the "Standards of Performance for New Residential Wood Heaters", set out in Subpart AAA of Part 60 of Title 40 of the Code of Federal Regulations, published by the United States Environmental Protection Agency, as it read on March 16, 2015. (See Note A-9.33.5.3.(2))

544. Article 9.33.6.1. of Division B is revoked and the following substituted:

9.33.6.1. Application

(1) The requirements of this Subsection apply to the design, construction and installation of air duct distribution systems serving heating, ventilating and *air-conditioning* systems that serve an individual *dwelling unit* within the scope of Part 9.

545. (1) Sentence 9.33.6.2.(1) of Division B is revoked and the following substituted:

(1) Except as provided in Sentences (2) to (6.2) and in Article 3.6.4.3., all ducts, duct connectors, associated fittings and *plenums* used in air duct systems shall be constructed of steel, aluminum alloy, copper, clay or similar *noncombustible* material.

546. Sentence 9.33.6.2.(7) of Division B is revoked and the following substituted:

(6.1) All ductwork and fittings shall be constructed and installed in conformance with SMACNA Manuals and ASHRAE Handbooks.

(6.2) All duct materials and fittings shall be

(a) suitable for exposure to the temperature and humidity of the air being conveyed, and

(b) resistant to corrosion due to contaminants in the air being conveyed in the duct.

(7) Materials referred to in Sentences (1) to (6.2), when used in a location where they may be subjected to excessive moisture, shall

(a) have no appreciable loss of strength when wet, and

(b) be corrosion-resistant.

547. Sentence 9.33.6.3.(1) of Division B is revoked and the following substituted:

(1) Tape used for sealing joints in air ducts, *plenums* and other parts of air duct systems shall meet the flame-resistance requirements for fabric in CAN/ULC-S109, "Standard Method for Flame Tests of Flame-Resistant Fabrics and Films."

548. Article 9.33.6.4. of Division B is revoked and the following substituted:

9.33.6.4. Coverings, Linings and Insulation

(1) Reserved.

(2) Reserved.

(3) Reserved.

(4) Reserved.

(5) Except as permitted in Sentences (6) and (7), foamed plastic insulation shall not be used as part of an air duct or for insulating an air duct.

(6) Foamed plastic insulation conforming to Article 9.25.2.2. is permitted to be used to insulate a galvanized steel, stainless steel or aluminum air duct, provided

(a) the foamed plastic insulation applied to supply ductwork is not less than 3 m from the *furnace* bonnet,

(b) the temperature within the ductwork where the insulation is installed is not greater than 50°C,

(c) duct joints are taped with a product conforming to Sentence 9.33.6.3.(1),

(d) return air *plenums* are separated from the foamed plastic insulation, and

(e) the foamed plastic insulation is protected in accordance with Article 9.10.17.10.

(7) Foamed plastic insulation is permitted to be used in a ceiling space that acts as a return air *plenum* provided the foamed plastic insulation is protected from exposure to the *plenum* in accordance with Sentence 3.1.5.14.(4).

(8) Reserved.

(9) Linings of ducts shall be installed so that they will not interfere with the operation of volume or balancing dampers or of *fire dampers, fire stop flaps* and other *closures*.

549. Article 9.33.6.6. of Division B is amended by adding the following Sentence:

(4.1) Rectangular panels in plenums and ducts more than 300 mm wide shall be shaped to provide sufficient stiffness.

550. Sentence 9.33.6.7.(7) of Division B is revoked and the following substituted:

(7) Underground ducts shall

(a) be constructed to provide interior drainage from and access to all low points,

(b) not be connected directly to a sewer, and

(c) be installed and constructed of materials in conformance with ASHRAE Handbooks, SMACNA Manuals and the HRAI Digest.

(8) Where a supply duct or return duct is not protected by an insulated exterior wall or where the duct is exposed to an unheated space it shall be insulated to provide a thermal resistance of not less than RSI 2.1.

(9) Where a supply duct or return duct is located in an unconditioned space or outdoors, all joints of the ductwork shall be sealed to a Class A seal level in accordance with ANSI/SMACNA 006, "HVAC Duct Construction Standards – Metal and Flexible".

(10) Where a supply duct is located in a conditioned space, the ductwork shall be sealed to a Class C seal level in accordance with ANSI/SMACNA 006, "HVAC Duct Construction Standards – Metal and Flexible".

(11) A clean-out or pump-out connection shall be provided in an underground duct system at every low point of the duct system.

551. Sentences 9.33.6.8.(1) to (4) of Division B are revoked and the following substituted:

(1) Reserved.

(2) Where the *plenum* clearance is 75 mm or less, the clearance between a supply duct and *combustible* material shall

(a) be equal to the required *plenum* clearance within 450 mm of the *plenum*, and

(b) be not less than 12 mm at a distance of 450 mm or more from the *plenum*, except that this clearance may be reduced to zero beyond a bend or offset in the duct sufficiently large to shield the remainder of the *supply duct* from direct radiation from the *furnace* heat exchanger.

(3) Where the *plenum* clearance is more than 75 mm but not more than 150 mm, the clearance between a *supply duct* and *combustible* material shall be

(a) equal to the required *plenum* clearance within a horizontal distance of 1.8 m of the *plenum*, and

(b) not less than 12 mm at a horizontal distance of 1.8 m or more from the *plenum*, except that this distance may be reduced to zero beyond a bend or offset in the duct sufficiently large to shield the remainder of the duct from direct radiation from the *furnace* heat exchanger.

(4) Where the *plenum* clearance is more than 150 mm, the clearance between a *supply duct* and *combustible* material shall be

(a) equal to the required *plenum* clearance within a horizontal distance of 1 m of the *plenum*,

(b) not less than 150 mm within a horizontal distance between 1 m and 1.8 m from the *plenum*, and

(c) not less than 25 mm at a horizontal distance of 1.8 m or more from the *plenum*, except that this distance may be reduced to 8 mm beyond a bend or offset in the duct sufficiently large to shield the remainder of the supply duct from direct radiation from the *furnace* heat exchanger.

552. Sentence 9.33.6.9.(1) of Division B is revoked and the following substituted:

(1) All branch *supply ducts* for residential systems shall be equipped with volume control dampers at the boot to permit balancing or shall be fitted with a diffuser incorporating an adjustable and lockable volume control device that can be set in a fixed position.

553. Sentence 9.33.6.10.(1) of Division B is revoked and the following substituted:

(1) Reserved.

554. Subsection 9.33.6. of Division B is amended by adding the following Article:

9.33.6.10A. Supply, Return, Intake and Exhaust Openings

(1) Supply, return and exhaust air openings in rooms or spaces shall be protected by grilles having openings of a size that will not allow the passage of a 15 mm diameter sphere.

(2) Outdoor air intakes and exhaust outlets at the *building* exterior shall be designed or located so that the air entering the *building* system will not contain more contaminants than the normal exterior air.

(3) Exterior openings for outdoor air intakes and exhaust outlets shall be shielded from the entry of snow and rain and shall be fitted with corrosion-resistant screens of mesh having openings not larger than 15 mm, except where climatic conditions may require larger openings.

(4) Screens required in Sentence (3) shall be accessible for maintenance.

555. (1) Sentence 9.33.6.11.(6) of Division B is revoked and the following substituted:

(6) Except for pipeless *furnaces* and floor *furnaces*, the capacity of warm-air supply outlets serving *dwelling units* shall be not less than the design heat loss from the area served and shall not exceed 3 kW per outlet.

(2) Article 9.33.6.11. of Division B is amended by adding the following Sentence:

(10) Air duct systems serving *storage garages* shall not be interconnected with other parts of the *building*.

556. Sentence 9.33.6.12.(2) of Division B is revoked and the following substituted:

(2) Except for floor levels which are less than 900 mm above or below an adjacent floor level which is provided with a return-air inlet, at least one return-air inlet shall be provided in each floor level in a *dwelling unit*.

557. Article 9.33.6.13. of Division B is amended by adding the following Sentences:

(1.1) Except as provided in Sentences (2) and (3), *return ducts* shall be constructed of material having a surface *flame-spread rating* of not more than 150**.**

…

(6.1) A *public corridor* shall comply with Sentences 6.3.2.7.(4) and (5).

…

(7.1) Return-air from a *dwelling unit* shall not be recirculated to any other *dwelling unit*.

558. Subsection 9.33.6. of Division B is amended by adding the following Article:

9.33.6.14A. Exhaust Ducts and Outlets

(1) Where an *exhaust duct* passes through or is adjacent to unheated space, the duct shall be insulated to prevent moisture or condensation in the duct.

(2) Exhaust outlets shall be designed to prevent back draft under wind conditions.

(3) *Exhaust ducts* directly connected to laundry drying equipment shall be independent of other *exhaust ducts*.

(4) Exhaust systems shall discharge directly to the outdoors.

559. Sentence 9.33.8.2.(5) of Division B is revoked and the following substituted:

(5) Pipes that are exposed to human contact shall be insulated so that the exposed surface does not exceed 52°C.

560. Sentence 9.33.10.2.(1) of Division B is revoked and the following substituted:

(1) *Factory-built chimneys* serving solid-fuel-burning *appliances*, and their installation, shall comply with Sentence 9.21.1.3.(1).

561. Article 9.34.1.1. of Division B is revoked and the following substituted:

9.34.1.1. Reserved

562. Article 9.34.1.5. of Division B is revoked and the following substituted:

9.34.1.5. Wiring and Cables

(1) Except for *dwelling units* and except as required in Sentence (2), optical fibre cables and electrical wires and cables installed in buildings permitted to be of *combustible construction* shall

(a) not convey flame or continue to burn for more than 1 min when tested in conformance with the Vertical Flame Test in Clause 4.11.1. of CSA C22.2 No. 0.3, "Test Methods for Electrical Wires and Cables," (FT1 Rating), or

(b) be located in

(i) totally enclosed *noncombustible* raceways,

(ii) masonry walls,

(iii) concrete slabs, or

(iv) totally enclosed non-metallic raceways conforming to Clause 3.1.5.23.(1)(b).

(2) Where a concealed space in a floor or ceiling assembly is used as a *plenum*, electrical wires and cables within the *plenum* shall conform to Clause 3.6.4.3.(1)(a).

563. Article 9.34.2.1. of Division B is amended by adding the following Sentence:

(2) The exterior lighting outlet with fixture required by Sentence (1) may be controlled by a wall switch or panel accessible to authorized personnel only, where it serves

(a) a *building* entrance serving multiple *suites* of *residential occupancy*,

(b) multiple *dwelling unit* entrances,

(c) *hotels*, or

(d) motels.

564. Sentence 9.34.2.6.(3) of Division B is revoked and the following substituted:

(3) Where the outlet and fixture required in Sentence (1) are ceiling mounted above an area not normally occupied by a parked car, or are wall mounted, a fixture with a built-in switch is permitted to be used.

565. (1) Sentence 9.34.2.7.(1) of Division B is revoked and the following substituted:

(1) Every public or *service area* in *buildings*, including a *recreational camp* and a *camp for housing of workers*, shall have lighting outlets with fixtures controlled by a wall switch or panel to illuminate such areas**.**

(2) Table 9.34.2.7. of Division B is revoked and the following substituted:

Table 9.34.2.7.
Lighting for Public Areas

Forming Part of Sentences 9.34.2.7.(2) and (3)

Room or Space	Minimum Illumination, lx	Minimum Lighting Power Density, W/m^2 of *floor area* (incandescent lighting)
Storage rooms	50	5
Service rooms and laundry areas	200	20
Garages	50	5
Public water closet rooms	100	10
Service hallways and stairways	50	5
Recreation rooms	100	10

Hallways, corridors, stairways and sleeping areas in *recreational camps* and *camps for housing of workers*	100	10
Kitchen in *recreational camps* and *camps for housing of workers*	500	50
All other rooms in *recreational camps* and *camps for housing of workers*	250	25

566. Sentence 9.35.2.2.(1) of Division B is revoked and the following substituted:

(1) Where an attached or built-in garage is provided, the garage floor shall be sloped to drain liquids to the outdoors.

567. Sentence 9.35.3.1.(2) of Division B is revoked and the following substituted:

(2) Detached garages of less than 55 m^2 *floor area* and not more than 1 *storey* in height that are not of masonry or masonry veneer construction are permitted to be supported on

(a) wood mud sills, or

(b) a concrete floor slab having a minimum thickness of not less than 100 mm.

568. Sections 9.36. and 9.37. of Division B are revoked and the following substituted:

Section 9.36. Revoked

Section 9.37. Cottages

9.37.1. Scope

9.37.1.1. Application

(1) This Section applies to *buildings* of *residential occupancy* used or intended to be used as seasonal recreational *buildings*.

(2) The *buildings* described in Sentence (1) shall comply with all the requirements of this Part, except where they are specifically exempted in this Section.

9.37.2. General

9.37.2.1. Exclusions

(1) Except as provided in Subsection 9.10.15. and Articles 9.37.2.4. and 9.37.3.1., *buildings* used or intended to be used as seasonal recreational *buildings* need not comply with Sections 9.5. to 9.7. and 9.9. to 9.11.

(2) Flooring need not comply with Section 9.30., but tight-fitting floors shall be provided to support the *live* and *dead loads*.

(3) Except as provided in Sentence (4), thermal insulation, *vapour barrier*, air barrier construction, interior finishes, plumbing, heating, mechanical ventilation, *air-conditioning* and electrical facilities, need not be provided, but where any of these are provided, they shall comply with the requirements of this Part.

(4) Where heating and *air-conditioning* are provided, Article 9.33.3.1. need not be complied with.

9.37.2.2. Foundations

(1) Continuous perimeter *foundation* walls are not required, but when they are provided, they shall comply with the requirements of this Part.

(2) Where unit masonry columns are used, the height of such columns shall not exceed

(a) in the case of hollow masonry units, 4 times the least dimension of the units,

(b) in the case of solid masonry units or hollow units with voids filled with concrete, 10 times the least dimension of the column, or

(c) where the column is reinforced with at least four 13 mm diam bars and filled with concrete, 18 times the least dimension of the column.

(3) Columns in excess of the height limitations of Clauses (2)(a) to (c) shall be designed in accordance with Part 4.

9.37.2.3. Waterproofing and Dampproofing

(1) Where *foundations* below ground level and concrete floors on ground are used, they shall comply with Section 9.13.

9.37.2.4. Smoke Alarms

(1) Every *dwelling unit* within the scope of this Section shall be provided with a *smoke alarm* in accordance with Subsection 9.10.19.

9.37.3. Tourist Accommodation

9.37.3.1. Buildings for Seasonal Tourist Accommodation or for Rent

(1) Where *buildings* are used or intended to be used for seasonal tourist accommodation or for rent, they shall comply with Sections 9.5. to 9.8. in addition to the requirements of this Section.

Section 9.38. Log Construction

9.38.1. General

9.38.1.1. Material Requirements

(1) Logs that are sound and free of fractures may be used for *foundations*, beams, posts and similar members, provided it can be shown by a structural analysis or tests or previous experience that the strength of the member is adequate for its intended purposes.

9.38.1.2. Requirement for Wood Preservative

(1) The portion of any log coming in contact with masonry or concrete at or below *grade* shall be treated with a wood preservative to prevent decay.

9.38.1.3. Exterior Joints

(1) All exterior joints between logs shall be rendered water-tight by methods such as machined joints, oakum packing, cement parging, chinking, caulking or a combination of these.

9.38.2. Walls

9.38.2.1. Logs

(1) Walls may be built of natural or manufactured logs.

9.38.2.2. Attachment of Logs

(1) Walls made of logs in a horizontal position shall have interlocking intersections that will prevent the collection of water in the joints, or the horizontal logs shall butt to a vertical corner post to which the horizontal logs shall be firmly attached.

9.38.2.3. Joining Logs

(1) Each log in a horizontal position shall be scribed as close as possible to its bearer and fastened to the bearer in at least three places throughout its length, by dowels, continuous machined joints, vertical framing members or interlocking intersections or any combination of these, but in no case shall the distance between fastenings exceed 1 800 mm.

9.38.2.4. Vertical Logs

(1) Each log in a wall built of vertical logs shall be scribed to fit as closely as possible to the adjacent logs.

9.38.2.5. Plates

(1) Logs used in a vertical position shall have a plate at the top and a plate at the bottom and the plates shall be at least as wide as the largest end diameter of any of the logs.

9.38.3. Lintels

9.38.3.1. Support Over Openings

(1) Logs placed in vertical position shall be supported over window and door openings by lintels meeting the requirements of Tables 9.23.4.2.-L and 9.23.12.3.-A to 9.23.12.3.-D.

9.38.3.2. Clearance

(1) At every opening in a wall made of logs in a horizontal position where shrinkage can occur there shall be a clearance between the rough buck header and the lintel log of not less than 13 mm in width for each 300 mm of height to allow for settlement.

9.39. Park Model Trailers

9.39.1. Scope

9.39.1.1. Application

(1) This Section applies to manufactured *buildings* designed and constructed in conformance with CAN/CSA-Z241 Series, “Park model trailers”, and used or intended to be used as a seasonal recreational *building* of *residential occupancy.*

9.39.2. General

9.39.2.1. General

(1) Except as provided in Subsection 9.39.3., a manufactured *building* used or intended to be used as a seasonal recreational *building* of *residential occupancy* is deemed to comply with this Code if it is designed and constructed in conformance with CAN/CSA-Z241 Series, “Park model trailers”.

9.39.3. Requirements

9.39.3.1. Other Building Components

(1) The requirements of this Code shall apply to *building* components designed and *constructed* outside the place of manufacture of a *building* described in Article 9.39.1.1.

9.39.3.2. Spatial Separation

(1) *Buildings* described in Article 9.39.1.1. shall comply with Section 9.10. where the *building* is

(a) used or intended to be used for seasonal tourist accommodation, or

(b) leased or intended to be leased.

9.39.3.3. Foundations and Anchorage

(1) *Buildings* described in Article 9.39.1.1. shall be supported and anchored in conformance with the manufacturer's installation instructions.

9.39.3.4. Proximity to Above Ground Electrical Conductors

(1) *Buildings* described in Article 9.39.1.1. shall comply with Article 9.1.1.5.

Section 9.40. Reinforced Concrete Slabs (See Note A-9.40.)

9.40.1. Scope

9.40.1.1. Application

(1) This Section applies to

(a) reinforced concrete slabs that are suspended over cold rooms in *basements*, and are supported by *foundation* walls along the perimeter of the slab with no additional interior supports, and

(b) slabs in which the clear span between supporting walls is not more than 2.5 m along the shortest dimension of the slab.

(2) Slabs for conditions other than described in Sentence (1) shall be designed in accordance with Part 4.

(2) This Section does not apply to reinforced concrete slabs intended to support motor vehicles.

9.40.1.2. Concrete

(1) Concrete shall conform to Section 9.3.

9.40.1.3. Reinforced Steel

(1) Reinforcing steel shall conform to Grade 400 in CSA G30.18, "Carbon steel bars for concrete reinforcement."

9.40.1.4. Slab Construction

(1) Concrete shall be cast against formwork in accordance with CSA A23.1, "Concrete materials and methods of concrete construction."

(2) The slab shall be not less than 125 mm thick.

(3) The slab shall be reinforced with 10M bars spaced not more than 200 mm o.c. in each direction, with 30 mm clear cover from the bottom of the slab to the first layer of bars, and the second layer of bars laid directly on top of the lower layer in the opposite direction.

(4) The slab shall bear not less than 75 mm on the supporting *foundation* walls and be anchored to the walls with 600 mm × 600 mm 10M bent dowels spaced at not more than 600 mm o.c.

(5) Exposed slabs shall be sloped to effectively shed water away from the exterior wall.

Section 9.41. Additional Requirements for Change of Use

9.41.1. Scope

9.41.1.1. Application

(1) This Section applies where proposed construction in respect of an existing *building* will result in any of the following changes of use of all or part of the *building*:

(a) a change of the *major occupancy* of all or part of a *building* that is designated with a "Y" in Table 1.3.1.4. of Division C,

(b) a *suite* of a Group C *major occupancy* is converted into more than one *suite* of a Group C *major occupancy*,

(c) a *farm building* or part of a *farm building* is changed to another *major occupancy* other than a Group G *major occupancy*,

(d) a *building* or part of a *building* is changed to a *post-disaster building*,

(e) the use of a *building* or part of a *building* is changed and the *previous major occupancy* of the *building* or part of the *building* cannot be determined, or

(f) a *farm building* or part of a *farm building* is changed to a Group G, Division 1 *major occupancy*.

(2) For the purposes of this Section and Sentences 11.4.2.1.(1) and 11.4.2.5.(4), the changes of use set out in Clauses (1)(b) to (f) are also deemed to constitute a change in *major occupancy*.

(3) The requirements of this Section are in addition to the requirements of other Parts of the Code as they apply to the proposed *construction*.

9.41.2. Additional Construction

9.41.2.1. Change of Use and Compensating Construction

(1) Where proposed *construction* will result in a change of use described in Clauses 9.40.1.1.(1)(a) to (f), additional *construction* shall be required in order that the *building* or part of a *building* subject to the change of use conforms to the requirements of Subsections 9.5.1. and 9.5.3. to 9.5.10., Section 9.6., Article 9.7.2.3. Sentences 9.7.5.1.(2) and 9.7.6.2.(1) and (3), Articles 9.8.8.1. and 9.9.10.1., Subsection 9.10.17. and Sections 9.31., 9.32. and 9.34. as they apply to the new *major occupancy* that the *building* or part of a *building* is to support.

(2) For the purposes of this Article, existing *buildings* shall be classified as to their *construction* and *occupancy* as provided for in Sentence 11.2.1.1.(1).

9.41.2.2. Performance Level Evaluation and Compensating Construction

(1) The *performance level* of a *building* after *construction* shall not be less than the *performance level* of the *building* prior to *construction*.

(2) For the purposes of Sentence (1), reduction of *performance level* shall be determined in accordance with Articles 11.4.2.1., 11.4.2.3. and 11.4.2.5.

(3) Where the proposed *construction* would reduce the *performance level* of an existing *building*, compensating *construction* shall be required in conformance with Articles 11.4.3.1., 11.4.3.2., 11.4.3.4. and 11.4.3.6.

(4) Section 11.5. applies in respect of the requirements of Sentences 11.4.3.4.(1), (3) and (4).

Part 10

569. The National Building Code of Canada is amended by adding the following Part:

Part 10

Change of Use

Section 10.1. General

10.1.1. Scope

10.1.1.1. Scope

(1) The scope of this Part shall be as described in Subsection 1.3.3.of Division A.

10.1.1.2. Change in Major Occupancy

(1) The following changes of use are also deemed to be a change in *major occupancy* for the purposes of this Part:

(a) a *suite* of a Group C *major occupancy* is converted into more than one *suite* of a Group C *major occupancy*,

(b) a *suite* or part of a *suite* of a Group A, Division 2 or Group A, Division 4 *major occupancy* is converted to a *gaming premises*,

(c) a *farm building* or part of a *farm building* is changed to another *major occupancy* other than a Group G *major occupancy,*

(d) a *building* or part of a *building* is changed to a *post-disaster building*,

(e) a *building* or part of a *building* is changed to a *retirement home*,

(f) the use of a *building* or part of a *building* is changed and the previous *major occupancy* of the *building* or part of the *building* cannot be determined, or

(g) a *farm building* or part of a *farm building* is changed to a Group G, Division 1 *major occupancy*.

Section 10.2. Classification of Existing Buildings

10.2.1. Classification

10.2.1.1. Classification of Major Occupancy

(1) Every existing *building* or part of it shall be classified according to its *major occupancy* in accordance with the requirements of Part 2 or Subsection 3.1.2.

10.2.1.2. Classification According to Construction and Occupancy

(1) Except as provided in Sentence (2), for the purposes of this Part, existing *buildings* shall be classified as to their *construction* and *occupancy* as provided for in Sentence 11.2.1.1.(1).

(2) For the purpose of Parts 10 and 11, the calculation of the *construction index* and *hazard index* for Group G *major occupancy* is permitted to be based on Group F, Division 2 *major occupancy*.

10.2.1.3. Building Size and Construction

(1) The requirements of Articles 2.2.2.3. to 2.2.2.8 and 3.2.2.20. to 3.2.2.93. do not apply to this Part.

Section 10.3. Requirements

10.3.1. General

10.3.1.1. General

(1) Except as provided in Section 10.4., a *building* or part of a *building* subject to a change of *major occupancy* shall conform to the requirements of Subsection 3.2.6., Sections 3.7., 3.11. and 3.12., Sentences 6.3.1.1.(2) and 6.3.2.7.(1), Subsections 9.5.1. and 9.5.3., 9.5.3A. to 9.5.3F. and 9.5.4., Sentences 9.6.1.4.(3), (4), Article 9.7.2.3., Sentences 9.8.8.1.(4) to (8) and 9.9.10.1.(1) to (7), Subsection 9.10.17., Sections 9.31. and 9.32., Sentence 9.33.6.13.(7.1), and Subsections 9.34.1. to 9.34.3. as they apply to the new *major occupancy* that the *building* or part of a *building* is to support.

(2) Where a *major occupancy* is changed to a Group B, Division 2 *major occupancy,* heating, ventilating, and air conditioning systems shall conform to the requirements of Sentence 6.2.1.1.(1).

(3) Where a *major occupancy* is changed to a Group B, Division 3 *major occupancy,* ventilation, air circulation, and filtration systems, shall conform to the requirements of Sentence 6.2.1.1.(1).

10.3.2. Performance Level

10.3.2.1. General

(1) The *performance level* of a *building* after the change of *major occupancy* shall not be less than the *performance level* prior to the change of *major occupancy*.

(2) For the purposes of Sentence (1), reduction of *performance level* shall be determined in accordance with Article 10.3.2.2.

(3) For the purpose of this Subsection, where a permit to construct a *farm building* has been applied for before January 1, 2025, the *performance level* of the *farm building* is permitted to be evaluated based on the applicable requirements of Ontario Regulation 332/12 (Building Code) made under the Act, as it read on December 31, 2024.

10.3.2.2. Reduction in Performance Level

(1) Except as provided in Sentence (2), the *performance level* of a *building* or part of a *building* is reduced where the existing structural floor and roof framing systems and their supporting members are not adequate to support the proposed *dead loads* and *live loads* of the new *major occupancy* that the *building* is to support.

(2) The inadequacy of the existing structural floor or roof framing system and its supporting members to support the proposed *dead loads* and *live loads* does not reduce the *performance level* of the *building* if the portion of the floor affected by the proposed loads is restricted to the loading it will support and signs stating the restrictions are posted.

(3) Except as provided in Section 10.4., the *performance level* of a *building* or part of a *building* is reduced where the early warning and evacuation systems requirements of the *building* do not meet the early warning and evacuation systems requirements set out in Table 10.3.2.2.-A for the new *major occupancy* that the *building* is to support.

(4) Except as provided in Sentence (5), the *performance level* of an existing *building* is reduced where a change in use will result in a change of the *major occupancy* of all or part of an existing *building* to another *major occupancy* of a greater *hazard index*.

(5) Except as provided in Sentence (6), if the *hazard index* of the new *major occupancy* is greater than the *hazard index* of the existing *major occupancy*, the *performance level* is not reduced where the *hazard index* of the new *major occupancy* is not greater than the *construction index* of the existing *building*.

(6) Small or medium sized existing *buildings* as determined in Tables 11.2.1.1.-B to 11.2.1.1.-N facing multiple *streets* may be assigned a *hazard index* credit of 1, which may be subtracted from the *hazard index* of the new *major occupancy* provided

(a) the *building* does not contain a Group B, Division 1, a Group C, or a Group F, Division 1 *occupancy*, and

(b) firefighting access complying with Articles 3.2.5.1. to 3.2.5.5. or Subsection 9.10.20. is provided.

Table 10.3.2.2.-A
For Evaluation of Early Warning/Evacuation
Forming Part of Sentence 10.3.2.2.(3) [2]

Early Warning / Evacuation Evaluation [2]	*Compliance Alternative*[1]
Early Warning and Evacuation to be evaluated against (a) *access to exit* widths based on *occupant load* in Subsection 3.3.1. or 9.9.3.; (b) *exit* widths based on *occupant load* in Subsection 3.4.3. or 9.9.3.; (c) *exit* signs in Subsection 3.4.5. or 9.9.11.; (d) lighting of *exits*, lighting of *access to exits* and emergency lighting in Subsection 3.2.7. or 9.9.12.; (e) fire alarm system in Subsection 3.2.4. or 9.10.18.; (f) *smoke alarms* in Subsection 9.10.19.; (g) travel distance and number of *exits* in other Parts of this Division; (h) smoke control measures, and at least one elevator to permit transport of firefighters to all floors in *hotels* whose floor level is more than 18 m high, measured between *grade* and floor level of the top *storey* as per Subsection 3.2.6.; and (i) door release hardware requirements in Articles 3.3.1.13. and 3.4.6.16., and deficiencies shall be upgraded.	EARLY WARNING (a) *Compliance alternatives* as listed may be used. EVACUATION (b) *Compliance alternatives* as listed to *access to exit* and *exit* widths, number of *exits*, door release hardware, and travel distance may be used.

Notes to Table 10.3.2.2.-A:
[1] See Tables 11.5.1.1.-A, 11.5.1.1.-B, 11.5.1.1.-C, 11.5.1.1.-D/E and 11.5.1.1.-F for *compliance alternatives* that may be used.
[2] In the case of *farm buildings*, Early Warning and Evacuation to be evaluated against the corresponding Part 2 requirements to items (a) to (e) and (g) and (j) in this Table.

(7) Except as provided in Sentence (8), the *performance level* of a *building* or part of a *building* is reduced in an existing *building* of *combustible construction* where

(a) the *occupancy* is changed to a *residential occupancy* in all or part of the *building*, and

(b) if the *building* was new, it would have been required to be of *noncombustible construction* or to be constructed in accordance with Article 3.2.2.51. or 3.2.2.60.

(8) A change in the *occupancy* of a *building* or part of a *building* to a *residential occupancy* does not reduce the *performance level* of the *building* or part of the *building* where

(a) the *building* is *sprinklered*, and

(b) the *building* does not exceed 6 *storeys* in *building height*.

(9) The *performance level* of a *building* or part of a *building* is reduced where the new *major occupancy* in an existing *building* of multiple *occupancy* is not separated from

adjoining *major occupancies* by *fire separations* having *fire-resistance ratings* conforming to Article 3.1.3.1., Subsection 9.10.9. or Table 10.3.2.2.-B.

(10) The *performance level* of a *building* is reduced where the *building* after the change of *major occupancy* will not comply with Article 3.1.3.2. or 9.10.9.14.

(11) The *performance level* of a *building* or part of a *building* is reduced where, after a change of *major occupancy*

(a) the total daily design *sanitary sewage* flow of the new *major occupancy*, calculated in accordance with Article 8.2.1.3., exceeds the capacity of any component of a *sewage system* serving the *building*, or

(b) the type or amount of *sanitary sewage* that will, under the new *major occupancy*, be discharged to a *sewage system* serving the *building* is prohibited by Article 8.1.3.1.

Table 10.3.2.2.-B
Additional Upgrading for Multiple Major Occupancies(1)
Forming Part of Sentence 10.3.2.2.(9)

New *Major Occupancy*	Code Requirements	*Compliance Alternative*	
All	Table 3.1.3.1. and Subsection 9.10.9. Where:	For Existing *Building* Reduce to	If *Sprinklered* Reduce to
	1 h rating required	45 min	30 min
	2 h rating required	1.5 h	1 h
	3 h rating required	2 h	1.5 h

Notes to Table 10.3.2.2.-B:
(1) For *buildings* with multiple *major occupancies* only, where there is a change in *major occupancy*.

(12) The *performance level* of an existing *building* or part of an existing *building* is reduced where

(a) the use of the *building* or part of the *building* is changed to a *retirement home,* and

(b) any of the following applies:

(i) the *retirement home* is not *sprinklered* throughout,

(ii) Clause 3.2.6.8.(1)(b) or (c), as applicable, requires that a voice communication system conforming to Article 3.2.4.22. be provided in the *building* and such a system is not provided in the *building*, or

(iii) the *retirement home* contains one or more doors to *suites* or sleeping rooms not within *suites*, other than doors leading directly to the exterior, that are not equipped with self-closing devices.

Section 10.4. Compliance Alternatives

10.4.1. Compliance Alternatives

10.4.1.1. Substitution

(1) Except as provided in Sentence (3), a *compliance alternative* to a requirement contained in Part 3, 4, 6 or 8 that is shown in Tables 11.5.1.1.-A, 11.5.1.1.-B, 11.5.1.1.-C, 11.5.1.1.-D/E or 11.5.1.1.-F may be substituted for the requirement where the *chief building official* is satisfied that compliance with the requirement is impracticable because

(a) of structural or *construction* difficulties, or

(b) it is detrimental to the preservation of a *heritage building*.

(2) Except as provided in Sentence (3), a *compliance alternative* to a requirement contained in Part 9 or 12 shown in Tables 11.5.1.1.-C, 11.5.1.1.-D/E or 11.5.1.1.-F may be substituted for the requirement without satisfying the *chief building official* that the requirement is impracticable.

(3) Where the *building* has been in existence for less than five years, *compliance alternatives* may only be used in respect of requirements of this Division that are referenced in Sentences 10.3.2.2.(3), (5) and Table 10.3.2.2.-B.

Part 11

570. The National Building Code of Canada is amended by adding the following Part:

Part 11

Renovation

Section 11.1. General

11.1.1. Scope

11.1.1.1. Scope

(1) The scope of this Part shall be as described in Subsection 1.3.3. of Division A.

11.1.1.2. Definitions

(1) In this Part,

Building system means a combination of elements or components that form a complete major division of *construction* in the design of a *building* or part of a *building*, including a structural or framing system, a waterproofing system, a *drainage system*, an *exterior cladding* system, a roofing system, a window system, a *partition* system, a corridor system, a stair system, a fire alarm and detection system, a sprinkler system or a heating, ventilation or *air-conditioning* system, a *foundation* system, a standpipe and hose system, a flooring system, a *plumbing system*, a *sewage system* or an electrical system.

11.1.2. Application

11.1.2.1. Extension, Material Alteration or Repair

(1) Where an existing *building* is extended or is subject to material alteration or repair,

(a) the proposed *construction* shall comply with Section 11.3., and

(b) the *performance level* of the *building* shall be evaluated and compensating *construction* shall be undertaken in accordance with Section 11.4.

Section 11.2. Classification of Existing Buildings

11.2.1. Classification

11.2.1.1. Construction Index and Hazard Index

(1) Where proposed *construction* will result in the change of *major occupancy* of all or part of an existing *building* to another *major occupancy*, the *building* shall be classified as to its,

(a) *construction* on the basis of its *construction index* as provided for in this Part, including Table 11.2.1.1.-A, and (See Note A-11.2.1.1.(1)(a))

(b) *occupancy* on the basis of its *hazard index* as provided for in this Part, including Tables 11.2.1.1.-B to 11.2.1.1.-N. (See Note A-11.2.1.1.(1)(b))

(2) Small or medium sized existing *buildings* as determined in Tables 11.2.1.1.-B to 11.2.1.1.-N facing multiple *streets* may be assigned a *hazard index* credit of 1, which may be subtracted from the *hazard index* of the proposed *major occupancy* to reduce the additional upgrading required by Table 11.4.3.4.-A provided,

(a) the *building* does not contain a Group B, Division 1, a Group C, or a Group F, Division 1 *occupancy*, and

(b) firefighting access complying with Articles 3.2.5.1. to 3.2.5.5. or Subsection 9.10.20. is provided.

(3) The requirements of Articles 2.2.2.3. to 2.2.2.8. and 3.2.2.20. to 3.2.2.93. do not apply to this Part.

(4) For the purpose of this Part, the calculation of the *construction index* and *hazard index* for a Group G *major occupancy* is permitted to be based on a Group F, Division 2 *major occupancy*.

11.2.1.2. Multiple Occupancies

(1) The classification of an existing *building* of multiple *occupancy* under Article 11.2.1.1. shall be applied according to Articles 3.2.2.5. to 3.2.2.8.

11.2.1.3. Prohibition of Occupancy Combinations

(1) Nothing in this Part relieves an applicant from complying with the requirements of Article 2.2.1.2., 3.1.3.2. or 9.10.9.14.

Section 11.3. Proposed Construction

11.3.1. New and Existing Building Systems

11.3.1.1. Material Alteration or Repair of a Building System

(1) Where an existing *building system* is materially altered or repaired, the *performance level* of the *building* after the material alteration or repair shall be at least equal to the *performance level* of the *building* prior to the material alteration or repair. (See Note A-11.3.1.1.(1))

11.3.1.2. New Building Systems and Extension of Existing Building Systems

(1) Except as provided in Article 11.3.3.1. and Section 11.5., the design and *construction* of a new *building system* or the extension of an existing *building system*, shall comply with all other Parts. (See Note A-11.3.1.2.(1).)

11.3.2. Extension of Buildings

11.3.2.1. Portion of Extended Buildings

(1) Where an existing *building* is extended,

(a) this Part applies to the existing portion of the *building*, and

(b) the extended portion of the *building* shall comply with all other Parts.

11.3.3. Renovation

11.3.3.1. Basic Renovation (See Note A-11.3.3.1.)

(1) Except as provided in Sentence (2) and Article 11.3.3.2., *construction* may be carried out to maintain the existing *performance level* of all or part of an existing *building*, by the reuse, relocation or extension of the same or similar materials or components, to retain the existing character, structural uniqueness, heritage value, or aesthetic appearance of all or part of the *building*, if the *construction* will not adversely affect the early warning and evacuation systems, *fire separations* or the structural adequacy or will not create an unhealthy environment in the *building*.

(2) *Construction* in respect of a Group B, Division 3 *occupancy*, a *hotel* or a *retirement home* may be carried out in accordance with Sentence (1) only if the *construction* will be in conformance with the Fire Code made under the *Fire Protection and Prevention Act, 1997*.

11.3.3.2. Extensive Renovation (See Note A-11.3.3.2.)

(1) Where existing interior walls or ceilings or floor assemblies or roof assemblies are substantially removed in an existing *building* and new interior walls, ceilings, floor assemblies or roof assemblies are installed in the *building*, structural and fire-resistance elements shall be constructed in compliance with the requirements of the other Parts.

(2) Except as provided in Section 11.5., the proposed *construction* within an existing *suite* shall comply with the requirements of Section 3.8. where,

(a) new interior walls or floor assemblies are installed,

(b) the *suite* has an area greater than 300 m^2, and

(c) the *suite* is located in,

(i) a *floor area* where the existing difference in elevation between the adjacent ground level and the floor level is not more than 200 mm, or

(ii) a normally occupied *floor area* which is accessible by a passenger type elevator or other platform equipped passenger elevating device from an entrance *storey* where the existing difference in elevation

between the adjacent ground level and the entrance *storey* level is not more than 200 mm.

(3) Except as provided in Section 11.5., the proposed *construction* within an existing *suite*, other than a *suite* described in Sentence (2) or a *suite* in a *building* described in Clause 3.8.1.1.(1)(a), (b), (c) or (d), shall comply with the requirements of Sentences 3.8.1.3.(6), 3.8.2.3.(6), 3.8.3.1.(6), 3.8.3.3.(19), 3.8.3.7.(1), 3.8.3.7.(2), 3.8.3.15.(5) and 3.8.3.16.(4) where new interior walls or floor assemblies are installed. (See Note A-11.3.3.2.(3).)

(4) Except as provided in Sentence (5), where existing interior walls or ceilings or floor assemblies or roof assemblies are substantially removed on any *storey* in an existing *building* and new interior walls, ceilings, floor assemblies or roof assemblies are installed, the *storey* shall be *sprinklered* if,

(a) the *storey* will contain a Group C *major occupancy*, and

(b) the *building* is over 3 *storeys* in *building height*.

(5) Sentence (4) does not apply where the *building*,

(a) conforms to Subclause 3.2.2.50.(1)(a)(ii), and

(b) contains *dwelling units* having *means of egress* conforming to Sentence 3.3.4.4.(8).

(6) Where existing interior walls or ceilings or floor assemblies or roof assemblies are substantially removed and new interior walls, ceilings, floor assemblies or roof assemblies are installed in an existing *building* or part of an existing *building* that is a *retirement home*, the following requirements apply:

(a) the *retirement home* shall be *sprinklered* throughout,

(b) a voice communication system conforming to Article 3.2.4.22. shall be provided in the *building*, if Clause 3.2.6.8.(1)(b) or Sentence 3.3.4.11.(12), as applicable, requires that such a voice communication system be provided in the *building*, and

(c) doors to *suites* and sleeping rooms not within *suites* in the *retirement home*, other than doors leading directly to the exterior, shall be equipped with self-closing devices.

11.3.4. Plumbing

11.3.4.1. Extension, Material Alteration or Repair

(1) Despite Subsections 11.3.1. to 11.3.3., when an existing *building* is extended or subject to material alteration or repair, Part 7 applies,

(a) to the design and *construction* of *plumbing* in the extensions and those parts of the *building* subject to material alteration and repair, and

(b) to *plumbing* which is adversely affected by the extension, alteration or repair.

11.3.5. Sewage Systems

11.3.5.1. Existing Septic Tanks

(1) Despite Subsections 11.3.1. to 11.3.3., where an existing *septic tank* is subject to material alteration, repair or replacement, the *construction* of the *septic tank* shall comply with Part 8.

11.3.5.2. Vertical Separations and Existing Sewage Systems

(1) Despite Subsections 11.3.1. to 11.3.3., where an existing *sewage system* is extended or is subject to material alteration or repair, the requirements respecting the vertical separation to the water table set out in Part 8 apply to the extended, altered or repaired portions of the *sewage system* as well as to the existing portions of the *sewage system*.

Section 11.4. Performance Level Evaluation and Compensating Construction

11.4.1. General

11.4.1.1. Performance Level

(1) The *performance level* of a *building* after *construction* shall not be less than the *performance level* of the *building* prior to *construction*.

(2) For the purposes of Sentence (1), reduction of *performance level* shall be determined in accordance with Subsection 11.4.2.

(3) Where the proposed *construction* would reduce the *performance level* of an existing *building*, compensating *construction* shall be required in conformance with Subsection 11.4.3.

(4) For the purpose of this Subsection, where a permit to construct a *farm building* has been applied for before January 1, 2025, the *performance level* of the *farm building* is permitted to be evaluated based on the applicable requirements of Ontario Regulation 332/12 (Building Code) made under the Act, as it read on December 31, 2024.

11.4.2. Reduction in Performance Level

11.4.2.1. Structural

(1) The *performance level* of an existing *building* is reduced where after proposed *construction* in all or part of an existing *building*,

(a) the *major occupancy* will change to a different *major occupancy*,

(b) the *occupant load* will increase by more than 15%, or

(c) the *live load* will increase due to change in use within the same *major occupancy*,

and the existing structural floor and roof framing systems and their supporting members after the *construction* are not adequate to support the proposed *dead loads* and *live loads*.

11.4.2.2. Increase in Occupant Load

(1) Except as provided in Sentences 11.4.2.5.(2) and (3), the *performance level* of an existing *building* is reduced where proposed *construction* will increase the *occupant load* of an existing *building* by more than 15%.

(2) The *performance level* of an existing *building* is reduced where proposed *construction* will increase the *occupant load* by 15% or less and the new *occupant load* will be more than 15% above the *occupant load* for which a fire alarm system is required under Sentence 3.2.4.1.(4).

(3) The *performance level* of an existing *building* is reduced where proposed *construction* will increase the *occupant load* by 15% or less and the new *occupant load* will be more than 15% above the existing *exit* capacity as required under Article 3.4.3.2.

11.4.2.3. Change of Major Occupancy

(1) Except as provided in Sentence 11.4.2.5.(4), the *performance level* of an existing *building* is reduced where proposed *construction* will result in,

(a) the change of the *major occupancy* of all or part of an existing *building* to another *major occupancy* of a greater *hazard index*,

(b) the conversion of a *suite* of a Group C *major occupancy* into more than one *suite* of Group C *major occupancy*,

(c) the conversion of a *suite* or part of a *suite* of a Group A, Division 2 or a Group A, Division 4 *major occupancy* into a *gaming premises*,

(d) the change of a *farm building* or part of a *farm building* to another *major occupancy other than a Group G major occupancy*,

(e) the change of a *building* or part of a *building* to a *post-disaster building*,

(f) the change of a *building* or part of a *building* to a *retirement home*,

(g) the change in use of a *building* or part of a *building* where the previous *major occupancy* of the *building* or part of the *building* cannot be determined, or

(h) the change of a *farm building* or part of a *farm building* to a Group G, Division 1 *major occupancy.*

(2) For the purpose of this Article and Sentences 11.4.2.1.(1) and 11.4.2.5.(4), the change of use set out in Clauses (1)(b) to (h) is also deemed to constitute a change in *major occupancy*.

(3) The *performance level* of an existing *building* is reduced where the early warning and evacuation systems requirements of other Parts for the proposed *major occupancy* exceed those of the existing *building*.

(4) The *performance level* of an existing *building* is reduced where the proposed *major occupancy* in the *building* is not separated from the adjoining *major occupancies* by *fire separations* having *fire-resistance ratings* conforming to Tables 2.2.1.4., 3.1.3.1. and 11.4.3.4.-B.

(5) The *performance level* of an existing *building* is reduced where the *occupancy* of all or part of an existing *building* of *combustible construction* is changed to a new *major occupancy* that would require the *building*, if it were a new *building*, to be of *noncombustible construction* or to be constructed in accordance with Article 3.2.2.51. or 3.2.2.60.

(6) Despite Clause (1)(a), the *performance level* of an existing *building* is reduced where proposed *construction* will result in the change of the *major occupancy* of all or part of an existing *building* to a Group C *major occupancy* in a *building* over 3 *storeys* in *building height*, except in a *building* conforming to Subclause 3.2.2.50.(1)(a)(ii) and having an egress facility conforming to Sentence 3.3.4.4.(8).

11.4.2.4. Plumbing

(1) The *performance level* of an existing *building* is reduced where the existing *building* is extended or subject to material alteration or repair, and *plumbing* in the existing *building* is adversely affected by the extension, alteration or repair.

11.4.2.5. Sewage Systems

(1) The *performance level* of an existing *building* is reduced where the existing *building* is extended or subject to material alteration or repair and a *sewage system* serving the existing *building* is adversely affected by the extension, alteration or repair of the existing *building*.

(2) Except as provided in Sentence (3), the *performance level* of an existing *building* is reduced where proposed *construction* will increase the *occupant load* of an existing *building,* and the new *occupant load* will result in the total daily design *sanitary sewage* flow of the *building,* calculated in accordance with Article 8.2.1.3., exceeding the capacity of any component of a *sewage system* serving the *building*.

(3) The *performance level* of an existing *dwelling unit* is reduced where *proposed construction* that,

(a) increases the number of bedrooms in the *dwelling unit*,

(b) exceeds 15% of the finished area of the *dwelling unit*, or

(c) adds new *plumbing fixtures* to the *dwelling unit*,

will result in the total daily design *sanitary sewage* flow of the *dwelling unit*, calculated in accordance with Article 8.2.1.3., exceeding the capacity of any component of a *sewage system* serving the *dwelling unit*.

(4) The *performance level* of an existing *building* is reduced where proposed *construction* will result in the change of a *major occupancy* of all or part of the existing *building* to another *major occupancy* and,

(a) the total daily design *sanitary sewage* flow of the proposed *major occupancy*, calculated in accordance with Article 8.2.1.3., exceeds the capacity of any component of a *sewage system* serving the *building*, or

(b) the type or amount of *sanitary sewage* which will, under the proposed *major occupancy,* be discharged to a *sewage system* serving the *building,* is prohibited by Article 8.1.3.1.

11.4.2.6. Extension of Buildings of Combustible Construction

(1) The *performance level* of an existing *building* of *combustible construction* is reduced where the existing *building* is extended by adding a *storey* or *storeys* such that the extended *building* will be more than four *storeys* in *building height*.

11.4.3. Compensating Construction

11.4.3.1. General (See Note A-11.4.3.1.)

(1) Where the *performance level* of an existing *building* is reduced under Subsection 11.4.2., compensating *construction* shall be carried out in accordance with this Subsection.

(2) Except as provided in Sentence (3), compensating *construction* required under this Subsection applies to the part of the *building* being altered and shall include,

(a) *fire separations*, with the required *fire-resistance ratings*, separating the part being altered from the *floor areas* immediately above and below and from the immediate adjacent areas, and

(b) *access to exits* and *exits* from the *building*, where the alteration adversely affects the *exit* system of the *building*.

(3) Compensating *construction* required under this Subsection applies to the existing *building systems* that are adversely affected by the proposed *construction*.

11.4.3.2. Structural

(1) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.1.(1),

(a) remedial measures shall be taken to support the proposed loads, or

(b) the portion of the floor affected by the proposed loads shall be restricted to the loading it will support and signs stating the restrictions shall be posted. (See Note A-11.4.3.2.(1).)

11.4.3.3. Increase in Occupant Load (See Note A-11.4.3.3.)

(1) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.2.(1), (2) or (3), the *building* shall be evaluated, and the early warning and evacuation systems shall be upgraded, in conformance with the applicable requirements of Table 11.4.3.3.

(2) Sentence (1) does not apply in a Group C *occupancy* where the new total *occupant load* is,

(a) 14 persons or fewer in a *boarding, lodging or rooming house*, except that where the *occupant load* is between 10 and 15 persons, an interconnected system of *smoke alarms* in corridors near stairways is required, or

(b) 16 persons or fewer in a *building* containing residential *suites* which are *dwelling units*, except that where the *occupant load* is between 10 and 17 persons, an interconnected system of *smoke alarms* in corridors near stairways is required.

(3) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.2.(1), additional *construction* shall be required in order that the *building* or part of the *building* subject to the increase in *occupant load* conforms to the requirements of Sentences 2.4.2.1.(1) and 6.3.1.1.(2), Subsection 3.7.4. and Article 9.31.1.1.

11.4.3.4. Change in Major Occupancy (See Note A-11.4.3.4.)

(1) Where the *performance level* of an existing *building* is reduced under Clause 11.4.2.3.(1)(a), (b), (c), (d), (e) or (g), additional upgrading shall be required in conformance with Table 11.4.3.4.A. and so that the *construction index* of the *building* is increased to at least equal the *hazard index* of the new *major occupancy* that the *building* is to support.

(2) A *building* or part of the *building* subject to a change of *major occupancy* shall conform to the requirements of Articles 2.4.2.3. to 2.4.2.5., Subsection 3.2.6., Sections 3.7., 3.11., 3.12., Sentences 6.3.1.1.(2), and 6.3.2.7.(1) and 9.33.6.13.(7.1), Subsections 9.5.1. and 9.5.3., 9.5.3A. to 9.5.3F. and 9.5.4., Section 9.7., Subsection 9.10.17., Sections 9.31. and 9.32., and Subsections 9.34.1. to 9.34.3. as they apply to the new *major occupancy* that the *building* or part of the *building* is to support.

(3) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.3.(3), the *building* shall be evaluated, and the early warning and evacuation systems shall be upgraded, in conformance with the applicable requirements of Table 11.4.3.3.

(4) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.3.(4), upgrading of the *fire separations* shall be required in conformance with the applicable requirements of Article 3.1.3.1. and Table 11.4.3.4.-B.

(5) Where the *performance level* is reduced under Sentence 11.4.2.3.(5), the requirement for the *building* to be of *noncombustible construction* or to be constructed in accordance with Article 3.2.2.51. or 3.2.2.60. is satisfied if the *building* is *sprinklered* throughout.

(6) Where the *performance level* is reduced under Sentence 11.4.2.3.(6), the *storey* subject to the change shall be *sprinklered* throughout.

(7) Where the *performance level* of an existing *building* is reduced under Clause 11.4.2.3.(1)(f), the following requirements apply:

(a) the *retirement home* shall be *sprinklered* throughout,

(b) a voice communication system conforming to Article 3.2.4.22. shall be provided in the *building*, and

(c) doors to *suites* and sleeping rooms not within *suites* in the *retirement home*, other than doors leading directly to the exterior, shall be equipped with self-closing devices.

(8) Where a *major occupancy* is changed to a Group B, Division 2 *major occupancy*, heating, ventilating, *air conditioning* systems shall conform to the requirements of Sentence 6.2.1.1.(1).

(9) Where a *major occupancy* is changed to a Group B, Division 3 *major occupancy*, ventilation, air circulation, and filtration systems shall conform to the requirements of Sentence 6.2.1.1.(1).

11.4.3.5. Plumbing

(1) Where the *performance level* of an existing *building* is reduced under Sentence 11.4.2.4.(1), upgrading of *plumbing* in the existing *building* which is adversely affected by the extension, alteration or repair shall be required in conformance with Part 7.

11.4.3.6. Sewage Systems

(1) Where the *performance level* of an existing *building* is reduced under Article 11.4.2.5., upgrading of a *sewage system* which is adversely affected by the *construction*, increase in *occupant load,* increase in the total daily design *sanitary sewage* flow or change in amount or type of *sanitary sewage* shall be required in conformance with Part 8.

11.4.3.7. Extension of Buildings of Combustible Construction

(1) Where the *performance level* of an existing *building* is reduced under Article 11.4.2.6., the *building* shall be *sprinklered* throughout.

Section 11.5. Compliance Alternatives

11.5.1. Compliance Alternatives (See Note A-11.5.1.)

11.5.1.1. Compliance Alternatives

(1) A *compliance alternative* shown in Table 11.5.1.1.-A, 11.5.1.1.-B, 11.5.1.1.-C, 11.5.1.1.-D/E or 11.5.1.1.-F may be substituted for a requirement contained in Part 3, 4, 6 or 8 where the *chief building official* is satisfied that compliance with the requirement is impracticable because,

(a) of structural or *construction* difficulties, or

(b) it is detrimental to the preservation of a *heritage building*.

(2) A *compliance alternative* shown in Table 11.5.1.1.-A, 11.5.1.1.-B, 11.5.1.1.-C, 11.5.1.1.-D/E or 11.5.1.1.-F may be substituted for a requirement contained in Part 9 or 12 without satisfying the *chief building official* that compliance with the requirement is impracticable.

Table 11.2.1.1.-A
Construction Index

Forming Part of Sentence 11.2.1.1.(1)

Fire-Resistance Rating			Type of *Construction*	*C.I.*[2]
Floors over *Basement*	Other Floors	Roof		
3 h	3 h	1.5 h	*Noncombustible*	8[1]
2 h	2 h	1 h	*Noncombustible*	7
1 h	1 h	45 min	*Noncombustible*	6
45 min	45 min	0 h	*Noncombustible*	5
45 min	45 min	45 min	*Heavy Timber*	5
45 min	45 min	45 min	*Combustible*	5
45 min	0 h	0 h	*Noncombustible*	4
45 min	45 min	0 h	*Combustible*	4
30 min	0 h	0 h	*Noncombustible*	3
30 min	30 min	0 h	*Combustible*	3
0 h	30 min	0 h	*Combustible*	2
0 h	0 h	0 h	*Combustible*	1[1]

Notes to Table 11.2.1.1.-A:

(1) *C.I.* of 1 is lowest fire protection *performance level* and *C.I.* of 8 is highest.

(2) Take highest rating for *C.I.* from Table 11.2.1.1.-A. for existing *building*.

Table 11.2.1.1.-B
Hazard Index(1)(4)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group A Division 1	*Occupancy H.I.*(5)		
	Small	Medium	Large
Dinner Theatres	4	5	6
Live Theatres	4	5	6
Motion Picture Theatres	4	5	6
Opera Houses	4	5	6
Television Studios (With Audience)	4	5	6

Notes to Table 11.2.1.1.-B.:

(1)

Building Size (Maximum) (2)(3)	*Occupancy H.I.*
- 300 *occupant load* maximum / 1 *storey*	Small
- 600 m^2 / 600 *occupant load* maximum / 1 *storey* with less than 40% 2 *storey* (6)	Medium
- Any area / not exceeding 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(5) Take lowest rating for *H.I.* from Table for *major occupancy* change.

(6) *Building* may have less than 40% of its area as 2 *storeys* for purposes as described in Clauses 3.2.2.21.(1)(c) and (d).

Table 11.2.1.1.-C
Hazard Index(1)(4)(6)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group A Division 2	*Occupancy H.I.*(5)		
	Small	Medium	Large
Art Galleries	3	4	6
Auditoria	3	4	6

Billiard Halls, Amusement Arcades	3	4	6
Bowling Alleys	3	4	6
Churches	3	4	6
Clubs, Lodges (Non-Residential)	3	4	6
Community Halls	3	4	6
Concert Halls	3	4	6
Court Rooms	3	4	6
Dance Halls	3	4	6
Daycare Centres	3	4	6
Exhibition Halls (Without Sales)	3	4	6
Exhibition Halls (With Sales)	See Group E		
Gaming premises	3	4	6
Gymnasia (Multi-Purpose)	3	4	6
Gymnasia (Athletic)	3	4	6
Lecture Halls	3	4	6
Libraries	3	4	6
Licensed Beverage Establishments	3	4	6
Licensed Clubs, Lodges	3	4	6
Museums	3	4	6
Passenger Stations / Depots	3	4	6
Public Heritage Buildings	3	---	---
Recreational Piers	3	4	6
Restaurants	3	4	6
Schools, Colleges	3	4	6
Undertaking Premises	3	4	6

Notes to Table 11.2.1.1.-C:

(1)

Building Size (Maximum) (2)(3)	*Occupancy H.I.*
- 400 m^2 / 1 *storey*	Small
- 250 m^2 / 3 *storey* (*Public Heritage Building*)	Small
- 800 m^2 / 2 *storey*	Medium
- Any area / not exceeding 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(5) Take lowest rating for *H.I.* from Table for *major occupancy* change.

(6) *Buildings* which exceed 3 *storeys* in *building height* and are of *combustible construction* shall be *sprinklered* throughout.

Table 11.2.1.1.-D
Hazard Index[1][4]

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group A Division 3	*Occupancy H.I.*[5]		
	Small	Medium	Large
Arenas (No Occupancy On Activity Surface)	3	4	6
Armouries (No Occupancy On Activity Surface)	3	4	6
Enclosed Stadia or Grandstand	3	4	6
Ice Rinks (No Occupancy On Activity Surface)	3	4	6
Indoor Swimming Pools	3	4	6

Notes to Table 11.2.1.1.-D:

(1)

Building Size (Maximum) [2][3]	*Occupancy H.I.*
- 1000 m^2 / 1 *storey*	Small
- 2000 m^2 / 2 *storey*	Medium
- Any area / not exceeding 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(5) Take lowest rating for *H.I.* from Table for *major occupancy* change.

Table 11.2.1.1.-E
Hazard Index[1][3]

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group A Division 4	*Occupancy H.I.* [4]		
	Small	Medium	Large
Amusement Park Structures	2	3	5
Bleachers	1	3	5
Grandstands (Open)	1	3	5
Reviewing Stands	1	3	5
Stadia (Open)	1	3	5

Notes to Table 11.2.1.1.-E:

(1)

Building Size (Maximum) [2]	*Occupancy H.I.*
- 2,500 *occupant load* max. / min. *limiting distance* of 6 m (*combustible*)	Small

- 15,000 *occupant load* maximum (with roof at least ½ rating if *combustible*)	Medium
- Unlimited *occupant load*	Large

(2) *Building* size is based on the existing *building* facing one *street*.

(3) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(4) Take lowest rating for *H.I.* from Table for *major occupancy* change.

Table 11.2.1.1.-F
Hazard Index(1)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group B Division 1	*Occupancy H.I.*(3)(5)		
	Small	Medium	Large
Detention Facilities (Minimum Security)(4)	4	5	6
Detention Facilities (All Other Types of Security)	6	6	7
Police Station with Detention	3	---	---

Notes to Table 11.2.1.1.-F.:

(1)

Building Size (Maximum)(2)	*Occupancy H.I.*
- Any area / 1 *storey*	Small
- 600 m^2 / 1 *storey* (Police Station with Detention)	Small
- Any area (*noncombustible*) / 2 *storey*	Medium
- Any area (*noncombustible*); 500 m^2 (*combustible*) / 2 *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey* (*noncombustible*)	*H.I.* = 7
- Over 500 m^2 (*combustible*) / over 2 *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) When the size of a *building* falls into more than one category, the *H.I.* for the least restrictive is permitted to be used.

(4) Minimum security means occupants free to exit *building* in a fire emergency.

(5) *Detention occupancy* with any *H.I.* shall be *sprinklered* throughout.

Table 11.2.1.1.-G
Hazard Index(1)(4)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group B Division 2	*Occupancy H.I.*(5)(7)		
	Small	Medium	Large
Hospital, Long-Term Care Home (Immobile) (6)	4	5	7
Hospital, Long-Term Care Home (Non-Ambulatory) (6)	4	5	6

Hospital, Long-Term Care Home (Ambulatory) (6)	3	4	6
Psychiatric Facility (Maximum Confinement)	4	5	7
Psychiatric Facility (Minimum Confinement)	3	4	6
Police Station With Detention (as Permitted in Article 3.1.2.4.)	3	---	---

Notes to Table 11.2.1.1.-G:

(1)

Building Size (Maximum)(2)(3)	*Occupancy H.I.*
- 250 m^2 / 1 *storey*	Small
- 600 m^2 / 1 *storey* (Police Station with Detention)	Small
- 500 m^2 / 2 *storey*; 1000 m^2 / 1 *storey*	Medium
- Any area (*noncombustible*); 500 m^2 (*combustible*) / 2 *storey*	Medium
- Any area / not exceeding 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(5) When the size of a *building* falls into more than one category, the *H.I.* for the least restrictive is permitted to be used.

(6) Immobile means patients are attached to life support systems and cannot be moved. Non-Ambulatory means patients are confined to bed and require transportation. Ambulatory means patients may walk on their own.

(7) *Care and treatment occupancy* with any *H.I.* shall be *sprinklered* throughout.

Table 11.2.1.1.-H
Hazard Index(1)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group B Division 3	*Occupancy H.I.*(4)(5)		
	Small	Medium	Large
Residential care facilities (Ambulatory) (6)	3	4	6
Residential care facilities (Non-Ambulatory) (6)	4	5	6
Children Custodial Homes	3	4	6
Convalescent Homes (Ambulatory) (6)	3	4	6
Convalescent Homes (Non-Ambulatory) (6)	4	5	6
Group Homes For Adult Residents with Developmental Disabilities (Minimum Confinement)	3	4	6

Group Homes For Adult Residents with Developmental Disabilities (Maximum Confinement)	4	5	6

Notes to Table 11.2.1.1.-H:

(1)

Building Size (Maximum)[2][3]	*Occupancy H.I.*
- 600 m^2 / 1 *storey*	Small
- 500 m^2 / 2 *storey;* 1000 m^2 / 1 *storey*	Medium
- Any area / not exceeding 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) When the size of a *building* falls into more than one category, the *H.I.* for the least restrictive is permitted to be used.

(5) *Care occupancy* with any *H.I.* shall be *sprinklered* throughout.

(6) Non-Ambulatory means patients are confined to bed and require transportation. Ambulatory means patients may walk on their own.

Table 11.2.1.1.-I
Hazard Index(1)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group C	*Occupancy H.I.*(4)		
	Small	Medium	Large
Apartments	3	4	6
Boarding Houses/Group Homes	3	---	---
Clubs, Residential	3	4	6
Colleges, Residential	3	4	6
Convents	3	4	6
Dormitories/Hostels	3	4	6
Hotels	3	5	6
Houses	2	2	---
Lodging Houses	3	---	---
Live/work units	4	5	7
Monasteries	3	4	6
Public Heritage Buildings	3	---	---
Rectories	2	---	---
Retirement Homes	3	4	6
Rooming Houses	3	---	---
Schools, Boarding	3	4	6

Notes to Table 11.2.1.1.-I.

(1)

Building Size (Maximum) (2)(3)	*Occupancy H.I.*
- 600 m^2 / 3 *storey*	Small
- 250 m^2 / 3 *storey* (*Public Heritage Building*)	Small
- 2000 m^2 / not exceeding 6 *storeys*	Medium
- Any area / not exceeding 36 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 36 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7
- *Hotels* over 18 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Buildings* which exceed 3 *storeys* in *building height* and are of *combustible construction* shall be *sprinklered* throughout.

(4) Take lowest rating for *H.I.* from Table for *major occupancy* change.

Table 11.2.1.1.-J
Hazard Index(1)(4)(6)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group D	*Occupancy H.I.*(5)		
	Small	Medium	Large
Advertising and Sales Offices	3	3	5
Automatic Bank Deposit	3	4	5
Barber/Hairdresser Shops	3	4	5
Beauty Parlours	3	4	5
Branch Banks	3	4	5
Car Rental Premises	3	3	5
Chiropractic Offices	3	4	5
Communications Offices (Telecommunications)	3	4	5
Communications Offices (Courier)	3	3	5
Computer Centres	3	4	5
Construction Offices	3	3	5
Costume Rental Premises	3	4	5
Dental Offices (Denture Clinic)	3	4	5
Dental Offices (General)	3	4	5
Dental Offices (Surgical/Anaesthesia)	4	5	6
Dry Cleaning Depots	3	4	5
Dry Cleaning Premises (Self-Serve)	4	4	5
Health/Fitness Clubs	3	4	5
Laundries (Self-Serve)	4	4	5
Massage Parlours	3	4	5

Medical Offices (Examination)	3	4	5
Medical Offices (Surgical/Anaesthesia)	4	5	6
Offices (Business)	3	3	5
Offices (Charitable)	3	3	5
Offices (Legal/Accounting)	3	3	5
Offices/Studios (Design)	3	4	5
Pharmacy Offices	3	4	5
Photographic Studios	3	4	5
Physiotherapy Offices	3	4	5
Police Stations (No Detention)	3	4	5
Printing and Duplicating	4	5	6
Public Heritage Buildings	3	---	---
Public Saunas	3	4	5
Radio Stations (No Audience)	3	4	5
Small Tool Rental Premises	3	4	5
Suntan Parlours	3	4	5
Veterinary Offices	3	4	5

Notes to Table 11.2.1.1-.J:

(1)

Building Size (Maximum) (2)(3)	*Occupancy H.I.*
- 800 m^2 / 2 *storey*	Small
- 250 m^2 / 3 *storey* (*Public Heritage Building*)	Small
- 1600 m^2 / 3 *storey*	Medium
- Any area / not exceeding 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey,* but not exceeding 36 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 6
- Over 36 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(5) When the size of a *building* falls into more than one category, the *H.I.* for the least restrictive is permitted to be used.

(6) *Buildings* which exceed 3 *storeys* in *building height* and are of *combustible construction* shall be *sprinklered* throughout.

Table 11.2.1.1.-K
Hazard Index[1][4][6]

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group E	*Occupancy H.I.*[5]		
	Small	Medium	Large
Automotive/Hardware Department Stores	4	5	7
China Shops	3	4	6
Department Stores	4	5	7
Electrical Stores (Fixtures)	3	3	5
Exhibition Halls (With Sales)	4	5	7
"Fast Food" Outlets	3	4	5
Feed and Seed Stores	4	5	7
Flea Markets	4	5	7
Flowers Shops	3	4	6
"Food" and Vegetable Markets	3	4	6
Garden Shops	3	4	6
"Gas" Bars	4	5	7
Gift Shops	3	4	6
Home Improvement Stores	4	5	7
Kitchen/Bathroom Cupboards Stores	3	4	6
Plumbing Stores (Fixtures/Accessories)	3	3	5
"Pop" Shops	3	4	6
Public Heritage Buildings	3	---	---
Rentals (See "Group D")	---	---	---
Restaurants (Not More Than 30 Persons as Permitted by Article 3.1.2.7.)	3	4	5
Shopping Malls	4	5	7
Stationery/Office Supply Stores	3	4	6
Stores (Art)	3	4	6
Stores (Baked Goods)	3	4	6
Stores (Beer)	3	4	6
Stores (Book)	3	4	6
Stores (Camera)	3	4	6
Stores (Candy)	3	4	6
Stores (Clothing)	3	4	6
Stores (Drugs)	4	4	6
Stores (Electronic)	3	4	6
Stores (Floor Coverings)	4	5	7
Stores (Food)	3	3	6
Stores (Furniture/Appliances)	3	4	6
Stores (Hardware)	4	5	7

Stores (Health)	4	4	6
Stores (Hobby)	3	4	6
Stores (Jewellery)	3	3	5
Stores (Paint/Wallpaper)	4	5	7
Stores (Pet)	3	4	6
Stores (Records/Tapes)	3	4	6
Stores (Spirits)	4	5	7
Stores (Toys)	4	5	7
Stores (Variety)	4	4	6
Stores (Video Sales/Rental)	3	4	6
Supermarkets	3	4	6

Notes to Table 11.2.1.1.-K:

(1)

Building Size (Maximum) (2)(3)	*Occupancy H.I.*
- 600 m^2 / 2 *storey*	Small
- 250 m^2 / 3 *storey* (*Public Heritage Building*)	Small
- 800 m^2 / 3 *storey*	Medium
- Any area / up to 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(5) When the size of a *building* falls into more than one category, the *H.I.* for the least restrictive is permitted to be used.

(6) All *buildings* 1 500 m^2 and over are to be *sprinklered* throughout.

Table 11.2.1.1.-L
Hazard Index(1)(4)(5)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group F Division 1	*Occupancy H.I.*(3)		
	Small	Medium	Large
Ammunition Manufacturing and Storage	3	6	8
Black Powder Manufacturing and Storage	3	6	8
Bulk Plants for Flammable Liquids	3	6	8
Bulk Storage Warehouse (Hazardous Substances)	3	6	8
Cereal and Feed Mills	3	6	8
Chemical Manufacturing/Processing Plant	3	6	8

Distilleries	3	6	8
Dry Cleaning Plants (Flammable)	3	6	8
Explosives Manufacturing and Storage	3	6	8
Fertilizer Manufacturing Plants	3	6	8
Fireworks Manufacturing and Storage	3	6	8
Flour Mills	3	6	8
Gas (Flammable) Compressor Stations	3	6	8
Gas (Flammable) Manufacturing and Storage	3	6	8
Grain Elevators	3	6	8
Lacquer Factories	3	6	8
Loading Area for all Group F, Division 1	3	6	8
Mattress Factories (High Fire Load)	3	6	8
Paint/Varnish/Pyroxylin Factories	3	6	8
Petrochemical Plants	3	6	8
Refineries	3	6	8
Rubber Processing Plants	3	6	8
Spray Painting Operations	3	6	8
Waste Paper Processing Plants (Dry)	3	6	8

Notes to Table 11.2.1.1.-L:

(1)

Building Size (Maximum) (2)	*Occupancy H.I.*
- 400 m^2 / 2 *storey*	Small
- 600 m^2 / 4 *storey*	Medium
- 1 500 m^2 / 4 *storey*	Large

(2) Sizes are based on *building area* and *building height*.

(3) When the size of a *building* falls into more than one category, the *H.I.* for the least restrictive is permitted to be used.

(4) All *buildings* 1 500 m^2 and over are to be *sprinklered* throughout.

(5) All floor assemblies shall be *fire separations*.

Table 11.2.1.1.-M
Hazard Index(1)(4)(6)

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group F Division 2	*Occupancy H.I.*(5)		
	Small	Medium	Large
Aircraft Hangars	3	5	6
Abattoirs	3	4	5

Bakeries	3	5	6
Body Shops	3	5	6
Candy Plants	3	4	5
Cold Storage Plants *Combustible* Insulation Flammable Refrigerant *Combustible* Packaging	3	5	7
Cold Storage Plants *Combustible* Insulation Flammable Refrigerant *Noncombustible* Packaging	3	5	6
Cold Storage Plants *Combustible* Insulation Non-Flammable Refrigerant *Noncombustible* Packaging	3	4	5
Cold Storage Plants *Noncombustible* Insulation Non-Flammable Refrigerant *Noncombustible* Packaging	2	3	4
Dry Cleaning Establishments (Non-flammable or Non-explosive)	3	4	5
Electrical Substations	3	4	5
Factories (High Fire Load)	3	5	6
Freight Depots (High Fire Load)	3	5	6
Helicopter Landings (On Roof)	3	4	5
Laboratories (High Fire Load)	3	5	6
Laundries (Not Self-Serve)	3	4	5
Manufacturer Sales (High Fire Load)	3	5	6
Mattress Factories	3	4	5
Meat Packing Plants	3	4	5
Packaging Manufacturers (Cellulose)	3	4	5
Packaging Manufacturers (Noncombustible)	2	3	4
Packaging Manufacturers (Plastics)	3	5	6
Paper Processing Plants (Wet)	3	5	6
Planing Mills	3	5	6
Printing Plants	3	4	5
Public Heritage Buildings	3	3	---
Repair Garages	3	5	6
Sample Display Rooms (High Fire Load)	3	5	6
Self-Service Storage Buildings	3	4	5
Service Stations (No Spray Painting)	3	5	6
Storage Rooms (High Fire Load)	3	5	6
Television Studios (No Audience)	3	4	5

Tire Storage	3	5	6
Warehouses (High Fire Load)	3	5	6
Welding Shops	3	5	6
Wholesale Rooms (High Fire Load)	3	5	6
Wood Working Factories	3	5	6
Workshops (High Fire Load)	3	5	6

Notes to Table 11.2.1.1.-M:

(1)

Building Size (Maximum) [2][3]	*Occupancy H.I.*
- 600 m^2 / 2 *storey*	Small
- 800 m^2 /4 *storey*	Medium
- 600 m^2 / 3 *storey* (*Public Heritage Building*)	Medium
- Any area / 6 *storey* not exceeding 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 7

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(5) When the size of a *building* falls into more than one category, the *H.I.* for the least restrictive is permitted to be used.

(6) All *buildings* 1 500 m^2 and over are to be *sprinklered* throughout.

Table 11.2.1.1.-N
Hazard Index[1][4]

Forming Part of Sentences 11.2.1.1.(1) and (2)

Group F Division 3	*Occupancy H.I.*[5]		
	Small	Medium	Large
Creameries	2	2	3
Factories (Low Fire Load)	2	3	4
Freight Depots (Low Fire Load)	2	3	4
Laboratories (Low Fire Load)	2	3	4
Manufacturers Sales (Low Fire Load)	2	3	4
Power Plants	3	4	5
Public Heritage Buildings	3	3	---
Sample Display Rooms (Low Fire Load)	2	3	4
Storage Garages	2	3	4
Storage Rooms (Low Fire Load)	2	3	4
Warehouses (Low Fire Load)	2	3	4

Wholesale Rooms (Low Fire Load)	2	3	4
Workshops (Low Fire Load)	2	3	4

Notes to Table 11.2.1.1.-N:

(1)

Building Size (Maximum) (2)(3)	*Occupancy H.I.*
- 800 m^2 / 2 *storey*	Small
- 1200 m^2 / 4 *storey*	Medium
- 600 m^2 / 3 *storey* (*Public Heritage Building*)	Medium
- Any area / 6 *storey* not exceeding 18 m high, measured between *grade* and the floor level of the top *storey*	Large
- Over 18 m, but not exceeding 36 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 5
- Over 36 m high, measured between *grade* and the floor level of the top *storey*	*H.I.* = 6

(2) Sizes are based on *building area* and *building height*, unless noted.

(3) *Building* size is based on the existing *building* facing one *street*.

(4) For existing *buildings* facing multiple *streets*, see Sentence 11.2.1.1.(2) and Table 11.4.3.4.-A.

(5) When the size of a *building* falls into more than one category, the *H.I.* for the least restrictive is permitted to be used.

Table 11.4.3.3.
For Evaluation and Upgrading of Early Warning/Evacuation

Forming Part of Sentences 11.4.3.3.(1) and 11.4.3.4.(3)

Notes	Early Warning and Evacuation, Evaluation and Upgrading	Part 11 *Compliance Alternative* (1)
(2)	Early warning and evacuation to be checked against (a) *access to exit* widths based on *occupant load* in Subsection 3.3.1. or 9.9.3.; (b) *exit* widths based on *occupant load* in Subsection 3.4.3. or 9.9.3.; (c) *exit* signs in Subsection 3.4.5. or 9.9.11.; (d) lighting of *exits*, lighting of *access to exits* and emergency lighting in Subsection 3.2.7. or 9.9.12.; (e) fire alarm system in Subsection 3.2.4. or 9.10.18.; (f) *smoke alarms* in Subsection 9.10.19.; (g) travel distance and number of *exits* in other Parts; and (h) door release hardware requirements in Articles 3.3.1.13. and 3.4.6.16., and deficiencies shall be upgraded.	EARLY WARNING (a) *Compliance alternatives* as listed may be used. EVACUATION (b) *Compliance alternatives* as listed to *access to exit* and *exit* widths, number of *exits*, door release hardware, and travel distance may be used.
	Early warning and evacuation to be checked against (a) *access to exit* widths based on *occupant load* in Subsection 3.3.1. or 9.9.3.; (b) *exit* widths based on *occupant load* in Subsection 3.4.3. or 9.9.3.; (c) *exit* signs in Subsection 3.4.5. or 9.9.11.;	EARLY WARNING

(3)	(d) lighting of *exits*, lighting of *access to exits* and emergency lighting in Subsection 3.2.7. or 9.9.12.; (e) fire alarm system in Subsection 3.2.4. or 9.10.18.; (f) *smoke alarms* in Subsection 9.10.19.; (g) travel distance and number of *exits* in other Parts; (h) smoke control measures, and at least one elevator to permit transport of firefighters to all floors in *hotels* whose floor level is more than 18 m high measured between *grade* and floor level of the top *storey* as per Subsection 3.2.6., and (i) door release hardware requirements in Articles 3.3.1.13.. and 3.4.6.16., and deficiencies shall be upgraded.	(a) *Compliance alternatives* as listed may be used. EVACUATION (b) *Compliance alternatives* as listed to *access to exit* and *exit* widths, number of *exits*, door release hardware, and travel distance may be used.

Notes to Table 11.4.3.3.:

(1) See Tables 11.5.1.1.-A to 11.5.1.1.-F for *compliance alternatives* that may be used.

(2) Applies to change of *major occupancy* to one of equal or lesser hazard, and to increase in *occupant load* by 15% or less.

(3) Applies to change of *major occupancy* to one of greater hazard, and to increase in *occupant load* greater than 15%.

Table 11.4.3.4.-A
Additional Upgrading

Forming Part of Sentences 11.2.1.1.(2) and 11.4.3.4.(1)

New *Major Occupancy H.I.* Number (3)	Increase of *C.I.* to Equal *H.I.* to Support New *Major Occupancy*	Additional Required Upgrading	Part 11 Alternative Compliance (A.C.)	Comments (1),(2)
H.I. 2	*C.I.* 1 to 2	Comply with Table 11.2.1.1.-A ratings for *C.I.* of 2	(a) Provide early warning system, or (b) Comply with any A.C.'s in Col. 4.	---
H.I. 3	*C.I.* (1 or 2) to 3	Comply with Table 11.2.1.1.-A ratings for *C.I.* of 3	(a) Provide early warning system, or (b) Comply with any A.C.'s in Col. 4.	*Combustible* to *Combustible* only.
H.I. 4	*C.I.* (1, 2 or 3) to 4	Comply with Table 11.2.1.1.-A. ratings for *C.I.* of 4	Provide sprinklers in locations where assemblies do not comply with Table 11.2.1.1.-A	*Combustible* to *Combustible. Noncombustible* to *Noncombustible.*

H.I. 5	*C.I.* 4 to 5	Comply with Table 11.2.1.1.-A. ratings for *C.I.* of 5	Provide sprinklers in locations where assemblies do not comply with Table 11.2.1.1.-A	---
H.I. 5	*C.I.* (1, 2 or 3) to 5	Comply with Table 11.2.1.1.-A. ratings for *C.I.* of 5	Provide sprinklers in locations where assemblies do not comply with Table 11.2.1.1.-A	*Combustible* to *Combustible. Noncombustible* to *Noncombustible.*
H.I. 6	*C.I.* 5 (*Noncombustible*) to 6	Comply with Table 11.2.1.1.-A. ratings for *C.I.* of 6	(a) Provide sprinkler system, plus 45 min roof rating.	---
H.I. 6	*C.I.* 5 (*Heavy timber*) to 6	Comply with A.C.	(b) Provide sprinkler system.	---
H.I. 6	*C.I.* 5 (*Combustible*) to 6	Comply with A.C.	(c) Provide 1 h rating plus sprinkler system.	---
H.I. 6	*C.I.* (3 or 4) to 6*	Comply with Table 11.2.1.1.-A ratings for *C.I.* of 6	(d) Provide sprinkler system, plus 45 min rating.	* For *Noncombustible construction* only.
H.I. 6	*C.I.* (1, 2, 3 or 4) to 6**	Comply with A.C.	(e) Provide 1 h rating plus sprinkler system.	** For *Combustible construction* only.
H.I. 7	*C.I.* 6 to 7	Comply with Table 11.2.1.1.-A ratings for *C.I.* of 7	(a) Provide sprinkler system.	---
H.I. 7	*C.I.* (3, 4 or 5) to 7*	Comply with Table 11.2.1.1.-A ratings for *C.I.* of 7	(b) Provide 1 h rating plus sprinkler system.	* For *Noncombustible construction* only.
H.I. 8	*C.I.* 7 to 8	Comply with Table 11.2.1.1.-A. ratings for *C.I.* of 8	(a) Provide sprinkler system.	---
H.I. 8	*C.I.* 6 to 8	Comply with Table 11.2.1.1.-A ratings for *C.I.* of 8	(b) Provide supervised sprinkler system.	---
H.I. 8	*C.I.* (3, 4 or 5) to 8*	Comply with Table 11.2.1.1.-A ratings for *C.I.* of 8	(d) Provide sprinkler system, plus 1 h rating.	* For *Noncombustible construction* only.

Notes to Table 11.4.3.4.-A:

(1) One asterisk (*) refers to *noncombustible construction*.

(2) Two asterisks (**) refers to *combustible construction*.

(3) Group B, *occupancy* with any *H.I.* shall be *sprinklered* throughout.

Table 11.4.3.4.-B
Additional Upgrading for Multiple Major Occupancies(1)

Forming Part of Sentences 11.4.2.3.(4) and 11.4.3.4.(4)

New *Major Occupancy*	Code Requirements	*Part 11 Compliance Alternative*	
All (2)	Table 3.1.3.1. and Subsection 9.10.9. Where:	For Existing *Building* *Reduce to*	If *Sprinklered* *Reduce to*
	1 h rating required	45 min	30 min
	2 h rating required	1.5 h	1 h
	3 h rating required	2 h	1.5 h

Notes to Table 11.4.3.4.-B:

(1) For *buildings* with multiple *major occupancies* only, where there is a change in *major occupancy*.

(2) See Section 11.4.

Table 11.5.1.1.-A
Compliance Alternatives for Assembly Occupancies

Forming Part of Article 11.5.1.1.

C.A. Number	Division B Requirements	*Compliance Alternative*
A1	3.1.4.7.	Existing *heavy timber construction* acceptable where *construction* is within 90% of member sizes listed in Part 3.
A2	3.1.5.2. to 3.1.5.4.; 3.1.5.8.	Existing acceptable.
A3	3.1.5.9. to 3.1.5.12.	Except for exposed foamed plastics, existing acceptable. To match existing, materials may be added from on or off site.
A4	3.1.5.18. to 3.1.5.20.; 3.1.5.25.	Existing acceptable.
A5	3.1.7.1.	*Fire-resistance ratings* may also be used where they are based on: 1. HUD Rehabilitation Guidelines, “Guideline on Fire Ratings of Archaic Materials and Assemblies”. 2. DBR Technical Paper No. 194, “Fire Endurance of Protected Steel Columns and Beams”. 3. DBR Technical Paper No. 207, “Fire Endurance of Unit Masonry Walls”. 4. DBR Techncial Paper No. 222, “Fire Endurance of Light-Framed and Miscellaneous Assemblies”.

A6	3.1.7.5.(3)	Existing assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating* as that supported.
A7	3.1.8.5.(2)	(a) Existing functional and sound doors in existing *buildings* that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.16.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.16.(2), and (c) every fire door, window assembly or glass block used as a *closure* in a required *fire separation* shall be installed in conformance with good engineering practice.
A8	3.1.8.7., 3.1.8.8. and 3.1.8.10.	*Fire dampers* or *fire stop flaps* are not required to be installed in existing ducts at penetrations of existing *fire separations*.
A9	3.1.8.12.(1)	Existing 45 mm solid core wood doors acceptable.
A10	3.1.8.13.(1)	Existing functionally operable self-closing devices acceptable.
A11	3.1.8.15.	Existing functionally operable latching devices, excluding draw bolts, are acceptable.
A12	3.1.8.16.	Existing transoms or sidelights located in required *fire separations* may be retained if wired glass at least 6 mm thick is securely fixed to a steel frame with steel stops. Operable transoms shall be fixed closed.
A13	3.1.8.17. to 3.1.8.19.	Existing acceptable.
A14	3.1.11.	Where the concealed space is being materially altered, smoke or heat detection in that space in lieu of *fire blocks* and tied into fire alarm system is acceptable.
A15	3.1.13.10.	Existing acceptable.
A16	3.2.3.	Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another *building*, lies not closer than 300 mm from a window in such other *building*, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, shall be restricted to the same *fire compartment* and shall conform to the requirements of Article 3.2.3.14. or 9.10.12.3. where applicable, or (c) where a *building* does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient *limiting distance*, such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.16.(2), or (ii) the *building* is *sprinklered* throughout.
A17	3.2.3.6.(3)	Existing roof soffit projections acceptable.

A18	3.2.4.	(a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the fire safety plan (as described in the Fire Code made under the *Fire Protection and Prevention Act, 1997*) for the *building* addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system.
A19	3.2.4.9.(2)(e)	Does not apply to existing installations in *buildings*.
A20	3.2.4.10.(5)(c)	Does not apply to existing installations in *buildings*.
A21	3.2.5.3.(1) and (2)	Existing acceptable.
A22	3.2.5.4. to 3.2.5.6.	Existing acceptable provided the *building* is *sprinklered* throughout.
A23	3.2.5.7.	Does not apply, except where a change in *major occupancy* occurs from a lesser *hazard index*.
A24	3.2.5.8. to 3.2.5.11.	Does not apply to *buildings* 6 *storeys* and less. Does not apply to *sprinklered buildings*.
A25	3.2.5.12.	Existing sprinkler systems in existing *buildings* that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer.
A26	3.3.1.5.	One egress door is allowed where the *occupant load* is not greater than 100 persons, provided *floor area* is *sprinklered* and travel distance does not exceed 25 m.
A27	3.3.1.9.	Existing width of *public corridors* of not less than 914 mm is acceptable.
A28	3.3.1.9.(6)	An existing dead-end corridor is permitted where the *occupant load* is not greater than 20 persons, provided travel distance is not greater than 6 m plus corridor width to "*exit* choice" point.
A29	3.3.1.11.; 3.3.1.12.	Existing door swings may remain in *heritage buildings*, existing or being restored, with no change in *major occupancy* and with *occupant load* no greater than 100.
A30	3.3.1.13.	Existing doors may remain in a *heritage building*, existing or being restored, with no change in *major occupancy*.
A31	3.3.1.20.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
A32	3.3.5.4.(1); 3.3.5.7.(1), (3) and (4)	Need not comply where a gasketed door and self closer are provided in the existing *fire separation*.
A33	3.4.1.5.(1)	Existing acceptable.
A34	3.4.1.5.(2)	Existing acceptable provided the existing *guard* is not less than 914 mm.
A35	3.4.1.8.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
A36	3.4.2.5.(1)	Existing travel distance acceptable where *floor area* is *sprinklered* and where there is no change in *major occupancy*.
A37	3.4.3.2.(5)	Need not comply where there is no increase in *occupant load*.
A38	3.4.3.2.(8)	Existing width of *exits* acceptable provided the *occupant load* is not more than 15% above the *exit* capacity.

A39	3.4.3.3.	Existing acceptable.
A40	3.4.3.4.	Existing headroom clearance of not less than 1 980 mm is acceptable.
A41	3.4.4.4.(8)	Existing washrooms opening directly into an *exit* stairwell shall be separated from the *exit* stairwell by a 45 min *closure*.
A42	3.4.5.1.(2) and (9)	Existing illuminated legible *exit* signs are acceptable.
A43	3.4.6.2.	Existing acceptable, if visually apparent.
A44	3.4.6.3.	Existing acceptable.
A45	3.4.6.4.	Existing acceptable.
A46	3.4.6.5.(3) to (13)	Existing acceptable.
A47	3.4.6.6.(2) to (5)	Existing acceptable.
A48	3.4.6.7.(1)	Existing acceptable.
A49	3.4.6.8.	Existing acceptable.
A50	3.4.6.9.	Existing acceptable.
A51	3.4.6.11.(1) to (4) and (6)	Existing acceptable.
A52	3.4.6.12.	Existing acceptable in *public heritage buildings* or a change in *occupancy* with no increase in *occupant load*.
A53	3.4.6.16.(2) to (4)	Existing functionally operable panic hardware acceptable.
A54	3.4.7.2.	*Combustible* fire escapes which are protected from fire in accordance with Sentence 3.2.3.14.(2) are permitted or may be reconstructed or recreated (as in the case of a *heritage building*).
A55	3.5.1.	Existing acceptable.
A56	3.6.2.1.(7)	Existing *fire separation* of not less than 30 min is acceptable.
A57	3.6.2.2.	Existing acceptable where explosion-resistant *construction* or venting is provided.
A58	3.6.2.6.	Existing acceptable.
A59	3.6.2.7.(1)	2 h *fire separation* acceptable.
A60	3.6.3.1.(1) to (5)	45 min *fire separation* acceptable.
A61	3.6.3.3.(1) to (5) and (8)	Existing acceptable.
A62	3.6.3.3.(9)	1 h acceptable if *sprinklered*.
A63	3.6.3.3.(10)	Existing acceptable.
A64	3.6.3.4.	Existing acceptable.
A65	3.6.4.	Existing acceptable.
A66	3.7.1.3.(3)	2.1 m is acceptable.
A67	3.7.2.1.(3)	The minimum glass areas may be reduced by 50%.
A68	3.7.4.	Where the *occupant load* is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase.
A69	3.8.1.2.	Existing accessible entrance acceptable. (See *C.A.* A75) Existing curb *ramp* conforming to Sentence 3.8.3.2.(3) is acceptable. Existing principal entrance acceptable, provided at least one *barrier-free* entrance is available.
A70	3.8.1.3.(1)	Existing unobstructed width of 920 mm minimum is acceptable.
A71	3.8.1.3.(4)	Existing unobstructed space not less than 1 500 mm in width and 1 500 mm in length located not more than 30 m apart is acceptable.
A72	3.8.3.2.(3)(b)	Existing curb *ramp* acceptable, provided width not less than 1 200 mm.

A73	3.8.3.3.(1)	Existing doorway acceptable, provided not less than 800 mm wide.
A74	3.8.3.3.(11)(a)	Existing distance acceptable, provided not less than 1 200 mm plus the width of any door that swings into the space in the path of travel.
A75	3.8.3.4.(1)(a)	Existing *ramp* acceptable, provided not less than 870 mm between handrails.
A76	3.8.3.8.(5)	Existing grab bar is acceptable.
A77	3.8.3.12.	Existing universal washroom acceptable.
A78	3.8.3.13.(2)(g)	Existing grab bar is acceptable.
A79	3.8.3.16.	Existing drinking fountain conforming to Clauses 3.8.3.16.(2)(a) and (b) acceptable.
A80	3.6.3.16A.	Existing water bottle filling stations are acceptable.
A81	3.11.3.1.(9)	Existing clear width acceptable, provided not less than 900 mm.
A82	3.11.3.1.(14)	Existing painted line acceptable.
A83	4.1.8.	The requirements under this Subsection do not apply.
A84	6.3.1.1.(2)	Required outdoor air rates may be provided by mechanical, natural or combination of natural and mechanical means.
A85	8.2.1.4.	Existing clearances acceptable where a *sewage system* is replaced with another *sewage system* within the same class and the capacity of the replacement *sewage system* does not exceed the capacity of the existing *sewage system*.
A86	8.2.1.4.	Existing clearances are acceptable where a replacement *sewage system* requires lesser clearances than those required in Part 8 for the existing *sewage system.*

Table 11.5.1.1.-B
Compliance Alternatives for Care, Care and Treatment or Detention Occupancies

Forming Part of Article 11.5.1.1.

C.A. Number	Division B Requirements	*Compliance Alternative*
B1	3.1.5.2. to 3.1.5.4.; 3.1.5.8.	Existing acceptable.
B2	3.1.5.9. to 3.1.5.12.	Except for exposed foamed plastics, existing acceptable.
B3	3.1.5.18. to 3.1.5.20.; 3.1.5.25.	Existing acceptable.
B4	3.1.7.1.	*Fire-resistance ratings* may also be used where they are based on: 1. HUD Rehabilitation Guidelines, “Guideline on Fire Ratings of Archaic Materials and Assemblies”. 2. DBR Technical Paper No. 194, “Fire Endurance of Protected Steel Columns and Beams”. 3. DBR Technical Paper No. 207, “Fire Endurance of Unit Masonry Walls”. 4. DBR Technical Paper No. 222, “Fire Endurance of Light-Framed and Miscellaneous Assemblies”.
B5	3.1.7.5.(3)	Existing assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating* as that supported.

B6	3.1.8.5.(2)	(a) Existing functional and sound doors in existing *buildings* that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.16.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.16.(2), and (c) every fire door, window assembly or glass block used as a *closure* in a required *fire separation* shall be installed in conformance with good engineering practice.
B7	3.1.8.7., 3.1.8.8. and 3.1.8.10.	*Fire dampers* or *fire stop flaps* are not required to be installed in existing ducts at penetrations of existing *fire separations*.
B8	3.1.8.12.(1)	For existing unlabelled doors in existing *buildings*, at least 45 mm solid core wood or metal clad are acceptable.
B9	3.1.8.13.(1)	Existing functionally operable self-closing devices acceptable, including devices with “pause” hardware.
B10	3.1.8.14.(1) and (2)	Between patient or inmate rooms, and corridors, existing “pause” type self-closing devices may be used as hold-open devices where functionally operable.
B11	3.1.8.15.	Existing functionally operable latching devices, excluding draw bolts, are acceptable.
B12	3.1.8.16.(1) and (2)	Except in zone or *exit fire separations* not required to be greater than 1 h, existing wired glass installations are acceptable provided they are set in steel or metal clad frames.
B13	3.1.8.16.(3)	Existing glass block acceptable.
B14	3.1.8.17. to 3.1.8.19.	Existing acceptable.
B15	3.1.9.5.(1) and (2)	Existing openings in existing ceiling membranes to remain. Existing openings may be moved to another location in the same ceiling provided the aggregate area of openings does not increase and are not cumulative, and the existing opening is blocked up to provide the same rating as the ceiling assembly.
B16	3.1.11.	Where the concealed space is being materially altered, provide smoke or heat detection in that space in lieu of *fire blocks* and tie into fire alarm system.
B17	3.1.14.; 3.1.15.	Existing roof assemblies and roof coverings acceptable.
B18	3.2.3.	Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another *building*, lies no closer than 300 mm from a window in such other *building*, where the “opposite” window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, to be restricted to the same *fire compartment* and shall conform to the requirements of Article 3.2.3.14. or 9.10.12.3. where applicable, or

		(c) where a *building* does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient *limiting distance*, such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.16.(2), or (ii) the *building* is *sprinklered* throughout.
B19	3.2.3.6.(3)	Existing roof soffit projections acceptable.
B20	3.2.4.	(a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the fire safety plan (as described in the Fire Code made under the *Fire Protection and Prevention Act, 1997*) for the *building* addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system.
B21	3.2.4.8.(2)(e)	Does not apply to existing installations in *buildings*.
B22	3.2.4.9.(5)(c)	Does not apply to existing installations in *buildings*.
B23	3.2.5.1.; 3.2.5.2.	Existing access to an existing *occupancy* acceptable. Where the existing *building* is changed to a "B" *occupancy*, existing access are acceptable.
B24	3.2.5.3.(1)	Existing acceptable, except where a change in *occupancy* occurs to a "B1" or "B2" *occupancy*.
B25	3.2.5.3.(2)	Existing acceptable.
B26	3.2.5.4. to 3.2.5.6.	Existing access route to existing *occupancy* is acceptable if the *building* is *sprinklered* throughout. Where existing *building* is changed to a "B" *occupancy*, access route shall be provided.
B27	3.2.5.7.; 3.2.5.18.	Does not apply except where a change in *occupancy* occurs to a "B1" or "B2" *occupancy*, where occupants are not normally evacuated from the *building*.
B28	3.2.5.13.	Existing sprinkler systems in existing *buildings* that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer.
B29	3.2.5.8. to 3.2.5.11.	Does not apply except where a change in *occupancy* occurs to a Group B *occupancy*, where occupants are not normally evacuated from the *building*.
B30	3.3.1.9.	Existing width of *public corridors* of not less than 914 mm is acceptable, except as provided in Sentence 3.3.3.3.(2).
B31	3.3.1.11.; 3.3.1.12.	Existing door swings may remain in *heritage buildings*, existing or being restored, with no change in *major occupancy* and with *occupant load* no greater than 100.
B32	3.3.1.12.	Existing doors acceptable.
B33	3.3.1.16.	Existing acceptable.

B34	3.3.1.17.	Existing non-conforming capacities of *access to exits* are acceptable, provided that the excessive capacity is no greater than 15% and, (a) corridor *fire separations* are rated to Code plus early warning system provided, or (b) there are sprinklers, plus *smoke alarms* in *suites*.
B35	3.3.1.18.	Existing acceptable.
B36	3.3.1.20.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
B37	3.3.3.3.(1)	Existing dead-end corridors acceptable with 30 min *fire separation* of corridor plus sprinklering of *floor area*, provided the *occupant load* is not greater than 10 persons and travel distance not greater than 6 m plus corridor width to "*exit* choice" point.
B38	3.3.3.7.	45 min *fire separation* acceptable.
B39	3.3.5.4.(1); 3.3.5.7.(4)	Need not comply where a gasketed door and self closer are provided in the existing *fire separation*.
B40	3.4.1.8.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
B41	3.4.2.5.(1)	Existing travel distance acceptable where *floor area* is *sprinklered* and provided *fire separations* comply with Part 3.
B42	3.4.3.2.(8)	Existing acceptable provided there is no change in *occupancy* to a "B2" or "B3".
B43	3.4.3.3.	Existing acceptable.
B44	3.4.3.4.	Existing headroom clearance of not less than 1 980 mm is acceptable.
B45	3.4.5.1.(2) and (9)	Existing illuminated legible *exit* signs are acceptable.
B46	3.4.6.2.	Existing acceptable, if visually apparent.
B47	3.4.6.3.(1)	Existing acceptable with rise no greater than 3.7 m.
B48	3.4.6.4.(1)	Existing acceptable provided there is no change in *occupancy* to a "B2" or "B3".
B49	3.4.6.4.(2) to (4)	Existing acceptable.
B50	3.4.6.5.(3) to (13)	Existing acceptable.
B51	3.4.6.6.(2) to (5)	Existing acceptable.
B52	3.4.6.7.(1)	Existing acceptable.
B53	3.4.6.8.	Existing acceptable.
B54	3.4.6.9.	Existing acceptable where there is no change in *major occupancy* or increase in *occupant load* greater than 15%.
B55	3.4.6.11.(1) to (4) and (6)	Existing acceptable.
B56	3.4.6.12.	Existing acceptable in *public heritage buildings*.
B57	3.4.6.16.(2) to (4)	Existing functionally operable panic hardware acceptable.
B58	3.4.6.18.(4)(b)	Existing access to existing *occupancy* is acceptable Where the existing *building* is changed to a "B" *occupancy*, existing access is acceptable.
B59	3.4.7.2.	*Combustible* fire escapes which are protected from fire in accordance with Sentence 3.2.3.14.(2) are permitted or may be reconstructed or recreated (as in the case of a *heritage building*). Where serving non-ambulatory persons, minimum width shall be 1 100 mm.

B60	3.5.1.	Existing acceptable, except where *building* is classified under Subsection 3.2.6.
B61	3.6.2.1.(7)	45 min *fire separation* acceptable.
B62	3.6.2.6.	Existing acceptable.
B63	3.6.2.7.(1)	2 h *fire separation* acceptable.
B64	3.6.3.1.(1) to (5)	45 min *fire separation* acceptable.
B65	3.6.3.3.(1), (3), (4)(a), (5) and (10)	Existing acceptable.
B66	3.6.3.3.(2)(a)	45 min *fire separation* acceptable.
B67	3.6.4.	Existing acceptable, except where a change in *occupancy* occurs to a Group B *occupancy*.
B68	3.7.1.3.(1)	Existing acceptable.
B69	3.7.2.1.(2)	The minimum glass areas may be reduced by 50%.
B70	3.7.4.	Where the *occupant load* is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase.
B71	3.8.1.2.	Existing accessible entrance acceptable. (See *C.A.* B77) Existing curb *ramp* conforming to Sentence 3.8.3.2.(3) is acceptable. Existing principal entrance acceptable, provided at least one *barrier-free* entrance is available.
B72	3.8.1.3.(1)	Existing unobstructed width of 920 mm minimum is acceptable.
B73	3.8.1.3.(4)	Existing unobstructed space not less than 1 500 mm in width and 1 500 mm in length located not more than 30 m apart is acceptable.
B74	3.8.3.2.(3)(b)	Existing curb *ramp* acceptable, provided width not less than 1 200 mm.
B75	3.8.3.3.(1)	Existing doorway acceptable, provided not less than 800 mm wide.
B76	3.8.3.3.(11)(a)	Existing distance acceptable, provided not less than 1 200 mm plus the width of any door that swings into the space in the path of travel.
B77	3.8.3.4.(1)(a)	Existing *ramp* acceptable, provided not less than 870 mm between handrails.
B78	3.8.3.8.(5)	Existing grab bar is acceptable.
B79	3.8.3.12.	Existing universal washroom acceptable.
B80	3.8.3.13.(2) (g)	Existing grab bar is acceptable.
B81	3.8.3.16.	Existing drinking fountain conforming to Clauses 3.8.3.16.(2)(a) and (b) acceptable.
B82	3.8.3.16A.	Existing water bottle filling stations are acceptable.
B83	3.11.3.1.(9)	Existing clear width acceptable, provided not less than 900 mm.
B84	3.11.3.1.(14)	Existing painted line acceptable.
B85	4.1.8.	The requirements under this Subsection do not apply.
B86	8.2.1.4.	Existing clearances acceptable where a *sewage system* is replaced with another *sewage system* within the same class and the capacity of the replacement *sewage system* does not exceed the capacity of the existing *sewage system*.
B87	8.2.1.4.	Existing clearances are acceptable where a replacement *sewage system* requires lesser clearances than those required in Part 8 for the existing *sewage system.*

Table 11.5.1.1.-C.
Compliance Alternatives for Residential Occupancies

Forming Part of Article 11.5.1.1.

C.A. Number	Division B Requirements	*Compliance Alternative*
C1	3.1.4.7.	Existing *heavy timber construction* acceptable where *construction* is within 90% of member sizes listed in Part 3.
C2	3.1.5.2. to 3.1.5.4.; 3.1.5.8.	Existing acceptable.
C3	3.1.5.9. to 3.1.5.12.	Except for exposed foamed plastics, existing acceptable. To match existing, materials may be added from on or off site.
C4	3.1.5.18. to 3.1.5.20.; 3.1.5.21.	Existing acceptable.
C5	3.1.7.1.	*Fire-resistance ratings* may also be used where they are based on: 1. HUD Rehabilitation Guidelines, "Guideline on Fire Ratings of Archaic Materials and Assemblies". 2. DBR Technical Paper No. 194, "Fire Endurance of Protected Steel Columns and Beams". 3. DBR Technical Paper No. 207, "Fire Endurance of Unit Masonry Walls". 4. DBR Technical Paper No. 222, "Fire Endurance of Light-Framed and Miscellaneous Assemblies".
C6	3.1.7.5.(3)	Existing assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating* as that supported.
C7	3.1.8.1.(2); 3.1.8.6.(1) and (2)	Existing functional *closures* are acceptable and may be relocated within the same existing *fire separation*.
C8	3.1.8.5.(2)	(a) Existing functional and sound doors in existing *buildings* that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.16.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.16.(2), and (c) every fire door, window assembly or glass block used as a *closure* in a required *fire separation* shall be installed in conformance with good engineering practice.
C9	3.1.8.7. to 3.1.8.10.	Except for *hotels*, *fire dampers* or *fire stop flaps* are not required to be installed in existing ducts at penetrations of existing *fire separations*.
C10	3.1.8.12.(1)	For existing unlabeled doors in existing *buildings*, at least 45 mm solid core wood or metal clad are acceptable. Except for *residential occupancies*, existing closure rating of 20 min will not be required where the entire *floor area* is *sprinklered*.
C11	3.1.8.14.(1) and (2)	In *retirement homes*, between a *suite* and a *public corridor*, existing 'pause' type self-closing devices may be used as hold-open devices where functionally operable.

C12	3.1.8.15.	Existing functionally operable latching devices, excluding draw bolts, are acceptable.
C13	3.1.8.16.	Existing transoms or sidelights located in *fire separations* not required to be greater than 1 h may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed.
C14	3.1.8.17. to 3.1.8.19.	Existing acceptable.
C15	3.1.11.	Where the concealed space is being materially altered, provide smoke or heat detection in that space in lieu of *fire blocks* and tie into fire alarm system.
C16	3.2.3.	Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another *building*, lies not closer than 300 mm from a window in such other *building*, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, shall be restricted to the same *fire compartment* and shall conform to the requirements of Article 3.2.3.14. or 9.10.12.3. where applicable, or (c) where a *building* does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient *limiting distance*, such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.16.(2), or (ii) the *building* is *sprinklered* throughout.
C17	3.2.3.6.(3)	Existing roof soffit projections acceptable.
C18	3.2.4.	(a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the fire safety plan (as described in the Fire Code made under the *Fire Protection and Prevention Act, 1997*) for the *building* addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system.
C19	3.2.4.8.(2)(e)	Does not apply to existing installations in *buildings*.
C20	3.2.4.9.(5)(c)	Does not apply to existing installations in *buildings*.
C21	3.2.4.20.	Except for *retirement homes*, such *smoke alarms* may be battery operated.
C22	3.2.5.1.; 3.2.5.2.	Existing acceptable.
C23	3.2.5.3.(1)	Existing access acceptable.
C24	3.2.5.3.(2)	Existing acceptable.
C25	3.2.5.4. to 3.2.5.6.	(a)For *buildings* 6 *storeys* and less, existing access to existing o*ccupancy* is acceptable, and

		(b)where existing *building* is changed to a "C" *occupancy*, an access route shall be provided, or the existing access is acceptable provided the *building* is *sprinklered* throughout.
C26	3.2.5.7.	Existing water supply and hydrants are acceptable in *buildings* up to 6 *storeys* in *building height*.
C27	3.2.5.8. to 3.2.5.11.	Does not apply to *buildings* 4 *storeys* and less. For existing *buildings* over 4 *storeys* in *building height*, existing standpipe and hose systems water supply is acceptable provided it can deliver a minimum flow rate of 265 L/min for 30 min at 345 kPa (gauge) at the two highest and most remote hose valves, with not less than 132 L/min from each of the two simultaneously.
C28	3.2.5.12.	Existing sprinkler systems in existing *buildings* that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer.
C29	3.3.1.4.(1); 3.3.4.2.(1)	30 min is acceptable to separate corridors or exits in *buildings* not exceeding 6 *storeys* in *building height*, except that 45 min is required for *exits* in *buildings* exceeding 3 *storeys* in *building height*. For *buildings* exceeding 6 *storeys* in *building height*, 30 min is acceptable where *smoke detectors* are installed in corridors, except 1 h is required in *exits*. 30 min is acceptable to separate *public corridors*, *exits* or *suites* in *hotels*, provided fire detectors are installed in every room in a *suite* and in every room not located in a *suite*, other than corridors, washrooms, closets in *suites*, saunas, refrigerated areas and swimming pools.
C30	3.3.1.5.(1)(c); Tables 3.3.1.5.-A and 3.3.1.5.-B	In Column 2, maximum area of room or *suite* to be unlimited.
C31	3.3.1.9.	Existing width of *public corridors* of not less than 914 mm is acceptable.
C32	3.3.1.11.; 3.3.1.12.	Existing door swings may remain in *heritage buildings*, existing or being restored, with no change in *major occupancy* and with *occupant load* no greater than 100.
C33	3.3.1.13.	Existing doors acceptable, provided not less than 600 mm wide.
C34	3.3.1.14.	Existing curved or spiral stairs acceptable.
C35	3.3.1.17.	Existing non-conforming capacities of *access to exits* are acceptable, provided that the excessive capacity is no greater than 15% and, (a) corridor *fire separations* are rated to Code plus early warning system provided, or (b) there are *sprinklers*, plus *smoke alarms* in *suites*.
C36	3.3.1.18.	Does not apply to *heritage buildings*.
C37	3.3.1.20.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
C38	3.3.4.2.(3)(b)(i) 3.3.4.2.(3)(b)(ii), (iii)	30 min *fire separation* acceptable. 45 min *fire separation* acceptable.
C39	3.3.4.4.(4) and (5)	For *buildings* 6 *storeys* and less, doorway from *dwelling unit* will be permitted to open directly into exit stairway or interior corridor served by a single *exit* if a fire alarm system complying with Subsection 3.2.4. is installed and the *dwelling unit* has a second and separate *means of egress*.

C40	3.3.5.4.(1) and 3.3.5.7.(4)	Need not comply where a gasketed door and self closer are provided in the existing *fire separation*.
C41	3.4.1.4.	Except for *hotels* and *retirement homes*, the following types of *exits* may also be used for *buildings* not over 6 *storeys* in *building height*: (a) connected balconies, which connect across *firewalls*, or connect to another *exit*, or with access to ground level, (b) areas of refuge where fire service rescue is possible and that comply with Measure L of Sentences (4) to (10), (18) and Clauses (20)(a), (b) and (d) in MMAH Supplementary Standard SB-4, "Measures for Fire Safety in High Buildings".
C42	3.4.1.8.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
C43	3.4.2.5.(1)	Existing travel distance acceptable where *floor area* is *sprinklered* and provided *fire separations* comply with Part 3.
C44	3.4.3.2.(7)	Existing width of *exits* acceptable provided the *occupant load* is not more than 15% above the *exit* capacity.
C45	3.4.3.3.	Except for *heritage buildings*, existing acceptable, provided not less than 800 mm.
C46	3.4.3.4.	Existing headroom clearance of not less than 1 980 mm is acceptable.
C47	3.4.4.1.(1)	Except for *exits*, no rating required where *floor areas* are *spinklered*.
C48	3.4.4.1.	*Fire separations* of *exits* permitted in *buildings*: (a) 30 min, up to 3 *storeys* in *building height*; (b) 45 min, in *hotels* up to 3 *storeys* in *building height*; (c) 45 min, up to 6 *storeys* in *building height*; (c) 1 h, over 6 *storeys* in *building height*.
C49	3.4.4.4.(8)	Existing washrooms opening directly into an *exit* stairwell shall be separated from the *exit* stairwell by a 45 min *closure*.
C50	3.4.5.1.(2) and (9)	Existing illuminated legible *exit* signs are acceptable.
C51	3.4.6.1.	Existing acceptable.
C52	3.4.6.2.	Existing acceptable, if visually apparent.
C53	3.4.6.3.(1)	Existing acceptable with rise no greater than 3.7 m.
C54	3.4.6.4.(1) to (3)	Existing acceptable.
C55	3.4.6.4.(4) and (5)	Existing acceptable.
C56	3.4.6.5.(3) to (13)	Existing acceptable.
C57	3.4.6.6.(2) to (4)	Existing acceptable.
C58	3.4.6.7.(1)	Existing acceptable.
C59	3.4.6.8.	Existing acceptable.
C60	3.4.6.9.	(a) Except for *retirement homes*, existing acceptable. (b) For *retirement homes*, existing acceptable provided there is no change in *major occupancy* or increase in *occupant load* greater than 15%.
C61	3.4.6.10.(2) to (6)	Existing acceptable.
C62	3.4.6.11.(1) to (3)	Existing acceptable.
C63	3.4.6.12.	Existing acceptable in *heritage buildings* provided the *occupant load* is not more than 60.
C64	3.4.6.16.(1) to (4)	Existing functionally operable panic hardware acceptable.

C65	3.4.7.2.	Except for *retirement homes*, combustible fire escapes which are protected from fire in accordance with Sentence 3.2.3.13.(2) are permitted or may be reconstructed or recreated (as in the case of a *heritage building*).
C66	3.5.1.	Existing acceptable except where *building* is classified under Subsection 3.2.6.
C67	3.6.2.1.(7)	45 min *fire separation* acceptable.
C68	3.6.2.2.	Existing acceptable where explosion-resistant construction or venting is provided.
C69	3.6.2.6.	Existing acceptable.
C70	3.6.2.7.(1)	2 h *fire separation* acceptable.
C71	3.6.3.1.(1) to (5)	45 min *fire separation* acceptable up to 6 *storeys*.
C72	3.6.3.3.(2)	Where 2 h *fire separation* is required,1 h is acceptable. Except for linen discharge rooms where 1 h *fire separation* is required, 45 min is acceptable.
C73	3.6.3.3.(4) and (5)	Existing sizes acceptable.
C74	3.6.3.3.(9)	Where 2 h *fire separation* is required,1 h is acceptable.
C75	3.6.4.2.	Except for *retirement homes*, ceiling *fire separation* need not have a *fire-resistance* rating where sprinklering, subject to *C.A.* C27, of *fire compartments* on both sides of vertical *fire separation* is provided and where such *fire separation* is not required to exceed 1 h.
C76	3.6.4.3.(1)	Existing to meet *flame-spread rating* of 25 or to be *sprinklered*.
C77	3.6.4.4. to 3.6.4.6.	Existing access acceptable.
C78	3.7.1.1.(2)	Minimum room height shall be not less than 1 950 mm over the required *floor area* and any location that would normally be used as a *means of egress*.
C79	3.7.2.1.	(a) Where windows are not used as *means of egress* and where they do not conflict with ventilation requirements, the minimum glass areas as shown in Table 9.7.2.3. may be reduced by 50%, or (b) an existing room converted to an interior room, created by an addition, shall not require a window, provided there is an opening in a dividing wall occupying not less than 30% of the separating plane to an adjoining room, where the adjoining room has a minimum of 5% window area of the combined *floor areas*, and provided the required ventilation for the combined room is maintained.
C80	3.7.4.	Where the *occupant load* is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase.
C81	3.8.1.2.	Existing accessible entrance acceptable. (see *C.A.* C88) Existing curb *ramp* conforming to Sentence 3.8.3.2.(3) is acceptable. Existing principal entrance acceptable, provided at least one *barrier-free* entrance is available.
C82	3.8.1.3.(1)	Existing unobstructed width of 920 mm minimum is acceptable.
C83	3.8.1.3.(4)	Existing unobstructed space not less than 1 500 mm in width and 1 500 mm in length located not more than 30 m apart is acceptable.
C84	3.8.3.2.(3)(b)	Existing curb *ramp* acceptable, provided width not less than 1 200 mm.
C85	3.8.3.3.(1)	Existing doorway acceptable, provided not less than 800 mm wide.

C86	3.8.3.3.(11)(a)	Existing distance acceptable, provided not less than 1 200 mm plus the width of any door that swings into the space in the path of travel.
C87	3.8.3.4.(1)(a)	Existing *ramp* acceptable, provided not less than 870 mm between handrails.
C88	3.8.3.8.(5)	Existing grab bar is acceptable.
C89	3.8.3.12.	Existing universal washroom acceptable.
C90	3.8.3.13.(2) (g)	Existing grab bar is acceptable.
C91	3.8.3.16.	Existing drinking fountain conforming to Clauses 3.8.3.16.(2)(a) and (b) acceptable.
C92	3.11.3.1.(9)	Existing clear width acceptable, provided not less than 900 mm.
C93	3.11.3.1.(14)	Existing painted line acceptable.
C94	4.1.8.	The requirements under this Subsection do not apply.
C95	6.3.1.1.(2)	Required outdoor air rates may be provided by mechanical, natural or combination of natural and mechanical means.
C96	6.3.2.3.; 6.3.2.6.; 6.3.2.6A.; 6.3.2.10.	Existing acceptable.
C97	6.3.2.7.(1)	In a *building* containing not more than four *dwelling units* or residential *suites*, the existing heating or *air-conditioning* system may be altered to serve more than one *dwelling unit* or *suite*, provided *smoke alarms* are installed in *each* dwelling unit or *suite* and provided a *smoke detector* is installed in the supply or return air duct system serving the entire *building* which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.
C98	6.3.2.9.	Existing openings, grilles and diffusers acceptable.
C99	6.3.3.	Existing acceptable, provided products of combustion are safely vented.
C100	6.5.1.1.	Existing acceptable.
C101	6.9.4.4.(1)	*Carbon monoxide alarms* may be battery operated or plugged into an electrical outlet.
C102	8.2.1.4.	Existing clearances acceptable where a *sewage system* is replaced with another *sewage system* within the same class and the capacity of the replacement *sewage system* does not exceed the capacity of the existing *sewage system*.
C103	8.2.1.4.	Existing clearances are acceptable where a replacement *sewage system* requires lesser clearances than those required in Part 8 for the existing *sewage system*.
C104	9.3.2.1.	Sound used lumber may be acceptable for reuse without a grade stamp provided that: (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, (b) where the grade or species is unknown, the minimum grade shall apply for span table use, and (c) lumber has not been subjected to termite infestation.
C105	9.5.3.1.	Except for *secondary suites*, in a *dwelling unit*, (a) minimum room height shall not be less than 1 950 mm over the required *floor area* and in any location that would normally be used as a *means of egress*, or

		(b) minimum room height shall not be less than 2 030 mm over at least 50% of the required *floor area*, provided that any part of the floor having a clear height of less than 1 400 mm shall not be considered in computing the required *floor area*.
C106	9.5.11.1.	Doors may be lesser heights to suit ceiling heights.
C107	9.5.11.2.	Existing acceptable, provided not less than 600 mm.
C108	9.6.1.2.(2) and (3); 9.6.1.4.(1) and (2)	Existing doors and sidelights being reused or relocated need not conform if identified or protected.
C109	9.6.1.4.(3)	Existing acceptable, if marked to indicate their existence and position.
C110	9.7.2.3.	(a) Where windows are not used as a *means of egress* and where they do not conflict with ventilation requirements, the minimum glass areas as shown in Table 9.7.2.3. may be reduced by 50%, and (b) an existing room converted to an interior room, created by an addition, shall not require a window, provided there is an opening in a dividing wall occupying not less than 30% of the separating plane to an adjoining room, where the adjoining room has a minimum of 5% window area of the combined *floor areas*, and provided the required ventilation for the combined room is maintained.
C111	9.7.4.	Existing acceptable.
C112	9.8.1. to 9.8.4.	Replacement or extension of existing stair systems shall be exempt from the provisions of these Subsections, except that they shall have: (a) a minimum width between wall faces of 700 mm, and (b) a minimum clear height over tread nosing or landing of 1 800 mm.
C113	9.8.4.3. and 9.8.4.7.	Existing curved or spiral stairs are acceptable.
C114	9.8.4.5.	Where a stair complies with Subsection 9.8.4., an extension to a stair may contain two sets of winders provided that they are separated by at least three treads or a landing.
C115	9.8.5.1.(2)	Existing *ramps* acceptable, where practical.
C116	9.8.7.	Existing handrails acceptable, unless considered unsafe by *chief building official*.
C117	9.8.8.	Existing guards acceptable, unless considered unsafe by *chief building official*.
C118	9.8.9.6.(4)	Existing acceptable.
C119	9.9.2.1.(1) to (2.1)	Except for *hotels*, the following types of *exits* may also be used: (a) connected balconies, which connect across *firewalls*, or connect to another *exit*, or with access to *grade*, (b) areas of refuge approved by the *chief building official*, where fire service rescue is possible, or (c) *combustible* or *noncombustible* exterior stairways or fire escapes which are protected in accordance with Sentence 3.2.3.13.(2). These may be reconstructed or recreated (as in the case of a *heritage building*).
C120	9.9.2.1.(4)	Except for *hotels*, existing acceptable.
C121	9.9.3.2.	(a) In a *building* containing not more than four *dwelling units*, the width of every exit facility may be as the existing, but not less than 800 mm, or

		(b) in a *building* containing more than four *dwelling units*, the width of every *exit* facility may be as the existing, but not less than 900 mm.
C122	9.9.3.3.	(a) In a *building* containing not more than four *dwelling units*, the minimum width of a *public corridor* may be 800 mm, or (b) in a *building* containing more than four *dwelling units*, the minimum width of a *public corridor* may be 900 mm.
C123	9.9.3.4.	Existing clear height of not less than 1 950 mm is acceptable.
C124	9.9.4.2.	Except as permitted in *C.A.* C139, in a *building* containing not more than four *dwelling units* or *suites*, one exit need not be separated from the remainder of the *building* at the *first storey* where there are one or more other *exits* complying with *C.A.* C125.
C125	9.9.4.2.(1) and (2)	30 min *fire separation* acceptable.
C136	9.9.5.4.	Existing acceptable.
C127	9.9.5.8.	Existing acceptable provided minimum 45 min *fire separation* and where explosion-resistant construction or venting is provided.
C128	9.9.5.9.	Existing acceptable, provided that the enclosure has a 45 min *fire-resistance rating*.
C129	9.9.6.1.	Except for *hotels*, existing acceptable.
C130	9.9.6.2.	Existing clear opening height of not less than 1 950 mm is acceptable.
C131	9.9.6.3.	Existing door widths are acceptable, provided *exit* widths conform to *C.A.* C117.
C132	9.9.6.5.	Existing door swings acceptable. Existing acceptable in *public heritage buildings*, where approved by *chief building official*.
C133	9.9.6.6.(1)	Where exit doors open onto a landing, they shall not extend beyond the face of the first riser.
C134	9.9.6.8.	Existing functionally operable passage or panic hardware acceptable.
C135	9.9.7.4.(1)(a)	Maximum area of existing room or *suite* does not apply.
C136	9.9.7.5.	Except as provided in *C.A.* C139, in a single *dwelling unit* or a house with a *secondary suite*, the Code requirement applies.
C137	9.9.8.2.(1)	Existing travel distance acceptable where *floor area* is *sprinklered* and provided *fire separations* comply with Part 9.
C138	9.9.8.5.	In a *building* containing not more than four *dwelling units* or *suites*, existing glazed solid wood doors to lobby may remain in lieu of new 20 minute doors, provided the *fire separations* for the floor above or below are provided as per *C.A.* C154, and a second *means of egress* from the *dwelling units* complies with the Code requirements.
C139	9.9.9.	In a single *dwelling unit* or a house with a *secondary suite*, *exit* requirements are acceptable if at least one of the following conditions exists: (a) a door, including a sliding door, that opens directly to the exterior from a *dwelling unit*, serves only that *dwelling unit* and has reasonable access to ground level, and the *dwelling units* are equipped with *smoke alarms* installed in conformance with Subsection 9.10.19., (b) an *exit* that is accessible to more than one *dwelling unit* and provides the only *means of egress* from each *dwelling unit*, provided that the *means of egress* is separated from the

		remainder of the *building* and common areas by a *fire separation* having a 30 min *fire-resistance rating* and provided further that the required *access to exit* from any *dwelling unit* cannot be through another *dwelling unit*, *service room* or other *occupancy*, and both *dwelling units* and common areas are provided with *smoke alarms* that are installed in conformance with Subsection 9.10.19. and are interconnected, or (c) access to an *exit* from one *dwelling unit* which leads through another *dwelling unit* where, (i) an additional means of escape is provided through a window that conforms to the following: (A) the sill height is not more than 1 000 mm above or below adjacent ground level, (B) the window can be opened from the inside without the use of tools, (C) the window has an individual unobstructed open portion having a minimum area of 0.38 m² with no dimension less than 460 mm, (D) the sill height does not exceed 900 mm above the floor or fixed steps, (E) where the window opens into a window well, a clearance of not less than 1 000 mm shall be provided in front of the window, and (F) *smoke alarms* are installed in every *dwelling unit* and in common areas in conformance with Subsection 9.10.19. and are interconnected, (ii) an additional means of escape is provided through a window that conforms to the following: (A) the window is a casement window not less than 1 060 mm high, 560 mm wide, with a sill height not more than 900 mm above the inside floor, (B) the sill height of the window is not more than 5 m above adjacent ground level, and (C) *smoke alarms* are installed in every *dwelling unit* and in common areas in conformance with Subsection 9.10.19. and are interconnected, or (iii) the *building* is *sprinklered* throughout and the *dwelling units* are equipped with *smoke alarms* installed in conformance with Subsection 9.10.19.
C140	9.9.10.1.	In a single *dwelling unit* or a house with a *secondary suite*, existing acceptable, where there is direct access to the exterior.
C141	9.9.11.	In a single *dwelling unit* or a house with a *secondary suite*, the requirements under this Subsection do not apply.
C142	9.9.11.3.	Existing illuminated legible signs are acceptable for exit signs, if approved by *chief building official*.
C143	9.9.12.	In a single *dwelling unit* or a house with a *secondary suite*, the requirements under this Subsection apply only where the condition described in (b) of *C.A.* C139 exists.
C144	9.10.1.1.	Assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating* as that supported.
C145	9.10.1.3.(8) to (10)	Existing installations acceptable subject to *C.A.* C26, C27 and C28.

C146	9.10.3.	*Fire-resistance ratings* may also be used where they are based on: 1. HUD Rehabilitation Guidelines, "Guideline on Fire Ratings of Archaic Materials and Assemblies". 2. DBR Technical Paper No. 194, "Fire Endurance of Protected Steel Columns and Beams". 3. DBR Technical Paper No. 207, "Fire Endurance of Unit Masonry Walls". 4. DBR Technical Paper No. 222, "Fire Endurance of Light-Framed and Miscellaneous Assemblies".
C147	9.10.5.1.	(a) Existing openings in existing wall or ceiling membranes to remain. (b) Existing openings may be moved to another location in the same wall or ceiling, provided the aggregate area of openings does not increase and are not cumulative, and the existing opening is blocked up to provide the same rating as the existing wall or ceiling assembly.
C148	9.10.6.2.	Existing heavy timber construction acceptable where construction is within 90% of member sizes listed in Part 3.
C149	9.10.7.	Existing acceptable for *heritage buildings*, subject to approval of *chief building official*.
C150	9.10.8.1.; 9.10.8.3.; 9.10.8.8.	(a) Except as provided in (b) and (c), 30 min rating is acceptable. (b) In a house with a *secondary suite*, 15 min horizontal *fire separation* is acceptable where, (i) *smoke alarms* are installed in every *dwelling unit* and in common areas in conformance with Subsection 9.10.19., and (ii) *smoke alarms* are interconnected. (c) In a house with a *secondary suite*, the *fire-resistance rating* of the *fire separation* is waived where the *building* is *sprinklered* throughout.
C151	9.10.8.4.	Assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating* as that supported.
C152	9.10.9.7.; 9.10.9.11.	Existing acceptable in existing *fire separations*.
C153	9.10.9.12.(1)	Ceiling *fire separation* need not have a *fire-resistance rating* where sprinklering, subject to *C.A.* C27, of *fire compartments* on both sides of vertical *fire separation* is provided and where such *fire separation* is not required to exceed 1 h.
C154	9.10.9.13.(1)	Except for hotels, 30 min *fire separation* acceptable.
C155	9.10.9.13.(2)	In lieu of the 2 h *fire separation*, sprinklers may be used in the *mercantile occupancy* or *medium-hazard industrial occupancy*, with a 1 h *fire separation*.
C156	9.10.9.16.(1) and (3); 9.10.9.17.(1)	(a) Except as provided in (b) and (c), 30 min *fire separation* is acceptable. (b) In a house with a *secondary suite*, 15 min horizontal *fire separation* is acceptable where, (i) *smoke alarms* are installed in every *dwelling unit* and in common areas in conformance with Subsection 9.10.19., and (ii) *smoke alarms* are interconnected.

		(c) In a house with a *secondary suite*, the *fire-resistance rating* of the *fire separation* is waived where the *building* is *sprinklered* throughout.
C157	9.10.10.3.	(a) Except as provided in (b) and (c) and in Articles 9.10.10.5. and 9.10.10.6., 30 min *fire separation* is acceptable. (b) In a house with a *secondary suite*, the *fire-resistance rating* of the vertical *fire separation* is waived where, (i) *smoke alarms* are installed in every *dwelling unit* and in common areas in conformance with Subsection 9.10.19., and (ii) *smoke alarms* are interconnected. (c) In a house with a *secondary suite*, the *fire-resistance rating* of the vertical *fire separation* is waived where *service rooms* are *sprinklered*.
C158	9.10.11.2.(1)	In an individual *dwelling unit* or a house with a *secondary suite*, a *party wall* with 1 h *fire-resistance rating* is acceptable.
C159	9.10.13.1	Existing functional *closures* are acceptable subject to *C.A.*C8 and C160.
C160	9.10.13.2.(1)	In an individual *dwelling unit* or a house with a *secondary suite*, existing unlabelled doors at least 45 mm solid core wood or metal clad are acceptable. For existing *closures*, ratings of 20 min will not be required where the entire *floor area* is *sprinklered*.
C161	9.10.13.2.(1)	In a *building* containing not more than four *dwelling units* or *suites*, existing glazed solid wood doors to corridors may remain in lieu of new 20 min doors, provided they are not located in a dead-end corridor.
C162	9.10.13.3.	Existing acceptable provided that wood door frames are secured with hinge screws going through frame into the stud.
C163	9.10.13.5.	Existing wired glass acceptable.
		Existing transoms or sidelights located in required fire separations may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed.
C164	9.10.13.6.	Existing steel door frames acceptable.
C165	9.10.13.7.	Existing glass block acceptable.
C166	9.10.13.8.	Existing sizes acceptable.
C167	9.10.13.9.	Existing operable latches acceptable.
C168	9.10.13.10.(1)	Existing functionally operable self-closing devices acceptable.
C169	9.10.13.11.	Existing operable self-releasing electromagnetic hold-open device acceptable, and except for hotels, fusible link hold-open devices acceptable.
C170	9.10.13.12.	Existing swings acceptable.
C171	9.10.13.13.(1)	Except as permitted in *C.A.* C172, in a *building* containing not more than four *dwelling units*, the existing heating or *air-conditioning* system may be altered to serve more than one *dwelling unit*, provided *smoke alarms* are installed in each *dwelling unit* and provided a *smoke detector* is installed in the supply or return air duct system serving the entire *building* which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.

C172	9.10.13.13.(1)	In detached houses, semi-detached houses, townhouses and row houses containing not more than two *dwelling units*, or houses with a *secondary suite*, existing acceptable.
C173	9.10.13.14.; 9.10.5.1.	Except as permitted in *C.A.* C174, in a *building* containing not more than four *dwelling units*, the existing heating *or* air-conditioning system may be altered to serve more than one *dwelling unit*, provided *smoke alarms* are installed in each *dwelling unit* and provided a *smoke detector* is installed in the supply or return air duct system serving the entire *building* which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.
C174	9.10.13.14.; 9.10.5.1.	In an individual *dwelling unit* or a house with a *secondary suite*, existing acceptable.
C175	9.10.14.2.(2) and (3); 9.10.14.4.(2); 9.10.15.2.(3) and (4); 9.10.15.4.(9)	Where an addition to an existing residential *building* has its *exposing building face* further distant from the line than the existing *exposing building face* and the limiting distance is at least 1 200 mm, the total area of allowable *unprotected openings* may be determined under Sentence 9.10.14.2.(2) or 9.10.15.2.(3) for the combined new and existing *exposing building faces* and, (a) where the existing *exposing building face* has no *unprotected openings*, or the existing *unprotected openings* are to be filled in, the total allowable area of *unprotected openings* may be installed in the new *exposing building face*, or (b) where the existing *unprotected openings* are to remain, (i) their area shall be deducted from the total allowable area of *unprotected openings*, and the balance may be installed in the new *exposing building face*, and (ii) Sentences 9.10.14.2.(3) and 9.10.14.4.(2) or Sentences 9.10.15.2.(4) and 9.10.15.4.(9) apply only to the new *exposing building face*.
C176	9.10.14.4.; 9.10.15.4.	Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another *building*, lies no closer than 300 mm from a window in such other *building*, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, to be restricted to the same *fire compartment* and shall conform to the requirements of Article 3.2.3.14. or 9.10.12.3. where applicable, or (c) where a *building* does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient *limiting distance*, such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.16.(2), or (ii) the *building* is *sprinklered* throughout.
C177	9.10.16.2.(1)	Where balloon framing is exposed during renovation, fire blocks shall be provided.

C178	9.10.18.	(a) Subject to approval by the *chief building official*, existing fire alarm system may remain where the fire safety plan (as described in the Fire Code made under the *Fire Protection and Prevention Act, 1997*) for the *building* addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system.
C179	9.10.19.4.	*Smoke alarms* may be battery operated.
C180	9.10.20.	Existing access acceptable.
C181	9.11.1.1.	Where a house contains a *secondary suite*, each *dwelling unit* shall be separated from every other space in the house in which noise may be transmitted by (a) construction (i) whose joist spaces are filled with sound-absorbing material of not less than 150 mm nominal thickness, (ii) whose stud spaces are filled with sound-absorbing material, (iii) having a resilient channel on one side of the separation spaced 400 or 600 mm o.c., and (iv) having not less than 12.7 mm thick gypsum board on ceilings and on both sides of walls, (b) *construction* providing an *STC* rating of not less than 43, or (c) a separating assembly and adjoining constructions, which together provide an *ASTC* rating of not less than 40.
C182	9.14.2.1.(1.1)	Existing acceptable.
C183	9.18.2.	Existing access acceptable.
C184	9.18.3.	Existing vents and ventilation acceptable.
C185	9.19.	Existing acceptable.
C186	9.20.2.2.	Used masonry may be reused for patching and filling openings to match adjacent work. Used interior brick may not be used for exterior applications.
C187	9.20.3.	Archaic mortars may be used to match existing jointing.
C188	9.20.4.1.	Sound jointing techniques may be employed to match existing archaic joints.
C189	9.20.12.1.	Corbelling may be constructed to match existing or original details, provided that it is structurally adequate for the proposed use.
C190	9.21.	Existing acceptable, provided the products of combustion are safely vented and provided no fire hazard is created.
C191	9.22.1. to 9.22.7.	Sound period materials, designs and techniques may be employed in recreated fireplaces, provided no fire hazard is created. Existing need not comply with Article 9.22.1.4.
C192	9.23.	Existing acceptable.
C193	9.24.	Existing acceptable.
C194	9.25.	A *vapour barrier* may consist of paint or other coating with specified perm rating such as two coats of leafing aluminum pigmented paint.
C195	9.26.	Existing acceptable, except when removing and replacing shingles, comply with the eave protection requirements of Subsection 9.26.5.

C196	9.27.	Existing acceptable.
C197	9.28.	All replacement or recreation of existing stucco may be compatible with the existing materials and application.
C198	9.29.4.	Existing acceptable. All replacement or recreation of existing plaster may be compatible with the existing materials and application.
C199	9.32.	In an individual *dwelling unit* or a house with a *secondary suite*, rooms or spaces shall be ventilated by natural means in accordance with Subsection 9.32.2. or by providing adequate mechanical ventilation.
C200	9.32.3.9C.	*Carbon monoxide alarms* may be battery operated or plugged into an electrical outlet.
C201	9.33.1.1.	In a *building* containing not more than four *dwelling units*, the existing heating or *air-conditioning* system may be altered to serve more than one *dwelling unit*, provided *smoke alarms* are installed in each *dwelling unit* and provided a *smoke detector* is installed in the supply or return air duct system serving the entire *building* which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.
C202	9.33.5.3.	Sound, used or antique appliances are acceptable, provided that: (a) visual examination shows no excessive weakening by corrosion or other damage, (b) no structural parts are missing, (c) no cracks are present in the components intended to support the appliance or enclose the fire, and (d) loading and ash removal door latches and hinges hold the door closed.
C203	9.33.6.5.(1); 9.33.6.6.(1) to (3), (5), (11) and (12)	Existing acceptable.
C204	9.33.6.6.(8)	Where the duct system is being altered, lesser amounts and extent of insulation will be permitted.
C205	9.33.6.13.(7.1)	In a *building* containing not more than four *dwelling units* or residential *suites*, the existing heating or *air-conditioning* system may be altered to serve more than one *dwelling unit* or *suite*, provided *smoke alarms* are installed in each *dwelling unit* or *suite* and provided a *smoke detector* is installed in the supply or return air duct system serving the entire *building* which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.
C206	9.38.	Sound used materials shall be acceptable for reuse, subject to the following limitations: (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, and (b) logs have not been subjected to termite infestation.
C207	12.2.1.2.(3)	(a) Where the framing systems are being altered to match the existing framing, lesser amounts and extent of insulation and vapour barrier is acceptable. (b) Existing acceptable for Article 3.1.1.9. of MMA Supplementary Standard SB-12, “Energy Efficiency for Housing”. (c) Existing previously occupied log houses that are dismantled and reconstructed are exempt from Article 3.1.1.6. of MMA

		Supplementary Standard SB-12, "Energy Efficiency for Housing".

Table 11.5.1.1.-D/E
Compliance Alternatives for Business/Mercantile Occupancies

Forming Part of Article 11.5.1.1.

C.A. Number	Division B Requirements	*Compliance Alternative*
DE1	3.1.4.7.	Existing *heavy timber construction* acceptable where *construction* is within 90% of member sizes listed in Part 3.
DE2	3.1.5.2. to 3.1.5.4.; 3.1.5.8.	Existing acceptable.
DE3	3.1.5.9. to 3.1.5.12.	Except for exposed foamed plastics, existing acceptable. To match existing, materials may be added from on or off site.
DE4	3.1.5.18. to 3.1.5.20.; 3.1.5.25.	Existing acceptable.
DE5	3.1.7.1.	*Fire-resistance ratings* may also be used where they are based on: 1. HUD Rehabilitation Guidelines, "Guideline on Fire Ratings of Archaic Materials and Assemblies". 2. DBR Technical Paper No. 194, "Fire Endurance of Protected Steel Columns and Beams". 3. DBR Technical Paper No. 207, "Fire Endurance of Unit Masonry Walls". 4. DBR Technical Paper No. 222, "Fire Endurance of Light-Framed and Miscellaneous Assemblies".
DE6	3.1.7.5.(3)	Existing assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating* as that supported.
DE7	3.1.8.1.(2); 3.1.8.6.	Existing functional *closures* are acceptable and may be relocated within the same existing *fire separation*.
DE8	3.1.8.5.(2)	(a) Existing functional and sound doors in existing *buildings* that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.16.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.16.(2), and (c) every fire door, window assembly or glass block used as a *closure* in a required *fire separation* shall be installed in conformance with good engineering practice.
DE9	3.1.8.7., 3.1.8.8. and 3.1.8.10.	*Fire dampers* or *fire stop flaps* are not required to be installed in existing ducts at penetrations of existing *fire separations*.
DE10	3.1.8.12.(1)	For existing unlabelled doors in existing *buildings*, at least 45 mm solid core wood or metal clad are acceptable.
DE11	3.1.8.15.	Existing functionally operable latching devices, excluding draw bolts, are acceptable.

DE12	3.1.8.16.	Existing transoms or sidelights located in required *fire separations* may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed.
DE13	3.1.8.17. to 3.1.8.19.	Existing acceptable.
DE14	3.1.11.	Where the concealed space is being materially altered, smoke or heat detection in that space in lieu of *fire blocks* and tied into fire alarm system is acceptable.
DE15	3.2.3.	Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another *building*, lies not closer than 300 mm from a window in such other *building*, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, shall be restricted to the same *fire compartment* and shall conform to the requirements of Article 3.2.3.14. or 9.10.12.3. where applicable, or (c) where a *building* does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient *limiting distance*, such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.16.(2), or (ii) the *building* is *sprinklered* throughout.
DE16	3.2.3.6.(3)	Existing roof soffit projections acceptable.
DE17	3.2.3.17.	Need not comply for "E" *occupancy*.
DE18	3.2.4.	(a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the fire safety plan (as described in the Fire Code made under the *Fire Protection and Prevention Act, 1997*) for the *building* addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system.
DE19	3.2.4.8.(2)(e)	Does not apply to existing installations in *buildings*.
DE20	3.2.4.9.(5)(c)	Does not apply to existing installations in *buildings*.
DE21	3.2.5.1.; 3.2.5.2.	Existing acceptable.
DE22	3.2.5.3.	Existing access acceptable.
DE23	3.2.5.4. to 3.2.5.6.	Existing acceptable provided the *building* is *sprinklered* throughout.
DE24	3.2.5.7.	Does not apply, except where a change in *major occupancy* occurs from a lesser *hazard index*.
DE25	3.2.5.8. to 3.2.5.11.	Does not apply to *buildings* 6 *storeys* and less. Does not apply to *sprinklered buildings*.

DE26	3.2.5.12.	Existing sprinkler systems in existing *buildings* that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer.
DE27	3.3.1.5.(1)(c); Tables 3.3.1.5.-A and 3.3.1.5.-B	In Column 2, maximum area of room or *suite* to be unlimited.
DE28	3.3.1.9.(1)	Existing width of *public corridors* of not less than 914 mm is acceptable.
DE29	3.3.1.11.; 3.3.1.12.	Existing door swings may remain in *heritage buildings*, existing or being restored, with no change in *major occupancy* and with *occupant load* no greater than 100.
DE30	3.3.1.13.	Existing doors acceptable, provided not less than 600 mm wide.
DE31	3.3.1.16.	Existing curved stairs acceptable.
DE32	3.3.1.17.	Existing non-conforming capacities of *access to exits* are acceptable, provided that: (a) the increase in *occupant load* is not greater than 15%, (b) the corridor *fire separations* are rated to Code, and (c) early warning systems are provided, or (d) there are sprinklers, plus *smoke alarms* in *suites*.
DE33	3.3.1.18.	Does not apply to *heritage buildings*.
DE34	3.3.1.20.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
DE35	3.3.5.4.; 3.3.5.7.(4)	Need not comply where a gasketed door and self closer are provided in the existing *fire separation*.
DE36	3.4.1.4.	The following types of *exits* may also be used for *buildings* not over 6 *storeys* in *building height*: (a) connected balconies, which connect across *firewalls*, or connect to another exit, or with access to *grade*, (b) areas of refuge where fire service rescue is possible and that comply with Measure L of Sentences (4) to (10), (18), and Clauses (20)(a), (b) and (d) in MMAH Supplementary Standard SB-4, “Measures for Fire Safety in High Buildings”.
DE37	3.4.1.8.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
DE38	3.4.2.5.(1)	Existing travel distance acceptable where floor area is sprinklered.
DE39	3.4.3.2.(8)	Existing width of exits acceptable provided the occupant load is not more than 15% above the exit capacity.
DE40	3.4.3.3.	Existing acceptable.
DE41	3.4.3.4.	Existing headroom clearance of not less than 1 980 mm is acceptable.
DE42	3.4.4.1.	*Fire separations* of *exits* permitted in *buildings*: - 30 min, up to 3 *storeys* in *building height*; - 45 min, up to 6 *storeys* in *building height*; - 1 h, over 6 *storeys* in *building height*.
DE43	3.4.4.4.(8)	Existing washrooms opening directly into *exit* stairwell shall be separated from exit stairwell by a 45 min *closure.*
DE44	3.4.5.1.(2) and (9)	Existing illuminated legible exit signs are acceptable.

DE45	3.4.6.1.	Existing acceptable.
DE46	3.4.6.2.	Existing acceptable, if visually apparent.
DE47	3.4.6.3.(1)	Existing acceptable with rise no greater than 3.7 m.
DE48	3.4.6.4.(1) to (3)	Existing acceptable.
DE49	3.4.6.4. (4) and (5)	Existing acceptable.
DE50	3.4.6.5.(3) to (13)	Existing acceptable.
DE51	3.4.6.6.(1) to (5)	Existing acceptable.
DE52	3.4.6.7.(1)	Existing acceptable.
DE53	3.4.6.8.	Existing acceptable.
DE54	3.4.6.9.	Existing acceptable.
DE55	3.4.6.10.(2) to (6)	Existing acceptable.
DE56	3.4.6.11.(1) to (3)	Existing acceptable.
DE57	3.4.6.12.	Existing acceptable in public heritage buildings or a change in *occupancy* with no increase in *occupant load*.
DE58	3.4.6.13.	Existing acceptable.
DE59	3.4.6.14.	Existing acceptable.
DE60	3.4.6.16.	Existing functionally operable panic hardware acceptable.
DE61	3.4.7.2.	*Combustible* fire escapes which are protected from fire in accordance with Sentence 3.2.3.13.(2) are permitted or may be reconstructed or recreated (as in the case of a *heritage building*).
DE62	3.5.1.	Existing acceptable except where *building* is classified under Subsection 3.2.6.
DE63	3.6.2.1.(7)	Existing *fire separation* of not less than 30 min is acceptable.
DE64	3.6.2.2.	Existing acceptable where explosion-resistant construction or venting is provided.
DE65	3.6.2.6.	Existing acceptable.
DE66	3.6.2.7.(1)	2 h *fire separation* acceptable.
DE67	3.6.3.1.(1) to (5)	45 min *fire separation* acceptable up to 6 *storeys*.
DE68	3.6.3.3.	(a) Where 2 h *fire separation* is required, 1 h is acceptable. (b) Where 1 h *fire separation* is required, 45 min is acceptable. (c) Existing need not comply with Sentence 3.6.3.3.(5).
DE69	3.6.4.2.	Ceiling *fire separation* need not have a *fire-resistance rating* where sprinklering, subject to *C.A.* DE26, of *fire compartments* on both sides of vertical *fire separation* is provided and where such *fire separation* is not required to exceed 1 h.
DE70	3.6.4.3.(1)	Existing to meet *flame-spread rating* of 25 or to be *sprinklered*.
DE71	3.6.4.4. to 3.6.4.6.	Existing access acceptable.
DE72	3.7.4.	Where the *occupant load* is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase.
DE73	3.8.1.2.	Existing accessible entrance acceptable. (See *C.A*. DE79) Existing curb *ramp* conforming to Sentence 3.8.3.2.(3) is acceptable. Existing principal entrance acceptable, provided at least one *barrier-free* entrance is available.
DE74	3.8.1.3.(1)	Existing unobstructed width of 920 mm minimum is acceptable.
DE75	3.8.1.3.(4)	Existing unobstructed space not less than 1 500 mm in width and 1 500 mm in length located not more than 30 m apart is acceptable.

DE76	3.8.3.2.(3)(b)	Existing curb *ramp* acceptable, provided width not less than 1 200 mm.
DE77	3.8.3.3.(1)	Existing doorway acceptable, provided not less than 800 mm wide.
DE78	3.8.3.3.(11)(a)	Existing distance acceptable, provided not less than 1 200 mm plus the width of any door that swings into the space in the path of travel.
DE79	3.8.3.4.(1)(a)	Existing *ramp* acceptable, provided not less than 870 mm between handrails.
DE80	3.8.3.8.(5)	Existing grab bar is acceptable.
DE81	3.8.3.12.	Existing universal washroom acceptable.
DE82	3.8.3.13.(2)(g)	Existing grab bar is acceptable.
DE83	3.8.3.16.	Existing drinking fountain conforming to Clauses 3.8.3.16.(2)(a) and (b) acceptable.
DE84	4.1.8.	The requirements under this Subsection do not apply.
DE85	6.3.1.1.(2)	Required outdoor air rates may be provided by mechanical, natural or combination of natural and mechanical means.
DE86	6.3.2.3.; 6.3.2.6; 6.3.2.6A.; 6.3.2.10.	Existing acceptable.
DE87	6.3.2.9.	Existing openings, grilles and diffusers acceptable, subject to approval of *chief building official*.
DE88	8.2.1.4.	Existing clearances acceptable where a *sewage system* is replaced with another *sewage system* within the same class and the capacity of the replacement *sewage system* does not exceed the capacity of the existing *sewage system*.
DE89	8.2.1.4.	Existing clearances are acceptable where a replacement *sewage system* requires lesser clearances than those required in Part 8 for the existing *sewage system*.
DE90	9.3.2.1.	Sound used lumber may be acceptable for reuse without a grade stamp provided that: (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, (b) where the grade or species is unknown, the minimum grade shall apply for span table use, and (c) lumber has not been subjected to termite infestation.
DE91	9.5.11.2.	Existing acceptable, provided not less than 600 mm.
DE92	9.6.1.2.(2) and (3); 9.6.1.4.(1) and (2)	Existing doors and sidelights being reused or relocated need not conform if identified or protected.
DE93	9.6.1.4.(3) and (4); 9.8.8.1.(6) and (8)	Existing acceptable.
DE94	9.7.4.	Existing acceptable.
DE95	9.8.1. to 9.8.4.	Replacement or extension of existing stair systems shall be exempt from the provisions of these Subsections, except that they shall have: (a) a minimum width between wall faces of 700 mm, and (b) a minimum clear height over tread nosing or landing of 1 800 mm.
DE96	9.8.3.2.	Existing acceptable.
DE97	9.8.4.3. and 9.8.4.7.	Existing tapered or spiral stairs acceptable.
DE98	9.8.5.1.(2)	Existing *ramps* acceptable, where practical.

DE99	9.8.7.	Existing handrails acceptable, unless considered unsafe by *chief building official*.
DE100	9.8.8.	Existing *guards* acceptable, unless considered unsafe by *chief building official.*
DE101	9.9.1.1.	Existing acceptable.
DE102	9.9.2.1.(1) to (2.1)	The following types of *exits* may also be used: (a) connected balconies, which connect across *firewalls*, or connect to another *exit*, or with access to grade, (b) areas of refuge approved by the *chief building official*, where fire service rescue is possible, or (c) *combustible* or *noncombustible* exterior stairways or fire escapes which are protected in accordance with Sentence 3.2.3.13.(2). These may be reconstructed or recreated (as in the case of a *heritage building*).
DE103	9.9.2.1.(3)	Existing acceptable.
DE104	9.9.3.2.	Existing width of exits acceptable.
DE105	9.9.3.3.	Existing width of public corridors of not less than 965 mm is acceptable.
DE106	9.9.3.4.	Existing clear height of not less than 1 950 mm is acceptable.
DE107	9.9.4.2.	30 min *fire separation* acceptable.
DE108	9.9.5.4.; 9.9.5.5.	Existing acceptable.
DE109	9.9.5.8.	Existing acceptable provided minimum 45 min *fire separation* and where explosion-resistant construction or venting is provided.
DE110	9.9.5.9.	Existing acceptable, provided that the enclosure has a 45 min *fire-resistance rating*.
DE111	9.9.6.1.	Existing acceptable.
DE112	9.9.6.2.	Existing clear opening height of not less than 1 950 mm is acceptable.
DE113	9.9.6.3.	Existing door widths are acceptable, provided *exit* widths comply with *C.A.* DE99.
DE114	9.9.6.5.	Existing door swings are acceptable. Existing acceptable in *public heritage buildings*, where approved by *chief building official*.
DE115	9.9.6.6.(1)	Where exit doors open onto a landing, they shall not extend beyond the face of the first riser.
DE116	9.9.6.8.	Existing functionally operable passage or panic hardware acceptable.
DE117	9.9.7.4.	Maximum area of existing room or *suite* to be unlimited.
DE118	9.9.8.2.(1)	Existing travel distance acceptable where *floor area* is *sprinklered* and provided *fire separations* comply with Part 9.
DE119	9.9.11.3.	Existing illuminated legible signs are acceptable for *exit* signs, if approved by *chief building official*.
DE120	9.10.1.3.(8) to (10)	Existing installations acceptable subject to *C.A.* DE25 and DE26.
DE121	9.10.3.	*Fire-resistance ratings* may also be used where they are based on: 1. HUD Rehabilitation Guidelines, “Guideline on Fire Ratings of Archaic Materials and Assemblies”. 2. DBR Technical Paper No. 194, “Fire Endurance of Protected Steel Columns and Beams”.

		3. DBR Technical Paper No. 207, "Fire Endurance of Unit Masonry Walls". 4. DBR Technical Paper No. 222, "Fire Endurance of Light-Framed and Miscellaneous Assemblies".
DE122	9.10.5.1.	(a) Existing openings in existing wall or ceiling membranes to remain. (b) Existing openings may be moved to another location in the same wall or ceiling, provided the aggregate area of openings does not increase and are not cumulative, and the existing opening is blocked up to provide the same rating as the existing wall or ceiling assembly.
DE123	9.10.6.2.	Existing heavy timber construction acceptable where construction is within 90% of the member sizes listed in Part 3.
DE124	9.10.7.	Existing acceptable for *heritage buildings*, subject to approval of *chief building official*.
DE125	9.10.8.1.	Existing 30 min rating acceptable.
DE126	9.10.8.2.	Existing sprinkler systems complying with *C.A.* DE26 and Sentence 3.2.2.17.(1) are acceptable.
DE127	9.10.8.3.	Existing acceptable, subject to approval of *the chief building official*.
DE128	9.10.8.4.	Assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating* as that supported.
DE129	9.10.8.8.	30 min rating acceptable.
DE130	9.10.9.7. to 9.10.9.9.; 9.10.9.11.	Existing acceptable in existing *fire separations*.
DE131	9.10.9.12.(1)	Ceiling *fire separation* need not be fire-resistance rated where sprinklering of *fire compartments* on both sides of vertical *fire* separation is provided and where such *fire separation* is not required to exceed 1 h.
DE132	9.10.9.13.(2)	In lieu of the 2 h *fire separation*, sprinklers may be used in the *mercantile* occupancy with a 1 h *fire separation*.
DE133	9.10.9.15.	30 min *fire separation* acceptable.
DE134	9.10.9.17.(1)	30 min *fire separation* acceptable.
DE135	9.10.9.17.(3)	Need not comply for *mercantile occupancy*.
DE136	9.10.10.3.(1)	45 min *fire separation* acceptable.
DE137	9.10.13.1.	Existing functional *closures* are acceptable subject to *C.A.* DE8.
DE138	9.10.13.2.	Existing acceptable.
DE139	9.10.13.3.	Existing acceptable, provided that wood door frames are secured with hinge screws going through frame into the stud.
DE140	9.10.13.5.	Existing acceptable. Existing transoms or sidelights located in required *fire separations* may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed.
DE141	9.10.13.6.	Existing steel door frames acceptable.
DE142	9.10.13.7.	Existing glass block acceptable.
DE143	9.10.13.8.	Existing sizes acceptable.
DE144	9.10.13.9.	Existing operable latches acceptable.
DE145	9.10.13.10.(1)	Existing functionally operable self-closing devices acceptable.

DE146	9.10.13.10.(2)	Existing functionally operable self-closing devices acceptable in "E" *occupancy*.
DE147	9.10.13.11.	Existing operable self-releasing electromagnetic and fusible link hold-open devices acceptable.
DE148	9.10.13.12.	Existing swings acceptable.
DE149	9.10.14.4.	Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another *building*, lies no closer than 300 mm from a window in such other *building*, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, to be restricted to the same *fire compartment* and shall conform to the requirements of Article 3.2.3.14. or 9.10.12.3. where applicable, or (c) where a *building* does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient *limiting distance*, such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.16.(2), or (ii) the *building* is *sprinklered* throughout.
DE150	9.10.16.2.(1)	Where balloon framing is exposed during renovation, fire blocks shall be provided.
DE151	9.10.18.	(a) Subject to approval by the *chief building official*, existing fire alarm system may remain where the fire safety plan (as described in the Fire Code made under the *Fire Protection and Prevention Act, 1997*) for the building addresses the intent of 3.2.4. (i.e. "stage' system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system.
DE152	9.10.20.	Existing access acceptable.
DE153	9.18.2.	Existing access acceptable.
DE154	9.18.3.	Existing vents and ventilation acceptable.
DE155	9.19.	Existing acceptable.
DE156	9.20.2.2.	Used masonry may be reused for patching and filling openings to match adjacent work. Used interior brick may not be used for exterior applications.
DE157	9.20.3.	Archaic mortars may be used to match existing jointing.
DE158	9.20.4.1.	Sound jointing techniques may be employed to match existing archaic joints.
DE159	9.20.12.1.	Corbelling may be constructed to match existing or original details, provided that it is structurally adequate for the proposed use.
DE160	9.21.	Existing acceptable, provided the products of combustion are safely vented and provided no fire hazard is created.

DE161	9.22.1. to 9.22.7.	Sound period materials, designs and techniques may be employed in recreated fireplaces, provided no fire hazard is created. Existing need not comply with Article 9.22.1.4.
DE162	9.23.	Existing acceptable.
DE163	9.24.	Existing acceptable.
DE164	9.26.	Existing acceptable, except when removing and replacing shingles, comply with eave protection requirements in Subsection 9.26.5.
DE165	9.27.	Existing acceptable.
DE166	9.28.	All replacement or recreation of existing stucco may be compatible with the existing materials and application.
DE167	9.29.4.	Existing acceptable. All replacement or recreation of existing plaster may be compatible with the existing materials and application.
DE168	9.33.5.3.	Sound, used or antique *appliances* are acceptable, provided that: (a) visual examination shows no excessive weakening by corrosion or other damage, (b) no structural parts are missing, (c) no cracks are present in the components intended to support the appliance or enclose the fire, and (d) loading and ash removal door latches and hinges hold the door closed.
DE169	9.38.	Sound used materials shall be acceptable for reuse, subject to the following limitations: (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, and (b) logs have not been subjected to termite infestation.

Table 11.5.1.1.-F
Compliance Alternatives for Industrial Occupancies

Forming Part of Article 11.5.1.1.

C.A. Number	Division B Requirements	*Compliance Alternative*
F1	3.1.4.7.	Existing *heavy timber construction* acceptable where *construction* is within 90% of member sizes listed in Part 3.
F2	3.1.5.2. to 3.1.5.4.; 3.1.5.8.	Existing acceptable.
F3	3.1.5.9. to 3.1.5.12.	Except for exposed foamed plastics, existing acceptable for "F2" and "F3" *occupancies*. To match existing, materials may be added from on or off site.
F4	3.1.5.18. to 3.1.5.20.; 3.1.5.25.	Existing acceptable.
F5	3.1.7.1.	*Fire-resistance ratings* may also be used where they are based on: 1. HUD Rehabilitation Guidelines, "Guideline on Fire Ratings of Archaic Materials and Assemblies". 2. DBR Technical Paper No. 194, "Fire Endurance of Protected Steel Columns and Beams". 3. DBR Technical Paper No. 207, "Fire Endurance of Unit Masonry Walls".

		4. DBR Technical Paper No. 222, "Fire Endurance of Light-Framed and Miscellaneous Assemblies".
F6	3.1.7.5.(3)	Existing assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating* as that supported.
F7	3.1.8.1.(2); 3.1.8.6.	Existing functional *closures* are acceptable and may be relocated within the same existing *fire separation*.
F8	3.1.8.5.(2)	(a) Existing functional and sound doors in existing *buildings* that are either hollow metal or kalamein and containing wired glass at least 6 mm thick and conforming to Sentence 3.1.8.16.(2) are permitted in lieu of doors not required to exceed 45 min, (b) all existing functional and sound hollow metal or kalamein doors which carry existing 1.5 h labels are acceptable in lieu of current 1.5 h labels and may contain wired glass panels not exceeding 0.0645 m², at least 6 mm thick and conforming to Sentence 3.1.8.16.(2), and (c) every fire door, window assembly or glass block used as a *closure* in a required *fire separation* shall be installed in conformance with good engineering practice.
F9	3.1.8.7., 3.1.8.8. and 3.1.8.10.	*Fire dampers* or *fire stop flaps* are not required to be installed in existing ducts at penetrations of existing *fire separations*.
F10	3.1.8.12.(1)	For existing unlabelled doors in existing *buildings*, at least 45 mm solid core wood or metal clad are acceptable.
F11	3.1.8.13.(1)	Existing functionally operable devices acceptable for "F2" and "F3" *occupancies*.
F12	3.1.8.15.	Existing functionally operable latching devices, excluding draw bolts, are acceptable.
F13	3.1.8.16.	Existing transoms or sidelights located in required *fire separations* may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed.
F14	3.1.8.17. to 3.1.8.19.	Existing acceptable.
F15	3.1.11.	Where the concealed space is being materially altered, smoke or heat detection in that space in lieu of *fire blocks* and tied into fire alarm system is acceptable.
F16	3.2.3.	Existing need not comply with Article 3.2.3.18. for "F2" *occupancy*. Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another *building*, lies not closer than 300 mm from a window in such other *building*, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, shall be restricted to the same *fire compartment* and shall conform to the requirements of Article 3.2.3.14. or 9.10.12.3. where applicable, or (c) where a *building* does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient *limiting distance*, such existing openings are allowed to be relocated provided:

		(i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.16.(2), or (ii) the *building* is *sprinklered* throughout.
F17	3.2.3.6.(3)	Existing roof soffit projections acceptable.
F18	3.2.3.17.	Need not comply for "F2" *occupancy*.
F19	3.2.4.	(a) Existing fire alarm system may remain except that Article 3.2.4.5. does not apply where the fire safety plan (as described in the Fire Code made under the *Fire Protection and Prevention Act, 1997*) for the *building* addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system.
F20	3.2.4.8.(2)(e)	Does not apply to existing installations in *buildings*.
F21	3.2.4.9.(5)(c)	Does not apply to existing installations in *buildings*.
F22	3.2.5.1; 3.2.5.2.	Existing acceptable.
F23	3.2.5.3.	Existing access acceptable.
F24	3.2.5.4. to 3.2.5.6.	Existing acceptable provided the *building* is *sprinklered* throughout.
F25	3.2.5.7.	Does not apply, except where a change in *major occupancy* occurs from a lesser *hazard index*.
F26	3.2.5.8. to 3.2.5.11.	Does not apply to *buildings* 6 *storeys* and less of "F2" and "F3" *occupancies*. Does not apply to *sprinklered buildings*.
F27	3.2.5.12.	Existing sprinkler systems in existing *buildings* that do not conform to NFPA 13 may be altered, added to, or extended from the existing system without complying with NFPA 13, provided the system is operational and adequate with respect to coverage, water supply and controls, and provided the system is evaluated by a qualified designer.
F28	3.3.1.4.(1)	30 min is acceptable to separate *public corridors* or *exits* in *buildings* not exceeding 6 *storeys* in *building height*, except that 45 min is required for *exits* in *buildings* exceeding 3 *storeys* in *building height*. Except for *exits*, no rating required where *floor areas* are *sprinklered* throughout.
F29	3.3.1.5.(1)(c); Tables 3.3.1.5.-A and 3.3.1.5.-B	For "F2" and "F3" *occupancies* in Column 2, maximum area of room or *suite* to be unlimited.
F30	3.3.1.9.	Existing width of *public corridors* of not less than 914 mm is acceptable.
F31	3.3.1.9.(11) and (12)	Need not comply where connected balcony or area of refuge is provided in compliance with *C.A.* F38.
F32	3.3.1.11.; 3.3.1.12.	Existing door swings may remain in *heritage buildings*, existing or being restored, with no change in *major occupancy* and with *occupant load* no greater than 100.
F33	3.3.1.13.	Existing doors acceptable, provided not less than 600 mm wide.
F34	3.3.1.16.	Existing curved or spiral stairs acceptable.
F35	3.3.1.20.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
F36	3.3.5.4.(2), (3) and (5)	Existing acceptable.

F37	3.3.5.6.; 3.3.5.7.	Need not comply where a gasketed door and self closer are provided in the existing *fire separation*.
F38	3.4.1.4.	For "F2" and "F3" *occupancies*, the following types of *exits* may also be used for *buildings* not over 6 *storeys* in *building height*: (a) connected balconies, which connect across *firewalls*, or connect to another *exit*, or with access to grade, (b) areas of refuge where fire service rescue is possible and that comply with Measure L in Sentences (4) to (10), (18) and Clauses (20)(a), (b) and (d) in MMAH Supplementary Standard SB-4, "Measures for Fire Safety in High Buildings".
F39	3.4.1.8.	Existing stained, etched, bevelled, leaded or figured glass acceptable.
F40	3.4.2.5.(1)	For "F2" and "F3" *occupancies*, existing travel distance acceptable where the *floor area* is *sprinklered*.
F41	3.4.3.2.(8)	For "F2" and "F3" *occupancies*, existing width of *exits* acceptable provided the *occupant load* is not more than 15% above the *exit* capacity.
F42	3.4.3.3.	Existing acceptable.
F43	3.4.3.4.	Existing headroom clearance of not less than 1 980 mm is acceptable.
F44	3.4.4.1.	*Fire separations* of *exits* permitted in *buildings*: - 30 min, up to 3 *storeys* in *building height*; - 45 min, up to 6 *storeys* in *building height*; - 1 h, over 6 *storeys* in *building height*.
F45	3.4.4.4.(8)	Existing washrooms opening directly into exit stairwell shall be separated from *exit* stairwell by 45 min closure.
F46	3.4.5.1.(2) and (9)	Existing illuminated legible *exit* signs are acceptable.
F47	3.4.6.1.	Existing acceptable.
F48	3.4.6.2.	Existing acceptable, if visually apparent.
F49	3.4.6.3.(1)	Existing acceptable with rise no greater than 3.7 m.
F50	3.4.6.4.(1) to (3)	Existing acceptable.
F51	3.4.6.4. (4) and (5)	Existing acceptable.
F52	3.4.6.5. (3) to (13)	Existing acceptable.
F53	3.4.6.6.(1) to (5)	Existing acceptable.
F54	3.4.6.7.(1)	Existing acceptable.
F55	3.4.6.8.	Existing acceptable.
F56	3.4.6.9.	Existing acceptable.
F57	3.4.6.10.(2) to (6)	Existing acceptable.
F58	3.4.6.11.(1) to (3)	Existing acceptable.
F59	3.4.6.12.	For "F2" and "F3" *occupancies*, existing acceptable in *public heritage buildings* or a change in *occupancy* with no increase in *occupant load*.
F60	3.4.6.13.; 3.4.6.14.	Existing acceptable.
F61	3.4.6.16.	Existing functionally operable panic hardware acceptable.
F62	3.4.7.2.	*Combustible* fire escapes which are protected from fire in accordance with Sentence 3.2.3.13.(2) are permitted or may be reconstructed or recreated (as in the case of a *heritage building*).

F63	3.5.1.	Existing acceptable, except where *building* classified under Subsection 3.2.6. and except where existing elevators are "open" type.
F64	3.6.2.1.(7)	45 min *fire separation* acceptable.
F65	3.6.2.2.	Existing acceptable where explosion-resistant construction or venting is provided.
F66	3.6.2.6.	Existing acceptable.
F67	3.6.2.7.(1)	2 h *fire separation* acceptable.
F68	3.6.3.1.(1) to (5)	45 min *fire separation* acceptable up to 6 *storeys*.
F69	3.6.3.3.	(a) Where 2 h *fire separation* is required, 1 h is acceptable. (b) Where 1 h *fire separation* is required, 45 min is acceptable. (c) Existing need not comply with Sentences 3.6.3.3.(4) and (5).
F70	3.6.4.2.	Ceiling *fire separation* need not be fire-resistance rated where sprinklering, subject to *C.A*. F26, of *fire compartments* on both sides of vertical *fire separation* is provided and where such *fire separation* is not required to exceed 1 h.
F71	3.6.4.3.(1)	Existing to meet *flame-spread rating* of 25 or to be *sprinklered*.
F72	3.6.4.4. to 3.6.4.6.	Existing access acceptable.
F73	3.6.5.5.	Existing acceptable for "F2" and "F3" *occupancies*.
	3.7.4.	Where the *occupant load* is increased by more than 15% above the capacity of the existing facilities, facilities to be added to accommodate the increase.
F74	3.8.1.2.	Existing accessible entrance acceptable. (See *C.A.* F80) Existing curb *ramp* conforming to Sentence 3.8.3.2.(3) is acceptable. Existing principal entrance acceptable, provided at least one *barrier-free* entrance is available.
F75	3.8.1.3.(1)	Existing unobstructed width of 920 mm minimum is acceptable.
F76	3.8.1.3.(4)	Existing unobstructed space not less than 1 500 mm in width and 1 500 mm in length located not more than 30 m apart is acceptable.
F77	3.8.3.2.(3)(b)	Existing curb *ramp* acceptable, provided width not less than 1 200 mm.
F78	3.8.3.3.(1)	Existing doorway acceptable, provided not less than 800 mm wide.
F79	3.8.3.3.(11)(a)	Existing distance acceptable, provided not less than 1 200 mm plus the width of any door that swings into the space in the path of travel.
F80	3.8.3.4.(1)(a)	Existing *ramp* acceptable, provided not less than 870 mm between handrails.
F81	3.8.3.8.(5)	Existing grab bar is acceptable.
F82	3.8.3.12.	Existing universal washroom acceptable.
F83	3.8.3.13.(2) (g)	Existing grab bar is acceptable.
F84	3.8.3.16.	Existing drinking fountain conforming to Clauses 3.8.3.16.(2)(a) and (b) acceptable.
F85	4.1.8.	The requirements under this Subsection do not apply.
F86	6.3.1.3.(1), (3) and (4)	*Storage garages* with a total capacity of fewer than 20 motor vehicles need not have mechanical ventilating systems if the downward slope of the floor to the outside door is 1 in 120 and the garage floor is above outside ground level.
F87	6.3.2.3.; 6.3.2.6.; 6.3.2.6A.; 6.3.2.10	Existing acceptable for "F2" and "F3" *occupancies*.

F88	6.3.2.9.	Existing openings, grilles and diffusers acceptable.
F89	8.2.1.4.	Existing clearances acceptable where a *sewage system* is replaced with another *sewage system* within the same class and the capacity of the replacement *sewage system* does not exceed the capacity of the existing *sewage system*.
F90	8.2.1.4.	Existing clearances are acceptable where a replacement *sewage system* requires lesser clearances than those required in Part 8 for the existing *sewage system*.
F91	9.3.2.1.	Sound used lumber is acceptable for reuse without a grade stamp provided that: (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, (b) where the grade or species is unknown, the minimum grade shall apply for span table use, and (c) lumber has not been subjected to termite infestation.
F92	9.5.11.2.	Existing acceptable, provided not less than 600 mm.
F93	9.6.1.2.(2) and (3); 9.6.1.4.(1) and (2)	Existing doors and sidelights being reused or relocated need not conform if identified or protected.
F94	9.6.1.4.(3) and (4); 9.8.8.1.(6) and (8)	Existing barriers acceptable.
F95	9.7.4.	Existing acceptable.
F96	9.8.1. to 9.8.4.	Replacement or extension of existing stair systems shall be exempt from the provisions of these Articles, except that they shall have: (a) a minimum width between wall faces of 700 mm, and (b) a minimum clear height over tread nosing or landing of 1 800 mm.
F97	9.8.4.3. and 9.8.4.7.	Existing tapered or spiral stairs acceptable.
F98	9.8.5.1.(2)	Existing *ramps* acceptable, where practical.
F99	9.8.7.	Existing handrails acceptable, unless considered unsafe by *chief building official*.
F100	9.8.8.	Existing *guards* acceptable, unless considered unsafe by *chief building official*.
F101	9.8.9.6.(4)	Existing acceptable.
F102	9.9.1.1.	Existing acceptable.
F103	9.9.2.1.(1) to (3.1)	The following types of exits may also be used: (a) connected balconies, which connect across *firewalls*, or connect to another exit, or with access to grade, (b) areas of refuge approved by the *chief building official*, where fire service rescue is possible, or (c) *combustible* or *noncombustible* exterior stairways or fire escapes which are protected in accordance with Sentence 3.2.3.13.(2). These may be reconstructed or recreated (as in the case of a *heritage building*).
F104	9.9.2.1.(3)	Existing acceptable.
F105	9.9.3.2.	Existing width of *exits* acceptable.
F106	9.9.3.3.	Existing width of *public corridors* of not less than 965 mm is acceptable.
F107	9.9.3.4.	Existing clear height of not less than 1 950 mm is acceptable.
F108	9.9.4.2.	30 min *fire separation* acceptable.

F109	9.9.5.4.	Existing acceptable.
F110	9.9.5.8.	Existing acceptable provided minimum 45 min *fire separation* and where explosion-resistant construction or venting is provided.
F111	9.9.5.9.	Existing acceptable, provided that the enclosure has a 45 min *fire-resistance rating*.
F112	9.9.6.3.	Existing door widths are acceptable, provided *exit* widths comply with *C.A.* F107.
F113	9.9.6.5.	Existing door swings acceptable. Existing acceptable in *public heritage buildings*, where approved by *chief building official*.
F114	9.9.6.6.(1)	Where *exit* doors open onto a landing, such doors shall not extend beyond the face of the first riser.
F115	9.9.6.8.	Existing functionally operable passage or panic hardware acceptable.
F116	9.9.7.4.	Maximum area of existing room or *suite* does not apply.
F117	9.9.8.2.(1)	Existing travel distance acceptable where *floor area* is *sprinklered* and provided *fire separations* comply with Part 9.
F118	9.9.11.3.	Existing illuminated legible signs are acceptable for *exit* signs, if approved by *chief building official*.
F119	9.10.1.3.(8) to (10)	Existing acceptable subject to *C.A.* F26 and F27.
F120	9.10.3.	*Fire-resistance ratings* may also be used where they are based on: 1. HUD Rehabilitation Guidelines, "Guideline on Fire Ratings of Archaic Materials and Assemblies". 2. DBR Technical Paper No. 194, "Fire Endurance of Protected Steel Columns and Beams". 3. DBR Technical Paper No. 207, "Fire Endurance of Unit Masonry Walls". 4. DBR Technical Paper No. 222. Fire Endurance of Light-Framed and Miscellaneous Assemblies".
F121	9.10.5.1.	Existing openings in existing wall or ceiling membranes to remain. Existing openings may be moved to another location in the same wall or ceiling, provided the aggregate area of openings does not increase and are not cumulative, and the existing opening is blocked up to provide the same rating as the existing wall or ceiling assembly.
F122	9.10.6.2.	Existing heavy timber construction acceptable where construction is within 90% of the member sizes listed in Part 3.
F123	9.10.7.	Existing acceptable for *heritage buildings*, subject to approval of *chief building official*.
F124	9.10.8.1.	Existing 30 min rating acceptable.
F125	9.10.8.2.	Existing sprinkler systems complying with *C.A*. F26 and Sentence 3.2.2.17.(1) are acceptable.
F126	9.10.8.3.	Existing acceptable, subject to approval of *chief building official*.
F127	9.10.8.4.	Assemblies required to be of *noncombustible construction* may be supported by *combustible construction* having at least the same *fire-resistance rating as* that supported.
F128	9.10.8.8.	30 min rating acceptable.
F129	9.10.9.7. to 9.10.9.9.; 9.10.9.11.	Existing acceptable in existing *fire separations*.

F130	9.10.9.12.(1)	Ceiling *fire separation* need not be fire-resistance rated where sprinklering of *fire compartments* on both sides of vertical *fire separation* is provided and where such *fire separation* is not required to exceed 1 h.
F131	9.10.9.13.(2)	In lieu of the 2 h *fire separation*, sprinklers may be used in the *medium-hazard industrial occupancy* with a 1 h *fire separation*.
F132	9.10.9.15.; 9.10.9.17.(1)	30 min *fire separation* acceptable.
F133	9.10.10.3.(1)	45 min *fire separation* acceptable.
F134	9.10.13.1.	Existing functional *closures* are acceptable subject to *C.A*. F8.
F135	9.10.13.2.	Existing acceptable.
F136	9.10.13.3.	Existing acceptable, provided that wood door frames are secured with hinge screws going through frame into the stud.
F137	9.10.13.5.	Existing wired glass acceptable. Existing transoms or sidelights located in required fire separations may be retained if wired glass, at least 6 mm thick, is securely fixed to a wood frame of at least 50 mm thickness with steel stops. Operable transoms shall be fixed closed.
F138	9.10.13.6.	Existing steel door frames acceptable.
F139	9.10.13.7.	Existing glass block acceptable.
F140	9.10.13.8.	Existing sizes acceptable.
F141	9.10.13.9.	Existing operable latches acceptable.
F142	9.10.13.10.(1)	Existing functionally operable self-closing devices acceptable.
F143	9.10.13.11.	Existing operable self-releasing electromagnetic and fusible link hold-open devices acceptable.
F144	9.10.13.12.	Existing swings acceptable.
F145	9.10.14.4.	Existing windows. (a) Existing windows in walls may be relocated to another part of the wall, provided the existing opening is blocked up to provide the same fire rating for the wall, and the projection of the new opening, at a right angle to the property line onto another *building*, lies no closer than 300 mm from a window in such other *building*, where the "opposite" window is less than 2 400 mm from the opposite new opening, and (b) except relocation of units, to be restricted to the same fire compartment and shall conform to the requirements of Article 3.2.3.14. or 9.10.12.3. where applicable, or (c) where a *building* does not satisfy the requirements of Subsection 3.2.3. for the amount of openings facing a yard or space that does not have sufficient *limiting distance*, such existing openings are allowed to be relocated provided: (i) such openings are not increased in size and they are protected with wired glass in steel frames conforming to Sentence 3.1.8.16.(2), or (ii) the *building* is *sprinklered* throughout.
F146	9.10.16.2.(1)	Where balloon framing is exposed during renovation, fire blocks shall be provided.

F147	9.10.18.	(a) Subject to approval by the *chief building official*, existing fire alarm system may remain where the fire safety plan (as described in the Fire Code made under the *Fire Protection and Prevention Act, 1997*) for the building addresses the intent of Subsection 3.2.4. (i.e. "stage" system, electrical supervision, detection as required, Fire Department connection, and emergency power supply), and (b) extension of an existing system must ensure continuity and compatibility, and integrity of the system.
F148	9.10.20.	Existing access acceptable.
F149	9.18.2.	Existing access acceptable.
F150	9.18.3.	Existing vents and ventilation acceptable.
F151	9.19.2.1.	Existing access acceptable.
F152	9.20.2.2.	Used masonry may be reused for patching and filling openings to match adjacent work. Used interior brick may not be used for exterior applications.
F153	9.20.3.	Archaic mortars may be used to match existing jointing.
F154	9.20.4.1.	Sound jointing techniques may be employed to match existing archaic joints.
F155	9.20.12.1.	Corbelling may be constructed to match existing or original details, provided that it is structurally adequate for the proposed use.
F156	9.21.	Existing acceptable, provided the products of combustion are safely vented and provided no fire hazard is created.
F157	9.22.1. to 9.22.7.	Sound period materials, designs and techniques may be employed in recreated fireplaces provided no fire hazard is created. Existing need not comply with Article 9.22.1.4.
F158	9.23.	Existing acceptable.
F159	9.24.	Existing acceptable.
F160	9.26.	Existing acceptable.
F161	9.27.	Existing acceptable.
F162	9.28.	All replacement or recreation of existing stucco may be compatible with the existing materials and application.
F163	9.29.4.	Existing acceptable. All replacement or recreation of existing plaster may be compatible with the existing materials and application.
F164	9.33.5.3.	Sound, used or antique *appliances* are acceptable, provided that: (a) visual examination shows no excessive weakening by corrosion or other damage, (b) no structural parts are missing, (c) no cracks are present in the components intended to support the appliance or enclose the fire, and (d) loading and ash removal door latches and hinges hold the door closed.
F165	9.38.	Sound used materials shall be acceptable for reuse, subject to the following limitations: (a) visual examination shows no excessive weakening by holes, notches, nail splits or other damage, and (b) logs have not been subjected to termite infestation.

Part 12

571. The National Building Code of Canada is amended by adding the following Part:

Part 12

Resource Conservation and Environmental Integrity

Section 12.1. General

12.1.1. Application

12.1.1.1. Scope

(1) The scope of this Part shall be as described in Subsection 1.3.3. of Division A.

12.1.1.2. Application

(1) This Part applies to resource conservation and environmental integrity in the design and *construction* of *buildings*.

Section 12.2. Energy Efficiency, Carbon Dioxide Equivalents and Peak Electric Demand

12.2.1. Energy Efficiency Design

12.2.1.1. Reserved

12.2.1.2. Energy Efficiency Design

(1) Reserved.

(2) Except as provided in Sentences (3) and (4), the energy efficiency of all *buildings* shall,

(a) be designed to exceed by not less than 13% the energy efficiency levels required by Sentence 12.2.1.1.(2) of O. Reg. 332/12 (Building Code) as it read on December 31, 2024, or

(b) conform to Division 1 and Division 3 or 5 of MMA Supplementary Standard SB-10, “Energy Efficiency Requirements”.

(3) Except as provided in Sentence (4), the energy efficiency of a *building* or part of a *building* of *residential occupancy* that is within the scope of Part 9 and is intended for occupancy on a continuing basis during the winter months shall,

(a) be designed to exceed by not less than 15% the energy efficiency levels required by Sentence 12.2.1.1.(3) of O. Reg. 332/12 (Building Code) as it read on December 31, 2024, or

(b) conform to Chapters 1 and 3 of MMA Supplementary Standard SB-12, “Energy Efficiency for Housing”.

(4) This Article does not apply to,

(a) a *farm building*,

(b) a *building* that does not use electrical power or fossil fuel, or

(c) a seasonal recreational *building* described in Section 9.37. or 9.39.

12.2.2. Carbon Dioxide Equivalents

12.2.2.1. Carbon Dioxide Equivalents

(1) Except as provided in Sentence (2), all *buildings* shall be designed to conform to the CO_2e emission requirements set out in MMA Supplementary Standard SB-10, "Energy Efficiency Requirements".

(2) This Article does not apply to,

(a) a *building* or part of a *building* of *residential occupancy* that is within the scope of Part 9 and is intended for occupancy on a continuing basis during the winter months,

(b) a *farm building*,

(c) a *building* that does not use electrical power or fossil fuel, or

(d) a seasonal recreational *building* described in Section 9.37. or 9.39.

12.2.3. Peak Electric Demand

12.2.3.1. Peak Electric Demand

(1) Except as provided in Sentence (2), all *buildings* shall be designed to conform to the peak electric demand requirements set out in MMA Supplementary Standard SB-10, "Energy Efficiency Requirements".

(2) This Article does not apply to,

(a) a *building* or part of a *building* of *residential occupancy* that is within the scope of Part 9 and is intended for occupancy on a continuing basis during the winter months,

(b) a *farm building*,

(c) a *building* that does not use electrical power or fossil fuel, or

(d) a seasonal recreational *building* described in Section 9.37. or 9.39.

12.2.4. Motion Sensors

12.2.4.1. Motion Sensors

(1) Lighting installed to provide the minimum illumination levels required by this Code may be controlled by motion sensors except where the lighting,

(a) is installed in an *exit*,

(b) is installed in a corridor serving patients or residents in a Group B, Division 2 or Division 3 *occupancy*, or

(c) is required to conform to Sentence 3.2.7.1.(10).

(2) Where motion sensors are used to control minimum lighting in a *public corridor* or corridor providing *access to exit* for the public, the motion sensors shall be installed with switch controllers equipped for fail-safe operation and illumination timers set for a minimum 15-minute duration.

(3) A motion sensor shall not be used to control emergency lighting.

Section 12.3. Energy Efficiency for Buildings of Residential Occupancy Within the Scope of Part 9

12.3.1. General

12.3.1.1. Application

(1) This Section applies to the energy efficiency of a *building* or part of a *building* of *residential occupancy* that is within the scope of Part 9 and is intended for occupancy on a continuing basis during the winter months.

12.3.1.2. Windows and Sliding Glass Doors

(1) The energy rating and the overall coefficient of heat transfer required for windows and sliding glass doors shall be determined in conformance with,

(a) CSA A440.2, “Fenestration Energy Performance”, or

(b) NFRC 100, “Procedure for Determining Fenestration Product U-factors” and NFRC 200, “Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence”.

12.3.1.3. Temperature Control in Houses and Dwelling Units

(1) Except as provided in Sentence (3) and except where space heating energy is provided by a solid fuel-burning *appliance* or a ground source heat pump,

(a) heating system in an individual *dwelling unit* shall be controlled by at least one programmable thermostatic control device located in the *dwelling unit*, and

(b) where a house contains *a secondary suite,* each *dwelling unit* shall be controlled by at least one programmable thermostatic control device located in the *dwelling unit*.

(2) The programmable thermostatic control device required in Sentence (1) shall,

(a) allow the setting of different air temperatures for at least,

(i) four time periods per day, and

(ii) two different day-types per week,

(b) include a manual override, and

(c) allow the setting of the air temperature to,

(i) 13°C or lower in heating mode, and

(ii) 29°C or higher in cooling mode, where *air-conditioning* is provided.

(3) A manual thermostatic control device is permitted if it,

(a) controls a heating or cooling system where the heating or cooling capacity is not more than 2 kW, or

(b) serves an individual room or space.

12.3.1.4. Hot Water Piping Insulation

(1) Hot water pipes that are vertically connected to a hot water storage tank shall have heat traps on both inlet and outlet piping as close as practical to the tank, except where the tank,

(a) has an integral heat trap, or

(b) serves a recirculating system.

(2) The first 2.5 m of hot water outlet piping of a hot water storage tank serving a non-recirculating system shall be insulated to provide a thermal resistance of not less than RSI 0.62.

(3) The inlet pipe of a hot water storage tank between the heat trap and the tank serving a non-recirculating system shall be insulated to provide a thermal resistance of not less than RSI 0.62.

12.3.1.5. Residential Furnaces

(1) A furnace serving an individual *dwelling unit* in a house shall be equipped with a brushless direct current motor.

12.3.1.6. Energy Supply for Kitchen and Laundry Facilities

(1) In order to supply energy to cooking appliances and clothes dryers, every kitchen and laundry space shall be provided with,

(a) an electrical outlet,

(b) a natural gas line, or

(c) a propane line.

Section 12.4. Water Efficiency

12.4.1. General

12.4.1.1. Plumbing Systems

(1) All *buildings* shall conform to the water efficiency requirements of Subsection 7.6.4.

Division C

572. Division C is revoked and the following substituted:

Division C

Administrative Provisions

Part 1
General

Section 1.1. Application

1.1.1. Application

1.1.1.1. Application

(1) This Part applies to all *buildings* covered in this Code. (See Article 1.1.1.1. of Division A.)

1.1.1.2. Conformance with Administrative Requirements

(1) This Code shall be administered in conformance with the Act.

Section 1.2. Design and General Review

1.2.1. Design

1.2.1.1. Application

(1) Article 1.2.1.2. applies with respect to a *building* described in clause 11 (3) (a) or (b) of the *Architects Act* or subsection 12 (4) or clause 12 (5) (a) of the *Professional Engineers Act*.

1.2.1.2. Design by Architect or Professional Engineer

(1) A *foundation* of a *building* shall be designed by a *professional engineer* where,

(a) the *foundation* is to be constructed below the level of the footings of an adjacent *building* and within the angle of repose of the *soil*, as drawn from the bottom of the footings, or

(b) *underpinning* of a *foundation* is to be undertaken.

(2) A sprinkler protected glazed wall assembly described in Article 3.1.8.20. of Division B shall be designed by a *professional engineer*.

(3) A *shelf and rack storage system* described in Section 3.16. of Division B shall be designed by a *professional engineer*.

(4) The time-based egress analysis for a *shelf and rack storage system* described in Sentence 3.16.1.7.(7) of Division B shall be prepared or provided by an *architect* or a *professional engineer* or a combination of both.

(5) The supporting framing structure and anchorage system for a tent occupying an area greater than 225 m^2 shall be designed by a *professional engineer.*

(6) A sign structure attached in any manner to a *building* shall be designed by an *architect* or a *professional engineer* or a combination of both where it is,

(a) a projecting sign that weighs more than 115 kg, or

(b) a roof sign that has any face that is more than 10 m^2.

(7) A projecting sign attached in any manner to a parapet wall shall be designed by an *architect* or a *professional engineer* or a combination of both.

1.2.2. General Review

1.2.2.1. General Review by Architect or Professional Engineer

(1) The *construction*, including, for greater certainty, enlargement or alteration, of every *building* or part of it described in Table 1.2.2.1. shall be reviewed by an *architect* or a *professional engineer* or a combination of both as set out in Column 3 of the Table.

Table 1.2.2.1.
General Review(4)

Forming Part of Sentence 1.2.2.1.(1)

Item	Column 1 *Building* Classification by *Major Occupancy*(5)	Column 2 *Building* Description	Column 3 General Review by:
1.	*Assembly occupancy* only	Every *building*	*Architect* and *professional engineer*(1)
2.	*Assembly occupancy* and any other *major occupancy* except *industrial*	Every *building*	*Architect* and *professional engineer*(1)
3.	*Care*, *care and treatment* or *detention occupancy* only	Every *building*	*Architect* and *professional engineer*(1)
4.	*Care*, *care and treatment* or *detention occupancy* and any other *major occupancy* except *industrial*	Every *building*	*Architect* and *professional engineer*(1)
5.	*Residential occupancy* only, other than *retirement homes*	Every *building* that exceeds 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)

		Every *building* that exceeds 600 m^2 in *gross area* and that contains a *residential occupancy* other than a *dwelling unit* or *dwelling units*	*Architect*(2)
6.	*Residential occupancy* only, other than *retirement homes*	Every *building* that exceeds 600 m^2 in *gross area* and contains a *dwelling unit* above another *dwelling unit*	*Architect*(2)
		Every *building* that exceeds 600 m^2 in *building area*, contains 3 or more *dwelling units* and has no *dwelling unit* above another *dwelling unit*	*Architect*(2)
7.	*Residential occupancy*, other than *retirement homes*, and any other *major occupancy* except *assembly*, *care*, *care and treatment*, *detention* or *industrial occupancy*	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
8.	*Retirement home* only	Every *building*	*Architect* and *professional engineer*(1)
9.	*Retirement home* and any *major occupancy* except *industrial*	Every *building*	*Architect and professional engineer*(1)
10.	*Business and personal services occupancy* only	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
11.	*Business and personal services occupancy* and any other *major occupancy* except *assembly*, *care*, *care and treatment*, *detention* or *industrial occupancy*	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
12.	*Mercantile occupancy* only	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
13.	*Mercantile occupancy* and any other *major occupancy* except *assembly*, *care*, *care and treatment*, *detention* or *industrial occupancy*	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
14.	*Industrial occupancy* only and where there are no subsidiary *occupancies*	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* or *professional engineer*(3)
15.	*Industrial occupancy* and one or more other *major occupancies* where the portion of the area occupied by one of the other *major* or subsidiary *occupancies* exceeds 600 m^2	The non-industrial portion of every *building*	*Architect* and *professional engineer*(1)
		The industrial portion of every *building*	*Architect* or *professional engineer*(3)

16.	*Industrial occupancy* and one or more other *major occupancies* where no portion of the area occupied by one of the other *major* or subsidiary *occupancies* exceeds 600 m^2	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* or *professional engineer*(3)
17.	*Agricultural occupancy* only and where there are no subsidiary *occupancies*	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* or *professional engineer*(3)
18.	*Agricultural occupancy* and one or more other *major occupancies* where the portion of the area occupied by one of the other *major* or subsidiary *occupancies* exceeds 600 m^2	The non-agricultural portion of every *building*	*Architect* and *professional engineer*(1)
		The agricultural portion of every *building*	*Architect* or *professional engineer*(3)
19.	*Agricultural occupancy* and one or more other *major occupancies* where no portion of the area occupied by one of the other *major* or subsidiary *occupancies* exceeds 600 m^2	Every *building* that exceeds 600 m^2 in *gross area* or 3 *storeys* in *building height*	*Architect* or *professional engineer*(3)

Notes to Table 1.2.2.1.:

(1) An *architect* shall provide general review services within the practice of architecture and a *professional engineer* shall provide general review services within the practice of professional engineering.

(2) An *architect* may engage a *professional engineer* to provide general review services within the practice of professional engineering.

(3) Only a *professional engineer* may provide general review services within the practice of professional engineering.

(4) Requirements for general review by an *architect* or a *professional engineer* or a combination of both for the *construction*, including, for greater certainty, enlargement or alteration, of a *building* are set out in the *Architects Act* and the *Professional Engineers Act*.

(5) For purposes of Table 1.2.2.1., a *retirement home* is deemed to be a separate *major occupancy*.

(2) A person who intends to *construct* or have *constructed* a *building* or part of it required by Sentences (1) and (4) to (9) to be reviewed by an *architect* or a *professional engineer* or a combination of both, shall ensure that an *architect*, *professional engineer* or both are retained to undertake the general review of the *construction* of the *building* in accordance with the performance standards of the Ontario Association of Architects or the Association of Professional Engineers of Ontario, as applicable, to determine whether the *construction* is in general conformity with the plans, sketches, drawings, graphic representations, specifications and other documents that form the basis for the issuance of a permit under section 8 of the Act or any changes to it authorized by the *chief building official*.

(3) The *architect*, *professional engineer* or both who have been retained to undertake the general review of the *construction* of a *building*, shall forward copies of written reports arising out of the general review to the *chief building official* or *registered code agency*, as the case may be.

(4) The *construction* of a *foundation* of a *building* shall be reviewed by a *professional engineer* where,

(a) the *foundation* is to be *constructed* below the level of the footings of an adjacent *building* and within the angle of repose of the *soil*, as drawn from the bottom of the footings, or

(b) *underpinning* of a *foundation* is to be undertaken.

(5) The *construction* of a sprinkler protected glazed wall assembly described in Article 3.1.8.20. of Division B shall be reviewed by a *professional engineer*.

(6) The *construction* of a *shelf and rack storage system* described in Section 3.16. of Division B shall be reviewed by a *professional engineer*.

(7) The *construction* of a supporting framing structure and anchorage system for a tent occupying an area greater than 225 m^2 shall be reviewed by a *professional engineer*.

(8) The *construction* of a sign structure shall be reviewed by an *architect* or a *professional engineer* or a combination of both, where the sign is,

(a) a ground sign that exceeds 7.5 m in height above the adjacent finished ground,

(b) a projecting sign that weighs more than 115 kg, or

(c) a roof sign that has any face that is more than 10 m^2.

(9) The *construction* of a projecting sign attached in any manner to a parapet wall shall be reviewed by an *architect*, *professional engineer* or a combination of both.

(10) The *construction* of a *demountable stage* or *demountable support structure* regulated by Section 3.17. of Division B shall be reviewed by a *professional engineer*.

1.2.2.2. Restriction for General Review

(1) Only an *architect* may carry out or provide the general review of the *construction* of a *building*,

(a) that is *constructed* in accordance with a design prepared or provided by an *architect*, or

(b) in relation to services that are provided by an *architect* in connection with the design in accordance with which the *building* is *constructed*.

(2) Only a *professional engineer* may carry out or provide the general review of the *construction* of a *building*,

(a) that is *constructed* in accordance with a design prepared or provided by a *professional engineer*, or

(b) in relation to services that are provided by a *professional engineer* in connection with the design in accordance with which the *building* is *constructed*.

1.2.2.3. Demolition of a Building

(1) The applicant for a permit respecting the *demolition* of a *building* shall retain a *professional engineer* to undertake the general review of the project during *demolition*, where,

(a) the *building* exceeds 3 *storeys* in *building height* or 600 m² in *building area*,

(b) the *building* structure includes pre-tensioned or post-tensioned members,

(c) it is proposed that the *demolition* will extend below the level of the footings of any adjacent *building* and occur within the angle of repose of the *soil*, as drawn from the bottom of such footings, or

(d) explosives or a laser are to be used during the course of *demolition*.

Section 1.3. Permits and Inspections

1.3.1. Permits

1.3.1.1. Requirement for Permits

(1) A person is exempt from the requirement to obtain a permit under section 8 of the Act,

(a) for the *demolition* of a *farm building* located on a farm,

(b) subject to Sentence (2), for the *construction* or *demolition* of a *building* in territory without municipal organization, or

(c) for the *construction* of a Class 1 *sewage system*.

(2) The exemption in Clause (1)(b) from the requirement to obtain a permit does not apply to the *construction* of a *sewage system* in territory without municipal organization.

(3) The application for a permit respecting the *demolition* of a *building* to which Sentence 1.2.2.3.(1) applies shall include descriptions of the structural design characteristics of the *building* and the method of *demolition* of the *building*.

(4) No person shall commence *demolition* of a *building* or any part of a *building* before the *building* has been vacated by the occupants except where the safety of the occupants is not affected.

(5) A tent or group of tents is exempt from the requirement to obtain a permit under section 8 of the Act and is exempt from compliance with the Code provided that the tent or group of tents are,

(a) not more than 60 m^2 in aggregate ground area,

(b) not attached to a *building*, and

(c) constructed more than 3 m from other structures.

(6) A shed is exempt from the requirement to obtain a permit under section 8 of the Act and is exempt from compliance with this Code, provided that the shed,

(a) is not more than 15 m^2 in *gross area*,

(b) is not more than one *storey* in *building height*,

(c) is not attached to a *building* or any other structure,

(d) is used only for storage purposes ancillary to a principal *building* on the lot, and

(e) does not have plumbing.

(7) A *demountable stage* or *demountable support structure* not regulated by Section 3.17. of Division B is exempt from the requirement to obtain a permit under section 8 of the Act and is exempt from compliance with this Code.

1.3.1.2. Applications for Permits under Section 8 of the Act

(1) An application for a permit under section 8 of the Act to *construct* or *demolish* a *building* shall be made by,

(a) the owner of the property on which the proposed *construction* or *demolition* is to take place, or

(b) the authorized agent of the owner referred to in Clause (a).

(2) An application referred to in Sentence (1) shall be in a form approved by the *Minister*.

(3) In Sentence (1),

"owner" includes, in respect of the property on which the *construction* or *demolition* will take place, the registered owner, a lessee and a mortgagee in possession.

1.3.1.3. Period Within Which a Permit is Issued or Refused

(1) Subject to Sentences (2) and (3) and unless the circumstances set out in Sentence (6) exist, if an application for a permit under subsection 8 (1) of the Act that meets the requirements of Sentence (5) is submitted to a *chief building official*, the *chief building official* shall, within the time period set out in Column 2 of Table 1.3.1.3. corresponding

to the class of *building* described in Column 1 of Table 1.3.1.3. for which the application is made,

(a) issue the permit, or

(b) refuse to issue the permit and provide in writing all of the reasons for the refusal.

(2) If an application for a permit under subsection 8 (1) of the Act proposes *construction* or *demolition* of two or more *buildings* of different classes described in Column 1 of Table 1.3.1.3. that have different time periods in Column 2 of Table 1.3.1.3., the longer of the time periods shall be the time period for the purposes of Sentence (1).

(3) If an application for a permit under subsection 8 (1) of the Act proposes *construction* or *demolition* of a *building* described in Sentence (4), the time period for the purposes of Sentence (1) shall be the longer of,

(a) 10 days, and

(b) the time period corresponding to the class of the *building* described in Column 1 of Table 1.3.1.3. that the *building* described in Sentence (4) serves, if any.

(4) A *building* referred to in Sentence (3) is,

(a) a structure occupying an area of 10 m^2 or less that contains *plumbing*, including the *plumbing* appurtenant to it,

(b) *plumbing* not located in a structure,

(c) a *sewage system*, or

(d) a structure designated in Article 1.3.3.5. of Division A.

(5) The requirements that an application for a permit under subsection 8 (1) of the Act must meet for the purposes of Sentence (1) are,

(a) that the application is made in the form described in Sentence 1.3.1.2.(2),

(b) that the applicant for the permit is a person described in Clause 1.3.1.2.(1)(a) or (b),

(c) that all applicable fields on the application form and required schedules are completed,

(d) that all required schedules are submitted with the application,

(e) that payment is made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7 (1) (c) of the Act, to be paid when the application is made, and

(f) that the applicant has declared in writing that,

(i) the application meets all the requirements set out in Clauses (a) to (e),

(ii) the application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7 (1) (b) of the Act,

(iii) the application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7 (1) (b) of the Act which enable the *chief building official* to determine whether the proposed *building*, *construction* or *demolition* will contravene any *applicable law*, and

(iv) the proposed *building*, *construction* or *demolition* will not contravene any *applicable law*.

(6) The *chief building official* is not required to make a decision within the time period required by Sentence (1) with respect to an application that meets the requirements of Sentence (5) if the *chief building official*,

(a) determines that,

(i) the application is not accompanied by the plans, specifications, information and documents referred to in Subclauses (5)(f)(ii) and (iii), or

(ii) the proposed *building*, *construction* or *demolition* will contravene any *applicable law*, and

(b) advises the applicant of his or her determination and provides in writing the reasons for the determination within two days.

(7) Subject to Sentences (9) and (10), the time period described in Sentences (1) to (3) and in Clause (6)(b) shall begin on the day following the day on which an application that meets the requirements of Sentence (5) is submitted to the *chief building official*.

(8) The time periods described in Column 2 of Table 1.3.1.3. and in Clause (6)(b) shall not include Saturdays, holidays and all other days when the offices of the *principal authority* are not open for the transaction of business with the public.

(9) The time period in Sentence (10) applies where,

(a) an application is made for the *construction* of a *building* that is served by a *sewage system*,

(b) *construction* is proposed in respect of the *sewage system* that serves the *building*, and

(c) a board of health, conservation authority, planning board or the council of an upper-tier municipality is responsible for the enforcement of the

provisions of the Act and this Code related to the *sewage system* under section 3.1 of the Act or pursuant to an agreement under section 6.2 of the Act.

(10) The time period described in Sentences (1) to (3) and in Clause (6)(b) for an application referred to in Clause (9)(a) shall begin on the day following the later of,

(a) the day on which an application that meets the requirements of Sentence (5) is submitted to the *chief building official*, and

(b) the day on which a permit for the *construction* of the *sewage system* referred to in Clause (9)(b) is issued.

Table 1.3.1.3.
Period Within Which Permit Shall be Issued or Refused

Forming Part of Article 1.3.1.3.

Item	Column 1 Class of *Building*	Column 2 Time Period
1.	(a) Except for a *retirement home*, a house where no *dwelling unit* is located above another *dwelling unit*. (b) A detached structure that serves a *building* described in Clause (a) and does not exceed 55 m^2 in *building area*. (c) A tent to which Section 3.14. of Division B applies. (d) A sign to which Section 3.15. of Division B applies. (e) A *demountable stage* or *demountable support structure* to which Section 3.17. of Division B applies.	10 days
2.	(a) *Buildings* described in Clause 1.3.3.3.(1)(a), (b) or (c) of Division A, other than *buildings* described in Column 1 of any of Items 1 and 4 of this Table. (b) *Farm buildings* that do not exceed 600 m^2 in *building area*.	15 days
3.	(a) *Buildings* described in Sentence 1.3.3.2.(1) of Division A, other than *buildings* described in Column 1 of any of Items 1 and 4 of this Table. (b) *Farm buildings* exceeding 600 m^2 in *building area*. (c) *Retirement homes*.	20 days
4.	(a) *Post-disaster buildings*. (b) *Buildings* to which Subsection 3.2.6. of Division B or any provision in Articles 3.2.8.3. to 3.2.8.8. of Division B applies.	30 days

1.3.1.4. Permits Under Section 10 of the Act

(1) Except as provided in Sentence (2), the following changes in use of a *building* or part of a *building* constitute an increase in hazard for the purposes of section 10 of the Act and require a permit under section 10 of the Act:

(a) a change of the *major occupancy* of all or part of a *building* that is designated with a "Y" in Table 1.3.1.4. takes place,

(b) a *suite* of a Group C *major occupancy* is converted into more than one *suite* of Group C *major occupancy*,

(c) a *suite* or part of a *suite* of a Group A, Division 2 or a Group A, Division 4 *major occupancy* is converted to a *gaming premises*,

(d) a *farm building* or part of a *farm building* is changed to another *major occupancy* other than a Group G *major occupancy,*

(e) a *farm building* or part of a *farm building* is changed to a Group G, Division 1 *major occupancy*.

(f) a *building* or part of a *building* is changed to a *post-disaster building*,

(g) a *building* or part of a *building* is changed to a *retirement home*, or

(h) the use of a *building* or part of a *building* is changed and the previous *major occupancy* of the *building* or part of the *building* cannot be determined.

Table 1.3.1.4.
Permit Required for Change of Use

Forming Part of Sentence 1.3.1.4.(1)[1]

		FROM[2]												
		A-1	A-2	A-3	A-4	B-1	B-2	B-3	C	D	E	F-1	F-2	F-3
TO[3]	A-1	N[5]	Y	Y	N[5]	Y	Y	Y	Y	Y	Y	Y	Y	Y
	A-2	Y	N[5]	Y	N[5]	Y	Y	Y	Y	Y	Y	Y	Y	Y
	A-3	Y	Y	N[5]	N[5]	Y	Y	Y	Y	Y	Y	Y	Y	Y
	A-4	Y	Y	Y	N[5]	Y	Y	Y	Y	Y	Y	Y	Y	Y
	B-1	Y	Y	Y	N[5]	N[5]	Y	Y	Y	Y	Y	Y	Y	Y
	B-2	Y	Y	Y	N[5]	Y	N[5]	Y	Y	Y	Y	Y	Y	Y
	B-3	Y	Y	Y	N[5]	Y	N[5]	N[5]	Y	Y	Y	Y	Y	Y
	C	Y	Y	Y	N[5]	Y	N[5]	N[5]	[4]	Y	Y	Y	Y	Y
	D	N[5]	N[5]	Y	N[5]	Y	N[5]	N[5]	Y	N[5]	Y	Y	N[5]	N[5]
	E	Y	Y	Y	N[5]	Y	Y	Y	Y	Y	N[5]	Y	Y	Y
	F-1	Y	Y	Y	N[5]	Y	Y	Y	Y	Y	Y	N[5]	Y	Y
	F-2	Y	Y	Y	N[5]	Y	Y	Y	Y	Y	Y	N[5]	N[5]	Y
	F-3	Y	N[5]	Y	N[5]	Y	Y	Y	Y	N[5]	N[5]	N[5]	N[5]	N[5]

Notes to Table 1.3.1.4.:

[1] See Clause 1.3.1.4.(1)(a), Subclause 3.18.1.1.(1)(a)(i) of Division B and Clause 9.41.1.1.(1)(a) of Division B.

[2] *Major occupancy* of all or part of a *building* before change of use.

[3] *Major occupancy* of all or part of a *building* after change of use.

(4) See Clause 1.3.1.4.(1)(b), Subclause 3.18.1.1.(1)(a)(ii) of Division B and Clauses 9.41.1.1.(1)(b) and 11.4.2.3.(1)(b) of Division B.

(5) "N" is only applicable where the *major occupancy* of the entire *suite* is changed.

(2) A person is exempt from the requirement to obtain a permit under section 10 of the Act where the change in use of the *building* or part of the *building* will result from proposed *construction* and a permit under section 8 of the Act has been issued in respect of such *construction*.

(3) A person is exempt from the requirement to obtain a permit under section 10 of the Act for the change of use of a *building* in unorganized territory.

1.3.1.5. Conditional Permits

(1) The *chief building official* shall not issue a conditional permit for any stage of *construction* under subsection 8 (3) of the Act unless compliance with the following applicable laws has been achieved in respect of the proposed *building* or *construction*:

(a) section 3 of the *Building Transit Faster Act, 2020* with respect to the issuance of a permit under that section,

(b) section 28 of the *Conservation Authorities Act* with respect to the prohibition of development activities,

(c) sections 28.1, 28.1.1 and 28.1.2 of the *Conservation Authorities Act* with respect to a permit issued for the *construction* of a *building* or structure or for any change to a *building* or structure that would increase its size, alter its use or increase the number of *dwelling units*,

(d) regulations made by a conservation authority under clause 28 (1) (c) of the *Conservation Authorities Act* as it read immediately before its repeal by section 25 of Schedule 4 to the *Building Better Communities and Conserving Watersheds Act, 2017*, with respect to permission of the authority for the *construction* of a *building* or structure if, in the opinion of the authority, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected by the development,

(e) section 17.2 of the *Environmental Assessment Act* with respect to the approval of the Minister or the Ontario Land Tribunal to proceed with a project,

(f) subsection 24 (3) of the *Niagara Escarpment Planning and Development Act*,

(g) subsection 27 (9) of the *Ontario Heritage Act*,

(h) subsection 30 (2) of the *Ontario Heritage Act* with respect to a consent of the council of a *municipality* to the alteration or *demolition* of a *building*

where the council of the *municipality* has given a notice of intent to designate the *building* under subsection 29 (3) of that Act,

(i) section 33 of the *Ontario Heritage Act* with respect to the consent of the council of a *municipality* for the alteration of property,

(j) section 34 of the *Ontario Heritage Act* with respect to the consent of the council of a *municipality* for the *demolition* of a *building*,

(k) section 34.5 of the *Ontario Heritage Act* with respect to the consent of the Minister to the alteration or *demolition* of a designated *building*,

(l) subsection 34.7 (2) of the *Ontario Heritage Act* with respect to a consent of the Minister to the alteration or *demolition* of a *building* where the Minister has given a notice of intent to designate the *building* under section 34.6 of that Act,

(m) by-laws made under section 40.1 of the *Ontario Heritage Act*,

(n) section 42 of the *Ontario Heritage Act* with respect to the permit given by the council of a *municipality* for the erection, alteration or *demolition* of a *building*,

(o) section 17.4 of the *Ontario New Home Warranties Plan Act* with respect to the provision of a confirmation by the Registrar for the *construction* of a residential condominium conversion project.

(2) For the purposes of issuing a conditional permit under subsection 8 (3) of the Act, a person is exempt from the requirement in clause 8 (3) (a) of the Act of compliance with by-laws passed under sections 34 and 38 of the *Planning Act* where,

(a) a committee of adjustment has made a decision under section 45 of the *Planning Act* authorizing one or more minor variances from the provisions of any by-laws made under sections 34 and 38 of that Act,

(b) such minor variance or variances result in the achievement of full compliance with such by-laws, and

(c) no person informed the committee of adjustment of objections to the minor variances either in writing or in person at the hearing of the application.

(3) For the purposes of issuing a conditional permit under subsection 8 (3) of the Act, a person is exempt from the requirement in clause 8 (3) (a) of the Act of compliance with by-laws passed under sections 34 and 38 of the *Planning Act* where the *construction* in respect of which the conditional permit is issued is required in order to comply with an order issued under subsection 21 (1) of the *Fire Protection and Prevention Act, 1997* or under subsection 15.9 (4) of the Act.

(4) A permit issued under subsection 8 (3) of the Act shall indicate its conditional nature.

1.3.1.6. Information to be given to Tarion Warranty Corporation

(1) This Article prescribes, for the purposes of subsection 8 (8.1) of the Act, the information relating to permits issued under section 8 of the Act and the applications for those permits that the *chief building official* is required to give to *Tarion Warranty Corporation* and the time within which the information is required to be given.

(2) The *chief building official* shall give the following information to *Tarion Warranty Corporation* with respect to permits issued under section 8 of the Act in respect of the *construction* of *buildings* described in Sentence (4),

(a) the dates the permits are issued and the numbers or other identifying symbols for the permits, and

(b) the information contained in the application forms submitted in respect of the permits, other than the information contained in the schedules or other attachments to the application forms.

(3) Despite Sentence (2), the *chief building official* is not required to give to *Tarion Warranty Corporation* information which relates to the extension or material alteration or repair of an existing *building*.

(4) The *buildings* referred to in Sentence (2) are any *building* whose proposed use is classified as a Group C *major occupancy* and which is not a *boarding*, *lodging or rooming house* or a *building* containing a *hotel*.

(5) The *chief building official* shall give the information described in Sentence (2) within 45 days after the day on which the permits to which the information relates are issued.

(6) The time period described in Sentence (5) shall not include Saturdays, holidays and all other days when the offices of the *principal authority* are not open for the transaction of business with the public.

1.3.1.7. Information to be given to the Fire Chief or Clerk

(1) This Article applies to *buildings*,

(a) *constructed* using,

(i) lightweight pre-engineered floor or roof systems containing lightweight elements such as wood I-joists, cold-formed steel joists, wood truss assemblies with metal or wood plates and metal web wood joists, or

(ii) lightweight floor or roof systems containing solid sawn lumber joist less than 38 mm by 235 mm,

(b) other than a house, with or without a *secondary unit*, and

(c) for which a permit under section 8 of the Act is issued after July 1, 2022.

(2) The *chief building official* shall give the following information to the chief of the fire department and the clerk of every municipality that does not have a fire department in respect of *buildings* described in Sentence (1):

(a) the dates the permits are issued and the numbers or other identifying symbols for the permits,

(b) the address of the *building*, and

(c) a description of the floor or roof system.

(3) The *chief building official* shall give the information described in Sentence (2) within 45 days after the day on which the permits to which the information relates are issued.

(4) The time period described in Sentence (3) shall not include Saturdays, holidays and all other days when the offices of the *principal authority* are not open for the transaction of business with the public.

1.3.2. Site Documents

1.3.2.1. Permit Posting

(1) Where a permit has been issued pursuant to the Act, the person to whom it is issued shall have the permit or a copy of it posted at all times during *construction* or *demolition* in a conspicuous place on the property in respect of which the permit was issued.

1.3.2.2. Documentation on Site

(1) The person in charge of the *construction* of the *building* shall keep and maintain on the site of the *construction*,

(a) at least one copy of drawings and specifications certified by the *chief building official* or a person designated by the *chief building official* to be a copy of those submitted with the application for the permit to *construct* the *building*, together with changes that are authorized by the *chief building official* or a person designated by the *chief building official*,

(b) copies of authorizations of the Building Materials Evaluation Commission on the basis of which the permit was issued, and

(c) copies of rulings of the *Minister*, made under clause 29 (1) (a) or (c) of the Act, on the basis of which the permit was issued.

1.3.3. Occupancy of Buildings

1.3.3.1. Occupancy Permit — General

(1) Except as permitted in Sentence 1.3.3.2.(1), a person may occupy or permit to be occupied any *building* or part of it that has not been fully completed at the date of occupation where the *chief building official* or a person designated by the *chief building official* has issued a permit authorizing occupation of the *building* or part of it prior to its completion in accordance with Sentence (3).

(2) Sentence (1) does not apply in respect of the occupancy of a *building* to which Article 1.3.3.4., 1.3.3.5. or 1.3.3.7. applies.

(3) The *chief building official* or a person designated by the *chief building official* shall issue a permit authorizing occupation of a *building*, where,

(a) the structure of the *building* or part of it is completed to the roof,

(b) the enclosing walls of the *building* or part of them are completed to the roof,

(c) the walls enclosing the space to be occupied are completed, including balcony *guards*,

(d) all required *fire separations* and *closures* are completed on all *storeys* to be occupied,

(e) all required *exits* are completed, including all *fire separations*, doors, door hardware, self-closing devices, *guards* and handrails, from the uppermost floor to be occupied down to *grade* level and below if an *exit* connects with lower *storeys*,

(f) all shafts including *closures* are completed to the floor-ceiling assembly above the *storey* to be occupied and have a temporary *fire separation* at such assembly,

(g) measures have been taken to prevent access to parts of the *building* and site that are incomplete or still under construction,

(h) floors, halls, lobbies and required *means of egress* are free of loose materials and other hazards,

(i) if *service rooms* should be in operation, required *fire separations* and *closures* are completed,

(j) all *building drains*, *building sewers*, *water systems*, *drainage systems* and *venting systems* are complete and tested as operational for the *storeys* to be occupied,

(k) required lighting, heating and electrical supply are provided for the *suites*, rooms and common areas to be occupied,

(l) required lighting in corridors, stairways and *exits* is completed and operational up to and including all *storeys* to be occupied,

(m) required standpipe, sprinkler and fire alarm systems are complete and operational up to and including all *storeys* to be occupied, together with required pumper connections for such standpipes and sprinklers,

(n) required fire extinguishers have been installed on all *storeys* to be occupied,

(o) main garbage rooms, chutes and ancillary services are completed to all *storeys* to be occupied,

(p) required firefighting access routes have been provided and are accessible, and

(q) the *sewage system* has been completed and is operational.

(4) Where a *registered code agency* has been appointed to perform the functions described in clause 4.1 (4) (b) or (c) of the Act in respect of the *construction* of the *building*, the *chief building official* or a person designated by the *chief building official* shall issue the permit referred to in Sentence (3) after receipt of a *certificate for the occupancy of a building not fully completed* issued by the *registered code agency* in respect of the *building*.

(5) Where applicable, the *chief building official* or a person designated by *the chief building official* shall not issue a permit authorizing occupation of the *building* or part of it, unless compliance with section 168.3.1 of the *Environmental Protection Act* has been achieved.

1.3.3.2. Conditions for Residential Occupancy

(1) A person may occupy or permit to be occupied a *building* intended for *residential occupancy* that has not been fully completed at the date of occupation provided that,

(a) the *building*,

(i) is of three or fewer *storeys* in *building height* and has a *building area* not exceeding 600 m²,

(ii) has not more than 1 *dwelling unit* above another *dwelling unit*,

(iii) has not more than 2 *dwelling units* sharing a common *means of egress*,

(iv) has no accommodation for tourists, and

(v) is not used for a *retirement home*,

(b) the following *building* components and systems are complete, operational and inspected:

(i) required *exits*, handrails and *guards*, fire alarm and detection systems, and *fire separations*,

(ii) required exhaust fume barriers and self-closing devices on doors between an attached or built-in garage and a *dwelling unit*,

(iii) water supply, sewage disposal, lighting and heating systems, and

(iv) protection of foamed plastics required by Article 9.10.17.10. of Division B,

(c) the following *building* components and systems are complete, operational, inspected and tested:

(i) *water systems*,

(ii) *building drains* and *building sewers*, and

(iii) *drainage systems* and *venting systems*, and

(iv) where applicable, the *building* conforms to Article 9.1.1.7. of Division B.

(2) Sentence (1) does not apply in respect of the occupancy of a *building* to which Article 1.3.3.4. or 1.3.3.5. applies.

(3) Where applicable, a person shall not occupy or permit to be occupied a *building* or part of it, unless compliance with section 168.3.1 of the *Environmental Protection Act* has been achieved.

1.3.3.3. Notification

(1) Where a person has occupied or permitted the occupancy of a *building* under Article 1.3.3.1. or 1.3.3.2., such person shall notify the *chief building official* forthwith upon completion of the *building*.

1.3.3.4. Occupancy Permit — Certain Buildings of Residential Occupancy

(1) No person shall occupy or permit to be occupied a *building* described in Sentence (3), or part of it, unless the *chief building official* or a person designated by the *chief building official* has issued a permit authorizing occupation of the *building* or part of it in accordance with Sentence (4).

(2) This Article does not apply in respect of the occupancy of an existing *building*, or part of it, that has been subject to extension or material alteration or repair.

(3) A *building* referred to in Sentence (1) is a *building* intended for *residential occupancy* that,

(a) is of three or fewer *storeys* in *building height* and has a *building area* not exceeding 600 m²,

(b) has no accommodation for tourists,

(c) does not have a *dwelling unit* above another *dwelling unit*,

(d) does not have any *dwelling units* sharing a common *means of egress*, and

(e) does not contain a *retirement home*.

(4) The *chief building official* or a person designated by the *chief building official* shall issue a permit authorizing occupation of a *building* described in Sentence (3), where,

(a) the structure of the *building* with respect to the *dwelling unit* to be occupied is substantially complete and ready to be used for its intended purpose,

(b) the *building* envelope, including, but not limited to, cladding, roofing, windows, doors, assemblies requiring *fire-resistance ratings*, *closures*, insulation, *vapour barriers* and air barriers, with respect to the *dwelling unit* to be occupied, is substantially complete,

(c) the walls enclosing the *dwelling unit* to be occupied conform to Sentence 9.25.2.3.(7) of Division B,

(d) required electrical supply is provided for the *dwelling unit* to be occupied,

(e) required firefighting access routes to the *building* have been provided and are accessible,

(f) the following *building* components and systems are complete and operational for the *dwelling unit* to be occupied:

(i) required *exits*, floor access and egress systems, handrails, *guards*, *smoke alarms*, *carbon monoxide alarms* and *fire separations*, including, but not limited to, *fire stops*,

(ii) required exhaust fume barriers and self-closing devices on doors between an attached or built-in garage and the *dwelling unit*,

(iii) water supply, sewage disposal, lighting and heating systems, and

(iv) protection of foamed plastics required by Article 9.10.17.10. of Division B,

(g) the following *building* components and systems are complete, operational and tested for the *dwelling unit* to be occupied:

(i) *water system*,

(ii) *building drain* and *building sewer*, and

(iii) *drainage system* and *venting system*,

(h) required *plumbing fixtures* in the *dwelling unit* to be occupied are substantially complete and operational, and

(i) where applicable, the *building* conforms to Article 9.1.1.7. of Division B with respect to the *dwelling unit* to be occupied.

(5) Where a *registered code agency* has been appointed to perform the functions described in clause 4.1 (4) (b) or (c) of the Act in respect of the *construction* of a *building*

described in Sentence (3), the *chief building official* or a person designated by the *chief building official* shall issue the permit referred to in Sentence (4) after receipt of a *certificate for the occupancy of a building* described in Sentence 1.3.3.4.(3) of Division C issued by the *registered code agency* in respect of the *building*.

(6) Where applicable, the *chief building official* or a person designated by the *chief building official* shall not issue a permit authorizing occupation of the *building* or part of it, unless compliance with section 168.3.1 of the *Environmental Protection Act* has been achieved.

1.3.3.5. Occupancy Permit — Buildings within the scope of Article 3.2.2.51. or 3.2.2.60.

(1) No person shall occupy or permit to be occupied a *building* within the scope of Article 3.2.2.51. or 3.2.2.60. of Division B, or part of it, unless the *chief building official* or a person designated by the *chief building official* has issued a permit authorizing occupation of the *building* or part of it in accordance with Sentence (3).

(2) This Article does not apply in respect of the occupancy of an existing *building*, or part of it, that has been subject to extension or material alteration or repair.

(3) The *chief building official* or a person designated by the *chief building official* shall issue a permit authorizing occupation of a *building* described in Sentence (1), where,

(a) the structure of the *building* is completed to the roof,

(b) the *building* envelope, including, but not limited to, cladding, roofing, windows, doors, assemblies requiring *fire-resistance ratings*, *closures*, insulation, *vapour barriers* and air barriers, is complete,

(c) the walls enclosing the space to be occupied are completed, including balcony *guards*,

(d) all required *fire separations* and *closures* are completed,

(e) all required *exits* are completed, including all *fire separations*, doors, door hardware, self-closing devices, *guards* and handrails,

(f) all shafts including *closures* are completed,

(g) measures have been taken to prevent access to parts of the *building* and site that are incomplete or still under construction,

(h) floors, halls, lobbies and required *means of egress* are free of loose materials and other hazards,

(i) if *service rooms* should be in operation, required *fire separations* and *closures* are completed,

(j) all *building drains*, *building sewers*, *water systems*, *drainage systems* and *venting systems* are complete and tested as operational for the *storeys* to be occupied,

(k) required lighting, heating and electrical supply are provided for the *suites*, rooms and common areas to be occupied,

(l) required lighting in corridors, stairways and *exits* is completed and operational,

(m) required standpipe, sprinkler and fire alarm systems are complete and operational, together with required pumper connections for such standpipes and sprinklers,

(n) required *smoke alarms* and *carbon monoxide alarms* are complete and operational,

(o) required fire extinguishers have been installed,

(p) main garbage rooms, chutes and ancillary services are completed to all *storeys* to be occupied,

(q) required firefighting access routes have been provided and are accessible, and

(r) the *sewage system* has been completed and is operational.

(4) Where a *registered code agency* has been appointed to perform the functions described in clause 4.1 (4) (b) or (c) of the Act in respect of the *construction* of a *building* described in Sentence (1), the *chief building official* or a person designated by the *chief building official* shall issue the permit referred to in Sentence (3) after receipt of a *certificate for the occupancy* of a *building* described in Sentence 1.3.3.5.(1) of Division C issued by the *registered code agency* in respect of the *building*.

1.3.3.6. Occupancy Permit — Buildings in the Lower Don Area of Toronto

(1) Except as provided in Sentence (2), this Article applies to *buildings* constructed on land in the City of Toronto being the land outlined in red on a map numbered 230 and filed at the Toronto office of the Ministry of Municipal Affairs and Housing located at 777 Bay Street.

(2) This Article does not apply to a *building* that complies with,

(a) the official plan of the City of Toronto approved under section 17 of the *Planning Act* as the official plan read on the day Ontario Regulation 388/18 is filed, or

(b) a by-law made by the City of Toronto under section 34 of the *Planning Act* as the by-law read on the day Ontario Regulation 388/18 is filed.

(3) No person shall occupy or permit to be occupied a *building* or part of it to which this Article applies, unless the *chief building official* or a person designated by the *chief building official* has issued a permit authorizing occupation of the *building* or part of it in accordance with Sentence (4).

(4) The *chief building official* or a person designated by the *chief building official* shall not issue a permit authorizing occupation of a *building* or part of it unless,

(a) hydraulic modelling carried out by or on behalf of the Toronto Region Conservation Authority demonstrates that the lot or parcel of land on which the *building* is constructed is no longer susceptible to flooding due to the completion of the flood protection features described in Section 4.5 of WT, "Port Lands Flood Protection and Enabling Infrastructure Due Diligence Report", and

(b) the *construction* of the *building* or part of it is in compliance with Clauses 1.3.3.1.(3)(a) to (q), 1.3.3.2.(1)(a) to (d), 1.3.3.4.(4)(a) to (i), 1.3.3.5.(3)(a) to (r) or 1.3.3.7.(8)(a) to (y), as applicable.

1.3.3.7. Occupancy Permit — Super Tall Buildings

(1) This Article applies to a *building*,

(a) that is 65 or more *storeys* in *building height* or more than 250 m in height, and

(b) for which the applicant for the permit has provided notice in accordance with Sentence (6) to the *chief building official* that they intend to occupy or permit the *building* or part of the *building* to be occupied in accordance with this Article.

(2) This Article applies to the occupation of a *building* where the structure and enclosing walls of the *building* are not completed to the roof.

(3) For greater certainty, once the structure and enclosing walls of the *building* are completed to the roof, Article 1.3.3.1. applies to the authorization of occupation of the remainder of the *building*.

(4) This Article does not permit the occupation of exterior balconies, podiums, terraces, platforms and contained open spaces.

(5) This Article does not permit occupation if the *means of egress* are located on faces of the *building* where there is overhead lifting of heavy construction materials, elements and equipment.

(6) The notice described in Clause (1)(b) must have been provided to the *chief building official* at the time the first application for a permit under section 8 of the Act is made in respect of the *building*.

(7) No person shall occupy or permit to be occupied a *building* or part of a *building* described in Sentence (1) unless *the chief building official* or a person designated by the *chief building official* has issued a permit authorizing occupation of the *building* or part of it in accordance with Sentence (8).

(8) The *chief building official* or a person designated by the *chief building official* shall issue a permit authorizing occupation of a *building* where,

(a) the structure of the *building* or part of it is completed to the floor of the *storey* that is 10 *storeys* above the uppermost *storey* to be occupied, other than parts of the floor-ceiling assemblies that are unable to be completed because of the ongoing *construction*,

(b) the enclosing walls of the *building* or part of the enclosing walls are completed to the floor of the *storey* that is 5 *storeys* above the uppermost *storey* to be occupied,

(c) the walls enclosing the space to be occupied are completed, including balcony guards,

(d) all required *fire separations* and doors, including door hardware and self-closing devices, are completed on all *storeys* up to the floor of the *storey* that is 5 *storeys* above the uppermost *storey* to be occupied,

(e) all required *closures* are completed on all *storeys* up to and including the uppermost *storey* to be occupied,

(f) all required *exits* are completed, including all *fire separations*, doors, door hardware, self-closing devices, *guards* and handrails, from the uppermost floor to be occupied down to *grade* level and below if an *exit* connects with lower *storeys*,

(g) all shafts, including *closures*, are completed to the floor-ceiling assembly that is 5 *storeys* above the uppermost *storey* to be occupied and have a temporary *fire separation* at such assembly,

(h) all shafts in the parts of the *building* that are incomplete or are still under *construction* are protected against falling objects,

(i) where there is a crane mast inside the *building*, walls acting as *guards* shall,

  (i) separate the crane mast from the parts of the *building* to be occupied, and

  (ii) be designed and constructed to withstand the loading values specified in Sentence 4.1.5.15.(1) of Division B, where the crane mast or part of the crane mast is located in a *storage garage*,

(j) the ceiling of the floor-ceiling assembly above the uppermost *storey* to be occupied is complete and weather-tight and the floor-ceiling assembly is insulated to prevent condensation,

(k) measures have been taken to,

(i) separate the parts of the *building* to be occupied from the parts of the *building* and site that are incomplete or still under *construction*,

(ii) prevent access to parts of the *building* and site that are incomplete or still under *construction*, and

(iii) protect occupants and members of the public while *construction* is ongoing,

(l) floors, halls, lobbies and required *means of egress* are free of loose materials and other hazards,

(m) if *service rooms* should be in operation, required *fire separations* and *closures* are completed,

(n) all *building drains*, *building sewers*, *water systems*, *drainage systems* and *venting systems* are complete and tested as operational for the *storeys* to be occupied,

(o) required lighting, heating and electrical supply are provided for the *suites*, rooms and common areas to be occupied,

(p) required lighting in corridors, stairways and *exits* is completed and operational up to and including all *storeys* to be occupied,

(q) required ventilation is installed and operational for the *floor areas* to be occupied,

(r) required sprinkler, fire alarm and smoke control systems, along with required pumper connections for the sprinklers, are complete and operational up to and including the *storey* to be occupied,

(s) required standpipe systems are installed and operational up to the *storey* below the uppermost *storey* for which the structure of the *building* is complete, including required pumper connections for such standpipe systems,

(t) required fire extinguishers have been installed on all *storeys* to be occupied and for which the structure of the *building* is complete,

(u) main garbage rooms, chutes and ancillary services are completed to all *storeys* to be occupied,

(v) required firefighting access routes have been provided and are accessible,

(w) required elevators for use by firefighters are complete and tested as operational up to and including the *storey* immediately above the uppermost *storey* to be occupied,

(x) a covered way is installed and complete over all required *means of egress* from the *building*, and all other areas on the property that can be accessed by occupants of the *building*, that,

(i) has an unobstructed height of at least 2400 mm,

(ii) has an unobstructed width of at least the width of the *means of egress*,

(iii) is capable of supporting any loads likely to be encountered as determined by a *professional engineer*, including snow loads and impact loads from *construction*,

(iv) has a weather-tight roof,

(v) has partitions with smooth surfaces on the side accessible to occupants,

(vi) has adequate lighting within the covered way, and

(vii) otherwise complies with the requirements in Articles 3.8.1.3., and 3.8.2.2. of Division B, as applicable, and

(y) the requirements set out in Sentences (9) to (13) are complied with.

(9) The person to whom a permit under section 8 of the Act is issued in respect of the *building*, and such other person as the *chief building official* determines, shall,

(a) agree in writing with the *municipality* to assume all risk in occupying or authorizing the occupation of the *building* or part of it in accordance with this Article and comply with such other conditions as the *chief building official* considers necessary, including the provision of security, indemnities and evidence of insurance, and

(b) submit to the *chief building official*,

(i) a plan for phasing of *construction* and occupancy,

(ii) a site safety plan addressing the means to ensure safety of the occupants and public while *construction* is ongoing, including,

A. measures to protect occupants and the public from risks associated with the lifting of heavy construction materials, elements and equipment,

B. measures for safeguarding occupant wellbeing while *construction* is ongoing, including the disposal of

construction debris, noise, dust, odour, harmful airborne chemicals, non-airborne contaminants, pests and vibrations, including the transfer of vibrations from concrete pumping and pouring to the parts of the *building* to be occupied, and

C. measures to address risks, hazards and occupant comfort associated with the proximity of exterior crane masts, concrete pumping pipes and exterior hoists and their tie-back systems,

(iii) a report from a *professional engineer* that attests,

A. to the adequacy of the measures to safeguard life, health and property,

B. that ongoing *construction* will not adversely impact the structural adequacy of the parts of the *building* to be occupied, and

C. that the design of the climbing barriers, fall protection systems and horizontal and vertical safety nets meets the requirements of Sentence (11),

(iv) a report from a third-party *professional engineer* that has reviewed the adequacy of the measures to safeguard life, health and property, if that review is required by *chief building official*, and

(v) the report arising from the review conducted in accordance with Sentence (12).

(10) Measures described in Clause (8)(k) shall include,

(a) providing heat, hot water, cold water, gas, electricity, plumbing or other utility services for the parts of the *building* to be occupied separate from the services that serve the parts of the *building* that are incomplete or still under *construction*,

(b) providing access to the parts of the *building* to be occupied, including access for occupants, vehicles and deliveries, that is separate and independent from access to the parts of the *building* and site that are incomplete or still under *construction*,

(c) ensuring that elevators that serve the parts of the *building* to be occupied are not used for *construction*,

(d) ensuring that access to the construction area, including any construction staging and loading areas, shall be on a different face of the *building* than the access to and within the parts of the *building* to be occupied,

(e) installing temporary or permanent physical barriers to protect the parts of the *building* to be occupied from falling machinery, equipment, tools, construction materials and any other material or debris, and

(f) installing climbing physical barriers, fall protection and horizontal and vertical safety nets in accordance with Sentence (11).

(11) The climbing physical barriers, fall protection systems and horizontal and vertical safety nets referred to in Clause (10)(f), shall,

(a) in the case of horizontal fall protection systems and safety nets, extend not less than 3 m from the face of the *building*,

(b) be installed where there is *construction* on the exterior of the *building* or a *storey* that is unenclosed, and

(c) be located immediately below the *storey* where the *construction* is located.

(12) Prior to occupancy, the *construction* of the parts of the *building* to be occupied shall be reviewed by a *professional engineer* or an *architect* in accordance with Article 1.2.2.1.

(13) Where a *registered code agency* has been appointed to perform the functions described in clause 4.1 (4) (b) or (c) of the Act in respect of the *construction* of the *building*, the *chief building official* or a person designated by the *chief building official* shall issue the permit referred to in Sentence (8) after receipt of a *certificate for the occupancy of a building not fully completed* issued by the *registered code agency* in respect of the *building*.

1.3.4. Fire Department Inspection

1.3.4.1. Fire Department Approval

(1) Subject to Sentence (2), if the council of a *municipality* assigns specific responsibility for the enforcement of any portion of this Code respecting fire safety matters to an *inspector* who is the chief of the fire department of the *municipality*, the *chief building official* shall not issue a permit to *construct* a *building* unless the *inspector* approves the drawings submitted with the application for the permit as complying with that portion of this Code.

(2) If a *registered code agency* has been appointed under clause 4.1 (4) (a) or (c) of the Act,

(a) a *municipality* shall not assign responsibility under Sentence (1) to the chief of the fire department with respect to a *building* for which the *registered code agency* has been appointed, and

(b) any assignment of responsibility under Sentence (1) with respect to a *building* for which the *registered code agency* is appointed shall be cancelled as of the date of the appointment.

1.3.5. Notices and Inspections

1.3.5.1. Prescribed Notices

(1) This Article sets out the notices that are required under section 10.2 of the Act.

(2) The person to whom a permit under section 8 of the Act is issued shall notify the *chief building official* or, where a *registered code agency* is appointed under the Act in respect of the *construction* to which the notice relates, the *registered code agency* of,

(a) readiness to *construct* footings,

(b) substantial completion of footings and *foundations* prior to commencement of backfilling,

(c) substantial completion of structural framing and ductwork and piping for heating and *air-conditioning* systems, if the *building* is within the scope of Part 9 of Division B,

(d) substantial completion of structural framing and roughing-in of heating, ventilation, *air-conditioning* and air-contaminant extraction equipment, if the *building* is not a *building* to which Clause (c) applies,

(e) substantial completion of insulation and *vapour barriers*,

(f) substantial completion of *air barrier systems*,

(g) substantial completion of all required *fire separations* and *closures* and all fire protection systems including standpipe, sprinkler, fire alarm and emergency lighting systems,

(h) substantial completion of fire access routes,

(i) readiness for inspection and testing of,

(i) *building sewers* and *building drains*,

(ii) *water service pipes*,

(iii) *fire service mains*,

(iv) *drainage systems* and *venting systems*,

(v) the *water distribution system*, and

(vi) *plumbing* fixtures and *plumbing* appliances,

(j) readiness for inspection of suction and gravity outlets, covers and suction piping serving outlets of an *outdoor pool* described in Clause 1.3.1.1.(1)(j) of Division A, a *public pool* or a *public spa*,

(k) substantial completion of the circulation / *recirculation system* of an *outdoor pool* described in Clause 1.3.1.1.(1)(j) of Division A, a *public pool* or *public spa* and substantial completion of the pool before it is first filled with water,

(l) readiness to *construct* the *sewage system*,

(m) substantial completion of the installation of the *sewage system* before the commencement of backfilling,

(n) substantial completion of installation of *plumbing* not located in a structure, before the commencement of backfilling,

(o) completion of *construction* and installation of components required to permit the issue of an occupancy permit under Sentence 1.3.3.1.(3) or to permit occupancy under Sentence 1.3.3.2.(1), if the *building* or part of the *building* to be occupied is not fully completed, and

(p) completion of *construction* and installation of components required to permit the issue of an occupancy permit under Sentence 1.3.3.4.(4), 1.3.3.5.(3) or 1.3.3.7.(8).

1.3.5.2. Additional Notices

(1) A by-law, resolution or regulation made by a *principal authority* under clause 7 (1) (e) of the Act may require that notice of one or more of the following stages of *construction* be given by the person to whom a permit is issued under section 8 of the Act:

(a) commencement of *construction* of the *building*,

(b) substantial completion of structural framing for each *storey*, if the *building* is a type of *building* that is within the scope of Division B, other than Part 9,

(c) commencement of *construction* of,

(i) masonry fireplaces and masonry *chimneys*,

(ii) factory-built fireplaces and allied *chimneys*, or

(iii) *stoves*, ranges, *space heaters* and add-on *furnaces* using solid fuels and allied *chimneys*,

(d) substantial completion of interior finishes,

(e) substantial completion of heating, ventilating, *air-conditioning* and air-contaminant extraction equipment,

(f) substantial completion of exterior cladding,

(g) substantial completion of site grading,

(h) substantial completion of the pool deck and dressing rooms for a *public pool* or *public spa* and readiness for inspection of the emergency stop system for a *public pool* or *public spa*,

(i) completion and availability of drawings of the *building* as constructed, and

(j) completion of a *building* for which an occupancy permit is required under Article 1.3.3.4., 1.3.3.5. or 1.3.3.7.

1.3.5.3. Prescribed Inspections

(1) Except as provided in Sentence (2), an *inspector* or *registered code agency*, as the case may be, shall, not later than two days after receipt of a notice given under Sentence 1.3.5.1.(2), undertake a site inspection of the *building* to which the notice relates.

(2) Where a notice given under Sentence 1.3.5.1.(2) relates to matters described in Clause 1.3.5.1.(2)(l) or (m), an *inspector* or *registered code agency*, as the case may be, shall, not later than five days after receipt of the notice, undertake a site inspection of the *sewage system* to which the notice relates.

(3) When undertaking an inspection required under Sentence (1) or (2), the *inspector* or *registered code agency*, as the case may be, may consider reports concerning whether the *building* or a part of the *building* complies with the Act or this Code.

(4) For greater certainty, when undertaking an inspection required under Sentence (1) or (2), the *inspector* or *registered code agency*, as the case may be, may choose to not attend at the physical site of the *building* and may instead undertake the inspection using other means.

(5) The time periods referred to in Sentences (1) and (2) shall begin on the day following the day on which the notice is given.

(6) The time periods referred to in Sentences (1) and (2) shall not include Saturdays, holidays and all other days when the offices of the *principal authority* are not open for the transaction of business with the public.

1.3.5.4. Construction of Sewage Systems

(1) The following information is prescribed for the purposes of subsection 15.12 (3) of the Act and must be provided to the *chief building official* before the commencement of the *construction* of a *sewage system*:

(a) the information described in Sentence 3.3.4.1.(2) as it relates to,

(i) the person registered under Article 3.3.3.2., and

(ii) the person with the qualifications described in Clause 3.3.3.2.(1)(a) who will supervise *construction* on-site of the *sewage system*, and

(b) the name and telephone number of the representative of the person described in Subclause (a)(i) who may be contacted by the *chief building official* in respect of the *construction* of the *sewage system*.

1.3.5.5. Orders

(1) An order issued under subsection 12 (2), 13 (1) or (6), 14 (1) or 15.10.1 (2) or clause 18 (1) (f) of the Act shall be in a form approved by the *Minister*.

1.3.6. As Constructed Plans

1.3.6.1. Application

(1) Where a by-law, resolution or regulation has been made by a *principal authority* under clause 7 (1) (g) of the Act, the *chief building official* may require that *as constructed plans* for the whole of, or any part or system of, a *building* or any class of *buildings* be provided by the persons responsible for the *construction*.

1.3.7. Temporary Health or Residential Facilities

1.3.7.1. Application

(1) In this Subsection

"proponent" means a person or entity described in clause (a) or (b) of the definition of "temporary health or residential facility";

"temporary health or residential facility" means a *building* or structure that was occupied, in accordance with Article 1.3.7.3. of Ontario Regulation 332/12 (Building Code), before April 1, 2024 and that is used or intended to be used to provide, on a temporary basis for the purpose of responding to the COVID-19 pandemic and its effects, health care or sleeping accommodation, by or on behalf of,

(a) any health service provider as defined in paragraphs 1 to 5 of the definition of "health service provider" in subsection 1 (2) of the *Connecting Care Act, 2019*, or

(b) any government, including, for greater certainty, a municipality.

1.3.7.2. Exemption

(1) The *construction* of a temporary health or residential facility and the conversion of all or part of an existing *building* or structure to a temporary health or residential facility

are exempt from the requirement to obtain a permit under section 8 or 10 of the Act and are exempt from compliance with this Code.

1.3.7.3. Reserved

1.3.7.4. Inspections

(1) A *chief building official* or an *inspector* shall, in accordance with Sentence (2), undertake an inspection of the temporary health or residential facility pursuant to subsection 15.9 (1) of the Act to determine whether the facility is unsafe as described in subsection 15.9 (2) of the Act.

(2) An inspection described in Sentence (1) shall be undertaken on or before a date that is not later than one month after the date of the previous inspection.

(3) For greater certainty, for the purpose of Sentence (2), if the temporary health or residential facility was inspected in accordance with Ontario Regulation 332/12 (Building Code), the date of the previous inspection is the date that it was last inspected under that Regulation.

(4) When undertaking an inspection required under Sentence (1), the inspector may consider reports concerning whether the temporary health or residential facility or part of the facility is unsafe as described in subsection 15.9 (2) of the Act.

Section 1.4. Search Warrant

1.4.1. Forms

1.4.1.1. Information & Warrant Forms

(1) An information to obtain a warrant to enter and search a *building*, receptacle or place under subsection 21 (1) of the Act shall be in Form 1.4.1.1.-A.

(2) A warrant to enter and search a *building*, receptacle or place under subsection 21 (1) of the Act shall be in Form 1.4.1.1.-B.

FORM 1.4.1.1.-A

INFORMATION TO OBTAIN SEARCH WARRANT UNDER SECTION 21 OF THE BUILDING CODE ACT, 1992

Building Code Act, 1992

ONTARIO COURT OF JUSTICE

PROVINCE OF ONTARIO

This is the information of _____

(name)

of _____, _____.

(address) (occupation)

I have reasonable ground to believe and do believe that the offence of _____

_____ contrary to *Building Code Act, 1992*

Section _____ has been committed and that the entry into and search of a certain building, receptacle or place, namely,

_____

(building, receptacle or place)

_____

of _____, at _____

(owner) (address)

will afford the following evidence: _____

_____

(describe evidence to be searched for, including things to be seized, if any)

relevant to the commission of the offence.

And I further say that my grounds for so believing are:

_____

_____

Therefore, I request that a search warrant be issued to

☐ enter into and search the said _____

(building, receptacle or place)

_____ for the said evidence.

Check appropriate box

☐ enter into and search the said _____

(building, receptacle or place)

_____ for the said evidence and to seize the following things: _____

(describe things to be seized)

_____

Informant

Sworn before me at _____,

this _____ day of _____, _____

_____

Provincial Judge or Justice of the Peace in and for the Province of Ontario

FORM 1.4.1.1.-B
SEARCH WARRANT UNDER SECTION 21 OF THE BUILDING CODE ACT, 1992

Building Code Act, 1992

ONTARIO COURT OF JUSTICE

PROVINCE OF ONTARIO

To: _____,

Whereas, on the information on oath of _____, I am satisfied that there is reasonable ground to believe that the offence of _____ contrary to *Building Code Act, 1992* Section _____ has been committed and that

_____

(describe evidence to be searched for, including things to be seized, if any)

_____

that there is reasonable ground to believe will afford evidence of the said offence may be found at _____

_____

(building, receptacle or place)

of _____, at _____

(owner) (address)

hereinafter called the premises.

This is therefore to authorize you to enter such _____

_____

(name or location of building, receptacle or place)

between the hours of 6:00 a.m. and 9:00 p.m., or _____

(time warrant to be executed)

☐ and to search for the said evidence.

Check appropriate box

☐ and to search for the said evidence and to seize the following things: _____

(describe things to be seized)

and carry them before me or another Provincial Judge or Justice of the Peace so that they may be dealt with according to the law.

This warrant expires on the _____ day of _____, _____, a day not later than the fifteenth day after its issue.

Issued at _____,

this _____ day of _____, _____

_____

Provincial Judge or Justice of the Peace in and for the Province of Ontario

Section 1.5. Designated Persons and Powers

1.5.1. General

1.5.1.1. General

(1) The *director* and employees in the Ministry of Municipal Affairs and Housing who work under the supervision of the *director* and are specified by the *director* are designated for the purposes of the enforcement of the Act and this Code in relation to the qualifications of,

(c) *chief building officials*,

(d) *inspectors*,

(e) *registered code agencies*,

(f) persons engaging in the activities described in subsection 15.11 (5) of the Act, and

(g) persons engaged in the business of *constructing* on site, installing, repairing, servicing, cleaning or emptying *sewage systems*.

(2) The *director* may, for the purposes set out in Sentence (1), exercise the following powers under the Act of a *chief building official*:

(a) certify for the purposes of subsection 37 (2) of the Act statements as to any matter of record in the office of the *director*, and

(b) apply for an order under section 38 of the Act.

(3) The employees in the Ministry of Municipal Affairs and Housing designated by the *director* may, for the purposes set out in Sentence (1), exercise the following powers under the Act of an *inspector*:

(a) subject to section 16 of the Act, exercise the powers of entry for inspection purposes in subsection 12 (1) of the Act, and

(b) exercise the powers of an *inspector* under section 18 of the Act.

(4) Sections 15.23 and 19 of the Act apply to the exercise of powers under this Article by the *director* and employees in the Ministry of Municipal Affairs and Housing designated by the *director*.

Section 1.6. Prescribed Person

1.6.1. General

1.6.1.1. General

(1) The *director* is prescribed for the purposes of section 38.1 of the Act.

Section 1.7. Enforcement of the Provisions of the Act and this Code Related to Sewage Systems

1.7.1. General

1.7.1.1. General

(1) The boards of health and conservation authorities listed in Column 1 of Table 1.7.1.1. are prescribed, for the purposes of subsection 3.1 (1) of the Act, as the boards of health and conservation authorities that are responsible for the enforcement of the provisions of the Act and this Code related to *sewage systems* in the *municipalities* and territory without municipal organization prescribed in Column 2 of Table 1.7.1.1.

Table 1.7.1.1.
Enforcement of the provisions of the Act and this Code Related to Sewage Systems

Forming Part of Sentence 1.7.1.1.(1)

Column 1 Board of Health or Conservation Authority	Column 2 Geographic Area
Board of Health of the Northwestern Health Unit	All *municipalities* and territory without municipal organization located in the Northwestern Health Unit
Board of Health of the Northeastern Health Unit	All *municipalities* and territory without municipal organization located in the Northeastern Health Unit
Board of Health of the Thunder Bay District Health Unit	All *municipalities* and territory without municipal organization located in the Thunder Bay District Health Unit
Board of Health of the Algoma Health Unit	All *municipalities* and territory without municipal organization located in the Algoma Health Unit

Board of Health of the Sudbury and District Health Unit	All *municipalities* and territory without municipal organization located in the Sudbury and District Health Unit
North Bay-Mattawa Conservation Authority	All *municipalities* and territory without municipal organization located in: a. the District of Nipissing, except those parts of the District of Nipissing located in the Northeastern Health Unit, and b. the District of Parry Sound, except for the Township of The Archipelago, the geographic Townships of Blair, Brown, Harrison, Henvey, Mowat and Wallbridge and the unsurveyed territory north of the geographic Township of Henvey to the French River.

Section 1.8. Language

1.8.1. Language

1.8.1.1. Language Used on Required Signs

(1) All required signs in this Code shall be displayed in the English language or in the English and French languages, including operational material on all life safety equipment and devices.

Section 1.9. Fees

1.9.1. Fees

1.9.1.1. Annual Report

(1) The report referred to in subsection 7 (4) of the Act shall contain the following information in respect of fees authorized under clause 7 (1) (c) of the Act:

(a) total fees collected in the 12-month period ending no earlier than three months before the release of the report,

(b) the direct and indirect costs of delivering services related to the administration and enforcement of the Act in the area of jurisdiction of the *principal authority* in the 12-month period referred to in Clause (a),

(c) a breakdown of the costs described in Clause (b) into at least the following categories:

(i) direct costs of administration and enforcement of the Act, including the review of applications for permits and inspection of *buildings*, and

(ii) indirect costs of administration and enforcement of the Act, including support and overhead costs, and

(d) if a reserve fund has been established for any purpose relating to the administration or enforcement of the Act, the amount of the fund at the end of the 12-month period referred to in Clause (a).

(2) The *principal authority* shall give notice of the preparation of a report under subsection 7 (4) of the Act to every person and organization that has requested that the *principal authority* provide the person or organization with such notice and has provided an address for the notice.

1.9.1.2. Change of Fees

(1) Before passing a by-law or resolution or making a regulation under clause 7 (1) (c) of the Act to introduce or change a fee imposed for applications for a permit, for the issuance of a permit or for a maintenance inspection, a *principal authority* shall,

(a) hold the public meeting required under subsection 7 (6) of the Act,

(b) ensure that a minimum of 21 days notice of the public meeting is given in accordance with Clause (c), including giving 21 days notice to every person and organization that has, within five years before the day of the public meeting, requested that the *principal authority* provide the person or organization with such notice and has provided an address for the notice,

(c) ensure that the notice under Clause (b),

(i) sets out the intention of the *principal authority* to pass the by-law or resolution or make a regulation under section 7 of the Act and whether the by-law, resolution or regulation would impose any fee that was not in effect on the day the notice is given or would change any fee that was in force on the day the notice is given,

(ii) is sent by regular mail to the last address provided by the person or organization that requested the notice in accordance with Clause (b), and

(iii) sets out the information described in Clause (d) or states that the information will be made available at no cost to any member of the public upon request, and

(d) make the following information available to the public:

(i) an estimate of the costs of administering and enforcing the Act by the *principal authority*,

(ii) the amount of the fee or of the change to the existing fee, and

(iii) the rationale for imposing or changing the fee.

Section 1.10. Sewage System Maintenance Inspection Programs

1.10.1. Discretionary Maintenance Inspection Programs

1.10.1.1. Scope

(1) This Subsection governs, for the purposes of subsection 34 (2.1) of the Act, *maintenance inspection programs* established under clause 7 (1) (b.1) of the Act in respect of *sewage systems*.

1.10.1.2. Application and Inspections

(1) A *maintenance inspection program* referred to in Sentence 1.10.1.1.(1) shall apply to all *sewage systems* in the area affected by the *maintenance inspection program*.

(2) A *maintenance inspection program* referred to in Sentence 1.10.1.1.(1) shall provide that, subject to Article 1.10.1.3., an *inspector* shall inspect all *sewage systems* affected by the *maintenance inspection program* for compliance with the standards prescribed under clause 34 (2) (b) of the Act in relation to *sewage systems* that are enforced by the program.

1.10.1.3. Certificate as Alternative to Maintenance Inspection

(1) A *principal authority* that establishes a *maintenance inspection program* in respect of *sewage systems* may, as an alternative to conducting an inspection of a *sewage system* required under Sentence 1.10.1.2.(2) accept a certificate described in Sentence (2) from the owner of the property on which the *sewage system* is located.

(2) The certificate referred to in Sentence (1) shall,

(a) be in a form approved by the *Minister*,

(b) be signed by a person described in Sentence (3), and

(c) confirm that the person,

(i) has conducted an inspection of the *sewage system* to which the certificate relates, and

(ii) is satisfied on reasonable grounds that, on the date on which the certificate is signed, the *sewage system* to which the certificate relates is in compliance with the standards prescribed under clause 34 (2) (b) of the Act in relation to *sewage systems* that are enforced by the *maintenance inspection program*.

(3) Subject to Sentence (4), the following persons are authorized to sign a certificate referred to in Sentence (1):

(a) a person registered under Article 3.2.4.2. in the class of registration set out in Column 1 of Item 10 of Table 3.5.2.1.,

(b) a person registered under Article 3.3.3.2.,

(c) an *architect*,

(d) a *professional engineer*.

(4) A person shall not sign a certificate referred to in Sentence (1) if the person would be in a conflict of interest.

(5) For the purposes of Sentence (4), a person would be in a conflict of interest if the person, or an officer, director, partner or employee of the person (where the person is a corporation or partnership), or any person engaged by the person to perform functions for the person,

(a) has participated or participates, in any capacity, in *design activities* or *construction* relating to any part of the *sewage system* to which the certificate relates,

(b) is or has been employed within the previous 180 days by a person who carried out *design activities* or *construction* relating to any part of the *sewage system* to which the certificate relates,

(c) has a professional or financial interest in,

(i) the *construction* of the *sewage system* to which the certificate relates,

(ii) the *sewage system* to which the certificate relates, or

(iii) the person responsible for the design of the *sewage system* to which the certificate relates, or

(d) is an elected official, officer or employee of a *principal authority*.

1.10.2. Mandatory Maintenance Inspection Program

1.10.2.1. Scope

(1) This Subsection establishes and governs, for the purposes of subsection 34 (2.2) of the Act, a *maintenance inspection program* in respect of standards prescribed under clause 34 (2) (b) of the Act in relation to *sewage systems*.

1.10.2.2. Administration of Maintenance Inspection Program

(1) The *principal authority* that has jurisdiction in an area affected by the *maintenance inspection program* established under Sentence 1.10.2.3.(1) shall administer the program for that area and shall conduct inspections under the program in accordance with this Subsection.

1.10.2.3. Maintenance Inspection Program

(1) Subject to Article 1.10.2.5., an *inspector* shall inspect all *sewage systems* located in whole or in part in the areas set out in Sentence (2) for compliance with the requirements of Section 8.9. of Division B.

(2) The areas referred to in Sentence (1) are:

(a) the strip of land that is located along the *Lake Simcoe shoreline* and that is 100 m wide measured horizontally and perpendicular to and upland from the *Lake Simcoe shoreline*, except for the portions of the strip of land that are described in Sentence (3),

(b) portions of the strip of land along the *Lake Simcoe shoreline* described in Sentence (3),

(c) the strip of land that is located along each of the following rivers, streams, lakes or ponds and that is 100 m wide measured horizontally and perpendicular to and upland from the river, stream, lake or pond,

(i) any river or stream in the *Lake Simcoe watershed* that continually flows in an average year,

(ii) any lake or pond in the *Lake Simcoe watershed* that is connected on the surface to a river or stream described in Subclause (i), and

(iii) any other lake or pond in the *Lake Simcoe watershed* that has a surface area greater than 8 hectares, and

(d) areas within a *vulnerable area* that are located in a *source protection area* and that are identified in the most recent of the following documents as the areas where an activity described in Sentence (4) is or would be a *significant drinking water threat*:

(i) the assessment report for the *source protection area*, as initially approved under the *Clean Water Act, 2006* or as most recently approved following any updating under that Act, or

(ii) the *source protection plan* for the *source protection area*, as initially approved under the *Clean Water Act, 2006* or as most recently approved following any amendments or reviews under that Act.

(3) The excepted portions of the strip of land along the *Lake Simcoe shoreline* referred to in Clause (2)(a) are:

(a) that portion of the strip of land in the geographic Township of Oro, now in the municipal Township of Oro-Medonte, in the County of Simcoe, and in the geographic Townships of Innisfil and Vespra, now in the City of Barrie, being bounded on the north by the east limit of Lot 1, Concession 1 East Penetanguishene Road of the said geographic Township of Oro and its southerly prolongation and on the south by the east limit of Lot 14, Concession 13 of the said geographic Township of Innisfil and its northerly prolongation,

(b) that portion of the strip of land in the geographic Townships of North Gwillimbury and Georgina, now in the Town of Georgina, and in the

geographic Township of East Gwillimbury, now in the Town of East Gwillimbury, all in The Regional Municipality of York, being bounded on the west by the west limit of Lot 6, Concession 1 of the said geographic Township of North Gwillimbury and its northerly prolongation and on the east by the east limit of Lot 3, Concession 8 of the said geographic Township of Georgina and its northerly prolongation, and

(c) that portion of the strip of land in the geographic Township of Mara, now in the municipal Township of Ramara, in the County of Simcoe, and in the geographic Township of Thorah, now in the municipal Township of Brock, in The Regional Municipality of Durham, being bounded on the north by the west limit of Lot 13, Concession C of the said geographic Township of Mara and its southerly prolongation and on the south by the west limit of Lot 14, Concession 6 of the said geographic Township of Thorah and its northerly prolongation.

(4) The activity referred to in Clause (2)(d) is an activity that is subject to the Act and that is described in paragraph 2 of subsection 1.1 (1) of Ontario Regulation 287/07 (General) made under the *Clean Water Act, 2006*.

1.10.2.4. Time Periods for Maintenance Inspections

(1) An inspection required under Sentence 1.10.2.3.(1) shall be conducted in respect of a *sewage system* in an area described in Clause 1.10.2.3.(2)(a),

(a) initially, no later than five years after the *construction* of the *sewage system*, and

(b) thereafter, every five years after the most recent inspection of the *sewage system* has been conducted.

(2) An inspection required under Sentence 1.10.2.3.(1) shall be conducted in respect of a *sewage system* in an area described in Clause 1.10.2.3.(2)(b) or (c),

(a) initially, no later than five years after the *construction* of the *sewage system*, and

(b) thereafter, every five years after the most recent inspection of the *sewage system* has been conducted.

(3) An inspection required under Sentence 1.10.2.3.(1) shall be conducted in respect of a *sewage system* in an *area affected by a significant drinking water threat*,

(a) initially, no later than,

(i) five years after the date on which notice of the approval of one of the following documents is published on the environmental registry under the *Clean Water Act, 2006*, in the case of a *sewage system constructed* before the date of publication,

(A) the assessment report for the *source protection area*, if the *source protection plan* is one prepared under section 22 of the *Clean Water Act, 2006*, or

(B) the *source protection plan* for the *source protection area*, if the *source protection plan* is one prepared under section 26 or 33 of the *Clean Water Act, 2006*, or

(ii) five years after the *construction* of the *sewage system*, in the case of a *sewage system constructed* on or after the date of publication, and

(b) thereafter, every five years after the most recent inspection of the *sewage system* has been conducted.

(4) If additional *areas affected by a significant drinking water threat* are identified for a *source protection area* after the date of publication referred to in Clause (3)(a), an inspection required under Sentence 1.10.2.3.(1) shall be conducted in respect of a *sewage system* in those additional areas,

(a) initially, no later than,

(i) five years after the following date of approval or publication, as applicable, in the case of a *sewage system constructed* before that date,

(A) the date of approval under section 19 of the *Clean Water Act, 2006* of the updated assessment report in which the additional areas are identified, or

(B) the date of publication on the environmental registry under the *Clean Water Act, 2006* of notice of the approval of the amended or updated *source protection plan* in which the additional areas are identified, or

(ii) five years after the *construction* of the *sewage system*, in the case of a *sewage system constructed* on or after the date of approval or publication, as applicable, and

(b) thereafter, every five years after the most recent inspection of the *sewage system* has been conducted.

1.10.2.5. Certificate as Alternative to Maintenance Inspection

(1) The *principal authority* that administers the *maintenance inspection program* established under Sentence 1.10.2.3.(1), may, as an alternative to conducting an inspection of a *sewage system* required under Sentence 1.10.2.3.(1), accept a certificate described in Sentence (2) from the owner of the property on which the *sewage system* is located.

(2) The certificate required by Sentence (1) shall satisfy the requirements of Sentence 1.10.1.3.(2) and for these purposes Sentences 1.10.1.3.(3) to (5) apply with necessary modifications.

Section 1.11. Tiny Houses

1.11.1. Tiny Houses Constructed Off-Site

1.11.1.1. Scope

(1) This Section applies to houses that,

(a) have not more than one *dwelling unit*,

(b) are 37 m² or less in *building area*, and

(c) are to be,

(i) partially *constructed* in one *municipality* and moved to be installed at a location in another *municipality* without having been previously occupied, or

(ii) partially *constructed* at one location and moved to be installed at a location that is not yet known without having been previously occupied.

(2) Except as provided in this Section, the requirements in this Part apply to houses described in Sentence (1).

1.11.1.2. Permits

(1) Provided the conditions described in Sentence (2) are complied with, if an applicant for a permit under section 8 of the Act makes an application to the *chief building official* of the *municipality* in which a house is to be partially *constructed* but not installed, the applicant is exempt from demonstrating compliance with,

(a) either,

(i) if the application is for a permit described in subsection 8 (1) of the Act, clause 8 (2) (a) of the Act but only with respect to demonstrating compliance with *applicable law*, or

(ii) if the application is for a conditional permit described in subsection 8 (3) of the Act, clause 8 (3) (a) of the Act, and

(b) requirements of this Code related to site installation of the house.

(2) For a permit applicant to be exempt from the provisions described in Sentence (1), the following conditions must be satisfied:

1. If the site the house is intended to be installed on is known by the permit applicant,

   (i) the permit application must state the address or location of the site,

   (ii) the permit application must include such information about the anticipated site installation that is necessary to design the house, and

   (iii) the proposed *construction* must comply with the location-dependent requirements of this Code that are applicable to a house that is *constructed* at that address or location.

2. If the site the house is intended to be installed on is not known by the permit applicant,

   (i) the permit application must include a declaration of assumptions related to the location of the house that have been used in the design of the house,

   (ii) the permit application must include such information about the anticipated site installation that is necessary to design the house, and

   (iii) the proposed *construction* must comply with the location-dependent requirements of this Code that are applicable to a house that is *constructed* at a location that has the characteristics set out in the declaration.

(3) For the purposes of paragraphs 1 and 2 of Sentence (2), "location-dependent requirements" include, but are not limited to, provisions related to climatic loads, seismic loads, temperature based requirements, *limiting distance* and *exposing building face*, *soil* gas control and firefighting access.

(4) An applicant for a permit described in Sentence (1) shall provide the following to a purchaser of a house *constructed* in accordance with a permit described in Sentence (1):

1. all plans, specifications, documents and other information submitted or received by the person described in Sentence (1) in respect of the permit described in Sentence (1), including any *as-constructed plans* and any declaration of assumptions described in subparagraph 2 i of Sentence (2), and

2. all letters of compliance described in Sentence 1.11.1.3.(3) and all documents and other information received by the person described in Sentence (1) in respect of all inspections completed by an *inspector* or *registered code agency*, as the case may be.

(5) No person shall install a house at a site in a *municipality* unless a permit under section 8 of the Act has been issued therefor by the *chief building official* of that *municipality*.

(6) The *chief building official* of the *municipality* in which the house is to be installed shall issue the permit described in Sentence (5) if the applicant,

(a) demonstrates the proposed *construction* complies with the applicable provisions described in Clauses (1) (a) and (b),

(b) demonstrates compliance with the other requirements of section 8 of the Act, and

(c) submits all plans, specifications, documents and other information described in Sentence (4) that the applicant has been provided.

(7) For the purposes of an application for a permit described in Sentence (5), the time periods described in Sentences 1.3.1.3.(1) and (3) and Clause 1.3.1.3.(6)(b) shall begin on the later of,

(a) the date the permit described in Sentence (1) is issued, or

(b) the date described in Sentence 1.3.1.3.(7).

1.11.1.3. Inspections

(1) Where a permit is applied for as described in Sentence 1.11.1.2.(1) or (5), the person to whom a permit under section 8 of the Act is issued shall give notice as described in Articles 1.3.5.1. and 1.3.5.2. to the *chief building official* or *registered code agency*, as the case may be, of the *municipality* who issued the permit in respect of the *construction* to which the notice relates.

(2) Where a permit is applied for as described in Sentence 1.11.1.2.(5), the person to whom a permit under section 8 of the Act is issued shall provide the *chief building official* of the *municipality* in which the house is to be installed,

(a) any additional letters of compliance, documents or other information related to inspections completed by an *inspector* or *registered code agency*, as the case may be, of the *municipality* in which the house was partially *constructed* that was not provided when the permit was applied for, or

(b) confirmation that no additional letters of compliance, documents or other information have been provided to the person.

(3) The *chief building official* of the *municipality* in which a house was partially *constructed* but not installed shall provide the person to whom a permit was issued with a letter of compliance that confirms,

(a) which prescribed notices described in Sentence 1.3.5.1.(2) were received by the *chief building official* or *registered code agency*, as the case may be,

(b) that inspections described in Sentence 1.3.5.3.(1) were undertaken in respect of the *construction* to which the notices relate, and

(c) that no contraventions of the Act or this Code were found or that remedial steps were carried out to resolve any contraventions that were found.

1.12. Off-Site Construction of Buildings

1.12.1. Site Assembled and Factory-Built Buildings

1.12.1.1. Certification and Compliance

(1) Except as provided in Sentence (2), a manufactured *building* or a manufactured part of a *building* within the scope of Part 3 is deemed to comply with this Code if it is certified in accordance with CSA A277, "Procedure for Certification of Prefabricated Buildings, Modules, and Panels".

(2) The requirements of this Code shall apply to,

(a) *building* components designed and constructed outside the place of manufacture, and

(b) site installation of such *buildings*.

Part 2
Alternative Solutions, Disputes, Rulings and Interpretations

Section 2.0. Application

2.0.1. Application

2.0.1.1. Application

(1) This Part applies to all *buildings* covered in this Code. (See Article 1.1.1.1. of Division A.)

Section 2.1. Alternative Solutions

2.1.1. Documentation of Alternative Solutions

2.1.1.1. Documentation

(1) The person proposing the use of an *alternative solution* shall provide documentation to the *chief building official* or *registered code agency* that,

(a) identifies applicable *objectives*, *functional statements* and *acceptable solutions*, and

(b) establishes on the basis of past performance, tests described in Article 2.1.1.2. or other evaluation that the proposed *alternative solution* will achieve the level of performance required under Article 1.2.1.1. of Division A.

(2) The documentation described in Sentence (1) shall include information about relevant assumptions, limiting or restricting factors, testing procedures, studies or *building* performance parameters, including any commissioning, operational and maintenance requirements.

2.1.1.2. Tests

(1) Where no published test method to establish the suitability of an *alternative solution* proposed under Article 2.1.1.1. exists, then the tests used for the purposes of that Article shall be designed to simulate or exceed anticipated service conditions or shall be designed to compare the performance of the material or system with a similar material or system that is known to be acceptable.

(2) The results of tests or evaluations based on test standards, other than as described in this Code, may be used for the purposes of Sentence (1), if the alternate test standards provide comparable results.

Section 2.2. Building Code Commission

2.2.1. Hearings

2.2.1.1. Divisions

(1) The Building Code Commission may sit in two or more divisions simultaneously so long as a quorum of each division is present.

2.2.1.2. Single Member

(1) One member of the Building Code Commission may, with the approval of the chair or vice-chair, hear and determine any dispute set out in Sentence (2) and, for that purpose, the member has all the jurisdiction and powers of the Commission.

(2) The disputes referred to in Sentence (1) are,

(a) any dispute described in clause 24 (1) (a) of the Act respecting the sufficiency of compliance with technical requirements of this Code related to *sewage systems*, and

(b) any dispute described in clause 24 (1) (b) or (c) of the Act.

2.2.1.3. Time Period

(1) A hearing to decide a dispute described in Clause 2.2.1.2.(2)(b) shall be held not more than five days after the Commission receives an application for a hearing in a form approved by the Commission.

(2) The time period described in Sentence (1) commences on the day after the Commission receives the application and excludes Saturdays, holidays and all other days when the offices of the Government of Ontario are not open for the transaction of business with the public.

2.2.1.4. Eligibility

(1) The following relationships to a *registered code agency* are prescribed for the purposes of clause 23 (3) (d) of the Act as relationships to a *registered code agency* that make a person ineligible to be a member of the Commission:

(a) the person is registered under Article 3.4.3.2. as a *registered code agency*,

(b) the person is an officer, director, partner or employee of a *registered code agency*, or

(c) the person is engaged by a *registered code agency* to perform functions under the Act on behalf of the *registered code agency*.

2.2.1.5. Application Fee

(1) The fee on an application to the Building Code Commission under subsection 24 (1.1) of the Act is $212, for 2025 and subsequent calendar years.

Section 2.3. Building Materials Evaluation Commission

2.3.1. Application Fee

2.3.1.1. Application Fee

(1) The fee on an application to the Building Materials Evaluation Commission is $11,000, for 2025 and subsequent calendar years.

Section 2.4. Rulings and Interpretations

2.4.1. Minister's Rulings — Innovative Materials, Systems or Building Designs

2.4.1.1. Designated Materials Evaluation Bodies

(1) The following body is designated as a materials evaluation body for the purposes of clause 29 (1) (a) of the Act:

Canadian Construction Materials Centre of the National Research Council of Canada

2.4.1.2. Fee

(1) The fee on a request for a ruling under clause 29 (1) (a) of the Act is $697, for 2025 and subsequent calendar years.

2.4.2. Minister's Rulings — Alternative Materials, Systems or Building Designs

2.4.2.1. Criteria

(1) Sentence (2) sets out criteria to be followed by the *Minister* when making a ruling under clause 29 (1) (c) of the Act to approve the use of an alternative material, system or *building* design.

(2) The *Minister's* approval of the use of an alternative material, system or *building* design referred to in Sentence (1) may be granted only if the approval is consistent with,

(a) a decision of the Building Code Commission in respect of a dispute described in clause 24 (1) (a) of the Act,

(b) an approval of the use of the material, system or *building* design in the whole of another province or territory in accordance with the law of that province or territory, or

(c) a revision of the NRCC-CONST-56435E 2020, "National Building Code of Canada", or the NRCC-CONST-56436E 2020, "National Plumbing Code

of Canada", that has been approved by the Canadian Commission on Building and Fire Codes.

2.4.3. Interpretations By Minister

2.4.3.1. Interpretations By Minister

(1) Every interpretation issued by the *Minister* under section 28.1 of the Act shall be made available to the public,

(a) by posting the interpretation on the *Building Code website*, and

(b) by providing a written copy of the interpretation on receipt of a request for it.

Part 3
Qualifications

Section 3.1. Qualifications for Chief Building Officials and Inspectors

3.1.1. Scope and Definition

3.1.1.1. Scope

(1) Except as provided in Sentence (2), this Section prescribes, for the purposes of subsections 15.11 (1), (2) and (3) of the Act,

(a) the qualifications that a person must satisfy to be appointed and to remain appointed as,

(i) a *chief building official* under the Act, or

(ii) an *inspector* who has the same powers and duties as a *chief building official* in relation to *plumbing*,

(b) the qualifications that a person must satisfy to be appointed and to remain appointed as,

(i) an *inspector* who has the same powers and duties as a *chief building official* in relation to *sewage systems*, or

(ii) an *inspector* whose duties include plans review or inspection of *sewage systems* under the Act, and

(c) the qualifications that a person must satisfy to be appointed and to remain appointed as an *inspector* under the Act, other than an *inspector* described in Subclause (a)(ii) or (b)(i) or (ii).

(2) The qualification requirements for *chief building officials* and *inspectors* in Sentence (1) do not apply to plans review and inspection of,

(a) site services including,

(i) surface drainage, and

(ii) *plumbing* located underground either outside a *building* or under a *building*,

(b) *construction* of a factory-built house certified to CSA A277, “Procedure for Certification of Prefabricated Buildings, Modules, and Panels”,

(c) *construction* of a mobile home conforming to CSA Z240 MH Series, “Manufactured Homes”,

(d) *construction* of a park model trailer conforming to CAN/CSA-Z241 Series, “Park Model Trailers”, or

(e) signs.

3.1.1.2. Definition

(1) In this Section,

"registered" means registered under Sentence 3.1.2.2.(1), 3.1.3.2.(1) or 3.1.4.2.(1), as applicable.

3.1.2. Chief Building Officials

3.1.2.1. Qualifications

(1) The following are prescribed as qualifications for a person to be appointed and to remain appointed under the Act as a *chief building official* or as an *inspector* who has the same powers and duties as a *chief building official* in relation to *sewage systems* or *plumbing*:

(a) the person must be registered with the *director*.

(2) A registration shall be in a form established by the *director*.

3.1.2.2. Registration and Renewal of a Registration

(1) Subject to Article 3.1.5.6., the *director* may register an applicant, or renew a registration, if,

(a) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code and the powers and duties of *chief building officials*,

(b) the applicant or registered person also has the qualification set out in Sentence 3.1.4.1.(1), in the case of an applicant or registered person who, under subsection 22 (2) of the Act, will also exercise any of the powers or perform any of the duties of an *inspector*,

(c) the application is complete, and

(d) all fees required under Article 3.1.5.3. are paid.

(1.1) The applicant or registered person is not required to comply with Clause (1)(b) if the applicant or registered person has been granted an exemption by the director in accordance with the policy entitled "Equivalency assessment for building officials" posted on the *Building Code website* and the applicant or registered person has complied with any conditions of that exemption.

(2) Subject to Article 3.1.5.6., a person who, on December 31, 2024, is registered under Sentence 3.1.2.2.(1) of Division C of Ontario Regulation 332/12 (Building Code) made under the Act and complies with the conditions of registration set out in Article

3.1.5.5. of Division C of that regulation is deemed to be registered under Sentence 3.1.2.2.(1) of this Code, and for these purposes, the person's registration is deemed to continue until its term expires.

(3) For the purposes of a registration or a renewal of a registration, a person who, on December 31, 2024, has the qualifications set out in Clause 3.1.2.2.(1)(a) or (b), as applicable, of Division C of Ontario Regulation 332/12 is deemed to have the qualifications set out in Clause 3.1.2.2.(1)(a) or (b), as applicable, of this Code.

3.1.3. Supervisors and Managers

3.1.3.1. Qualifications

(1) The following are prescribed as qualifications for a person to be appointed and to remain appointed under the Act as an *inspector* whose duties are solely the supervision or management of *inspectors*:

(a) the person must be registered with the *director*.

(2) A registration shall be in a form established by the *director*.

3.1.3.2. Registration and Renewal of a Registration

(1) Subject to Article 3.1.5.6., the *director* may register an applicant, or renew a registration, if,

(a) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code and the powers and duties of *chief building officials*,

(b) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code in any one category of qualification set out in Column 2 of Table 3.5.2.1.,

(c) the application is complete, and

(d) all fees required under Article 3.1.5.3. are paid.

(1.1) The applicant or registered person is not required to comply with Clause (1)(b) if the applicant or registered person has been granted an exemption by the director in accordance with the policy entitled "Equivalency assessment for building officials" posted on the *Building Code website* and the applicant or registered person has complied with any conditions of that exemption.

(2) Subject to Article 3.1.5.6., a person who, on December 31, 2024 is registered under Sentence 3.1.2.2.(1) of Division C of Ontario Regulation 332/12 (Building Code)

made under the Act and complies with the conditions of registration set out in Article 3.1.5.5. of Division C of that regulation is deemed to be registered under Sentence 3.1.2.2.(1) of this Code, and for these purposes, the person's registration is deemed to continue until its term expires.

(3) For the purposes of a registration or a renewal of a registration, a person who, on December 31, 2024, has the qualifications set out in Clause 3.1.2.2.(1)(a) or (b), as applicable, of Division C of Ontario Regulation 332/12 is deemed to have the qualifications set out in Clause 3.1.2.2.(1)(a) or (b), as applicable, of this Code.

3.1.4. Inspectors

3.1.4.1. Qualifications

(1) Except as provided in Article 3.1.4.3. or 3.1.4.4., the following are prescribed as qualifications for a person to be appointed and to remain appointed under the Act as an *inspector* whose duties include plans review or inspection under the Act:

(a) the person must be registered with the *director*.

(2) A registration shall be in a form established by the *director*.

3.1.4.2. Registration and Renewal of a Registration

(1) Subject to Article 3.1.5.6., the *director* may register an applicant, or renew a registration, in each class of registration applied for, if,

(a) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code in the category of qualification set out in Column 2 of Table 3.5.2.1. that corresponds to each class of registration set out in Column 1 of Table 3.5.2.1. for which application is made,

(b) the application is complete, and

(c) all fees required under Article 3.1.5.3. are paid.

(1.1) The applicant or registered person is not required to comply with Clause (1)(a) if the applicant or registered person has been granted an exemption by the director in accordance with the policy entitled "Equivalency assessment for building officials" posted on the *Building Code website* and the applicant or registered person has complied with any conditions of that exemption.

(2) Subject to Article 3.1.5.6., a person who, on December 31, 2024, is registered under Sentence 3.1.2.2.(1) of Division C of Ontario Regulation 332/12 (Building Code) made under the Act and complies with the conditions of registration set out in Article 3.1.5.5. of Division C of that regulation is deemed to be registered under Sentence

3.1.2.2.(1) of this Code, and for these purposes, the person's registration is deemed to continue until its term expires.

(3) For the purposes of a registration or a renewal of a registration, a person who, on December 31, 2024, has the qualifications set out in Clause 3.1.2.2.(1)(a) or (b), as applicable, of Division C of Ontario Regulation 332/12 is deemed to have the qualifications set out in Clause 3.1.2.2.(1)(a) or (b), as applicable, of this Code.

3.1.4.3. Qualifications for Intern Inspectors

(1) A person may be appointed or remain appointed under the Act as an intern *inspector* whose duties include supervised plans review or inspection under the Act, even if the person does not have the qualification set out in Article 3.1.4.1., if the person is enrolled in an internship program that,

(a) is approved by the Minister, or

(b) meets the minimum requirements described in Sentence (2).

(2) For the purposes of Clause (1)(b), the following are the minimum requirements for an internship program:

(a) the internship program in a *municipality* shall be established and administered by the *chief building official* of the *municipality*,

(b) the *chief building official* shall notify the *director* in writing within 30 days of the date an internship program is established, altered or revoked,

(c) the *chief building official* shall establish and maintain a written policy with respect to the,

  (i) enrolment of persons in the internship program, and

  (ii) the supervision of an intern *inspector* by an *inspector* or *chief building official* who is registered in the class of registration in respect of which the intern *inspector* will exercise the powers or perform the duties,

(d) the *chief building official* shall ensure that the written policy described in Clause (c) is brought to the attention of the public,

(e) every 12 months, the *chief building official* shall prepare and transmit to the *director* a report that contains information about,

  (i) the number of intern *inspectors* that entered or left the internship program in the past 12 months,

  (ii) the number of intern *inspectors* that were enrolled in the internship program that became registered with the *director* under Sentence 3.1.4.2.(1) in the past 12 months,

(iii) the number of intern *inspectors* enrolled in the internship program at any point in the past 12 months who has been trained or practiced as a building official in a country other than Canada, and

(iv) the number of persons who were refused enrolment in the program or whose enrolment in the program was terminated,

(f) subject to Sentence (3), each intern *inspector* enrolled in the internship program in respect of a type of *building* described in Column 3 of Table 3.5.2.1. is not eligible to be enrolled in the program in respect of that type of *building* for longer than 18 months, and

(g) the *chief building official* shall provide to the *director* such information as the *director* requests.

(3) The *director* may, at the request of a *chief building official*, authorize an intern *inspector* to be enrolled in a program for more than 18 months if the *director* has reasonable grounds to believe there are extenuating circumstances including maternity or parental leave, illness, disability, bereavement or personal hardship.

(4) The *chief building official* shall notify the *director* of any failure in *construction* or *demolition* or in the enforcement of the Act or this Code associated with the internship program or a person enrolled in the program within 10 days of the *chief building official* becoming aware of the failure.

(5) The *director* may terminate a program described in Clause (1)(b) if the *director* has reasonable grounds to believe the program has or will result in a failure in *construction* or *demolition* or in the enforcement of the Act or this Code associated with the internship program or a person enrolled in the program.

(6) An intern *inspector* who is exempt under Sentence (1) shall be supervised by an *inspector* or *chief building official* who is registered in the class of registration in respect of which the intern *inspector* will exercise the powers or perform the duties.

3.1.4.4. Qualifications for Maintenance Program Inspectors

(1) A person may be appointed or remain appointed under the Act as an *inspector* whose duties include *maintenance inspections* of *sewage systems*, even if the person does not have the qualification set out in Article 3.1.4.1. in respect of these duties.

(2) An *inspector* who is exempt under Sentence (1) is authorized to conduct *maintenance inspections* of *sewage systems* only if the following conditions are met:

(a) the person is supervised by an *inspector* or *chief building official* who is registered in the class of registration described in Column 1 of Item 10 of Table 3.5.2.1., and

(b) the person does not issue orders under the Act.

3.1.5. Qualifications — Chief Building Officials, Supervisors and Managers, and Inspectors

3.1.5.1. Application for Registration or Renewal of a Registration

(1) An application for registration or renewal of a registration shall be made to the *director* in a form established by the *director*.

(2) An application for renewal of a registration shall be made within 60 days before the expiry of the registration to be renewed.

(3) An application for registration or renewal of a registration shall include an undertaking by the applicant or registered person to comply with the conditions set out in Article 3.1.5.5.

(4) An application for registration or renewal of a registration shall,

(a) set out the applicant's or registered person's name, residence address, residential mailing address, if different from the residence address, and email address, if applicable,

(b) set out the name of every *principal authority* that has appointed the person as a *chief building official* or *inspector* under the Act, and

(c) contain evidence, provided by the applicant or registered person, that the applicant or registered person has the qualifications set out in Clauses 3.1.2.2.(1)(a) and (b), 3.1.3.2.(1)(a) and (b), or 3.1.4.2.(1)(a), as applicable.

3.1.5.2. Term

(1) A registration expires one year after it is issued but the *director* may, for the purposes of staggering the renewal dates of the registrations, issue the initial registration for a term of not less than 90 days and not more than 18 months.

3.1.5.3. Fees

(1) The fee payable for an application to take an examination that is part of an examination program referred to in Clause 3.1.2.2.(1)(a), 3.1.3.2.(1)(a) or (b) or 3.1.4.2.(1)(a) is $150.

(2) The fee for a registration or renewal of a registration is $128, for 2025 and subsequent calendar years.

3.1.5.4. Not Transferable

(1) A registration is not transferable.

3.1.5.5. Conditions

(1) The following are the conditions of a registration:

(a) the registered person shall, within 15 days after the event, notify the *director* in writing of any change in the information set out in Clause 3.1.5.1.(4)(a) or (b), and

(b) in the case of an *inspector* registered under Sentence 3.1.4.2.(1), the person shall exercise his or her powers and perform his or her duties only in respect of the type of *buildings* described in Column 3 of Table 3.5.2.1. that correspond to the class or classes of registration held by the person.

3.1.5.6. Suspension, Revocation, Refusal to Register or Renew a Registration

(1) The *director* may, in the circumstances set out in Sentence (2),

(a) refuse to register an applicant or to renew a registration, or

(b) suspend or revoke a registration.

(2) The circumstances referred to in Sentence (1) are,

(a) the registered person is in breach of a condition of the registration,

(b) the registration was issued on the basis of mistaken, false or incorrect information,

(c) an order under subsection 69 (2) of the *Provincial Offences Act* is in effect directing that the registration of the person be suspended and that no registration be issued to that person until a fine is paid,

(d) the application is incomplete, or

(e) any fees required under Article 3.1.5.3. remain unpaid.

(3) If the *director* proposes to refuse to register or renew a registration or proposes to suspend or revoke a registration, the *director* shall serve a notice of the proposal, together with the reasons for it, on the applicant or registered person.

(4) A notice under Sentence (3) shall state that the applicant or registered person is entitled to a hearing before the *Tribunal* if the applicant or registered person, within 15 days after service of the notice referred to in Sentence (3), serves the *director* and the *Tribunal* with notice in writing requesting a hearing.

(5) If the applicant or registered person does not request a hearing by the *Tribunal* in accordance with Sentence (4), the *director* may carry out the proposal stated in the notice under Sentence (3).

(6) If the applicant or registered person requests a hearing before the *Tribunal* in accordance with Sentence (4), the *Tribunal* shall appoint a time for and hold a hearing and may by order direct the *director* to carry out the *director's* proposal or refrain from carrying it out and to take such other action as the *Tribunal* considers the *director* ought to take in accordance with the Act and this Code, and for those purposes, the *Tribunal* may substitute its opinion for that of the *director*.

(7) The *director*, the applicant or registered person who requested the hearing, and such other persons as the *Tribunal* may specify, are parties to proceedings before the *Tribunal*.

(8) Sentences (3) to (7) do not apply and the *director* may cancel the registration of a registered person upon receipt of a request in writing for cancellation from the registered person in a form established by the *director*.

(9) If, within the time period set out in Sentence 3.1.5.1.(2), the registered person has applied for renewal of a registration and paid the fee required under Article 3.1.5.3., the registration is deemed to continue until the earlier of,

(a) the day the registration is renewed, and

(b) if the registered person is served with notice that the *director* proposes to refuse to renew the registration, the day the time for giving notice requesting a hearing expires or, if a hearing is held, the day the *Tribunal* makes its order.

3.1.6. Public Register

3.1.6.1. Public Register

(1) The *director* shall establish and maintain a register available to the public that lists every person who has the qualifications required by subsections 15.11 (1), (2) and (3) of the Act and has been appointed as a *chief building official* or *inspector* by a *principal authority*.

(2) The register referred to in Sentence (1) shall contain the following information with respect to each registered person:

(a) the name of the registered person,

(b) any identifying number assigned by the *director* to the registered person,

(c) the name and address of each *principal authority* that has appointed the registered person as a *chief building official* or *inspector*, and

(d) the classes of registration of the registered person.

3.1.7. Classes of Registration and Categories of Qualifications

3.1.7.1. Classes and Categories

(1) Table 3.5.2.1. contains the classes of registration and categories of qualifications for the purposes of this Section.

Section 3.2. Qualifications for Designers

3.2.1. Scope

3.2.1.1. Scope

(1) This Section prescribes, for the purposes of clause 8 (2) (c) and subsection 15.11 (5) of the Act, the qualifications for a person who carries out *design activities*.

3.2.2. Other Designers

3.2.2.1. Other Designers

(1) Every person who carries out *design activities* must have the qualification set out in Sentence 3.2.5.1.(1), if the person is not required to have the qualification set out in Sentence 3.2.4.1.(1).

3.2.3. Definition

3.2.3.1. Definition

(1) "Registered" means,

(a) in Subsection 3.2.4., registered under Sentence 3.2.4.2.(1), and

(b) in Subsection 3.2.5., registered under Sentence 3.2.5.2.(1).

3.2.4. Qualifications – Persons Engaged in the Business of Providing Design Activities to the Public

3.2.4.1. General

(1) Except as provided in Sentences (3) and (4), every person engaged in the business of providing *design activities* to the public must have the following qualification:

(a) the person must be registered with the *director*.

(2) A registration shall be in a form established by the *director*.

(3) A person is exempt from the requirement to comply with the qualification in Sentence (1), if the person's *design activities* relate only to,

(a) *construction* of a home as defined under the *Ontario New Home Warranties Plan Act* that will be constructed or sold by that person, if the person is a builder or vendor as defined in that Act and is registered under that Act,

(b) *construction* of a *building* that is owned by that person,

(c) *construction* of a *farm building* that,

(i) is of *low human occupancy*, other than Group G, Division 4, *agricultural occupancies with no human occupants*.

(ii) is 2 *storeys* or less in *building height*, and

(iii) has a *building area* of less than 600 m^2,

(d) the extension, material alteration or repair of a house,

(e) a *sewage system* to be constructed by that person if the person is registered under Article 3.3.3.2.,

(f) *construction* of tents described in Sentence 3.14.1.2.(2) of Division B,

(g) *construction* of signs,

(h) *construction* of site services, including,

(i) surface drainage, and

(ii) *plumbing* located underground, either outside a *building* or under a *building*,

(i) *construction* of a factory-built house certified to CSA A277, "Procedure for Certification of Prefabricated Buildings, Modules, and Panels",

(j) *construction* of a mobile home conforming to CSA Z240 MH Series, "Manufactured Homes",

(k) *construction* of a park model trailer conforming to CAN/CSA-Z241 Series, "Park Model Trailers",

(l) *construction* of pre-engineered elements of a *building*, if the design of the elements is carried out by a person competent in the specific discipline appropriate to the circumstances,

(m) *construction* of appliances, equipment and similar incidental components of a *building*, or

(n) *construction* of a *building* for which a permit under section 8 of the Act is applied for or issued before January 1, 2006 and for which *construction* is commenced within six months after the permit is issued.

(4) A person is exempt from the requirements to comply with the qualification in Sentence (1), if the person's *design activities* are with respect to a house and the *design activities* relate only to,

(a) a *plumbing* system,

(b) a heating, ventilation and *air-conditioning* system, or

(c) ancillary *buildings* such as garages.

3.2.4.2. Registration and Renewal of a Registration

(1) Subject to Articles 3.2.4.8. and 3.2.4.9., the *director* may register an applicant, or renew a registration, in each class of registration applied for, if,

(a) the applicant or registered person or, if the applicant or registered person is a corporation or partnership, a director, officer, partner or employee of the applicant or registered person, has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code in the category of qualification set out in Column 2 of Table 3.5.2.1. that corresponds to each class of registration set out in Column 1 of Table 3.5.2.1. for which application is made,

(b) all other persons engaged by the applicant or registered person who will review and take responsibility for *design activities* provided to the public by the applicant or registered person for the purposes of Clause 3.2.4.7.(1)(d) have successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code in the category of qualification set out in Column 2 of Table 3.5.2.1. that corresponds to each class of registration set out in Column 1 of Table 3.5.2.1. for which application is made,

(c) the applicant or registered person is covered by the insurance required under Subsection 3.6.2. during the term of the registration applied for,

(d) the application is complete, and

(e) all fees required under Article 3.2.4.5. are paid.

(2) Subject to Articles 3.2.4.8. and 3.2.4.9. a person who, on December 31, 2024, is registered under Sentence 3.1.2.2.(1) of Division C of Ontario Regulation 332/12 (Building Code) made under the Act and complies with the conditions of registration set out in Article 3.2.4.7. of Division C of that regulation is deemed to be registered under Sentence 3.2.4.2.(1) of this Code, and for these purposes, the person's registration is deemed to continue until its term expires.

(3) For the purposes of a registration or a renewal of a registration, a person who, on December 31, 2024, is registered under Clause 3.2.4.2.(1)(a) or (b), as applicable, of Division C of Ontario Regulation 332/12 (Building Code) made under the Act in a class of registration is deemed to have the qualifications set out in Clause 3.2.4.2.(1)(a) or (b), as applicable, of this Code, in the class of registration.

3.2.4.3. Application for Registration or Renewal of a Registration

(1) An application for registration or renewal of a registration shall be made to the *director* in a form established by the *director*.

(2) An application for renewal of a registration shall be made within 60 days before the expiry of the registration to be renewed.

(3) An application for registration or renewal of a registration shall include an undertaking by the applicant or registered person to comply with the conditions set out in Article 3.2.4.7.

(4) If a partnership or a corporation is the applicant for registration or renewal of a registration, the application shall set out the names and residence addresses of all its partners, directors or officers, as the case may be.

(5) An application for registration or renewal of a registration shall contain the names of all partners, directors, officers or employees of the applicant or registered person, as the case may be, and all other persons engaged by the applicant or registered person, who,

(a) have the qualifications set out in Clause 3.2.4.2.(1)(a) in the class or classes of registration for which the application is made, and

(b) have the qualifications set out in Clause 3.2.4.2.(1)(b) and will review and take responsibility for the *design activities* provided to the public by the applicant or registered person in the class or classes of registration for which the application is made.

(6) An application for registration or renewal of a registration shall contain evidence, provided by the applicant or registered person, that the persons referred to in Sentence (5) have the qualifications set out in Clause 3.2.4.2.(1)(a) or (b).

(7) An application for registration or renewal of a registration shall contain evidence, provided by the applicant or registered person in such form and in such detail as may be required by the *director*, that the applicant or registered person is covered by the insurance required under Subsection 3.6.2. during the term of the registration applied for.

3.2.4.4. Term

(1) A registration expires one year after it is issued but the *director* may, for the purposes of staggering the renewal dates of the registrations, issue the initial registration for a term of not less than 90 days and not more than 18 months.

3.2.4.5. Fees

(1) The fee payable for an application to take an examination that is part of an examination program referred to in Clause 3.2.4.2.(1)(a) or (b) is $150.

(2) The fee for a registration is $202, for 2025 and subsequent calendar years.

(3) The fee for the addition of a new class of registration is $44, for 2024 and subsequent calendar years.

(4) The fee for renewal of a registration is $152, for 2025 and subsequent calendar years.

3.2.4.6. Not Transferable

(1) A registration is not transferable.

3.2.4.7. Conditions

(1) The following are the conditions of a registration:

(a) the registered person shall carry out *design activities* only in respect of the type of *buildings* described in Column 3 of Table 3.5.2.1. that correspond to the class or classes of registration held by the registered person,

(b) if the registered person is a corporation or partnership, there must throughout the term of the registration be an officer, director, partner or employee of the registered person who has the qualifications set out in Clause 3.2.4.2.(1)(a) for each class of registration set out in Column 1 of Table 3.5.2.1. that is held by the registered person,

(c) the registered person shall ensure that a person who has the qualifications set out in Clause 3.2.4.2.(1)(a) or (b) in respect of the class of registration set out in Column 1 of Table. 3.5.2.1. to which the *design activities* relate will review and take responsibility for *design activities* in each class of registration that are provided to the public by the registered person,

(d) the registered person shall ensure that a person described in Clause (c) who reviews and takes responsibility for *design activities* provided to the public by the registered person shall include the following information on any document submitted to a *chief building official* or *registered code agency* in the circumstances set out in subsection 15.11 (5) of the Act:

(i) the name of the registered person and any registration number issued to the registered person by the *director*,

(ii) a statement that the person has reviewed and taken responsibility for the *design activities*,

(iii) the person's name and any identifying number issued to the person by the *director* in respect of the qualifications described in Clause 3.2.4.2.(1)(a) or (b) that the person has, and

(iv) the person's signature,

(e) the registered person shall, during the term of the registration, be covered by the insurance required under Subsection 3.6.2.,

(f) the registered person shall, within 15 days after the event, notify the *director* in writing of,

(i) any change in address of the registered person for correspondence relating to the registration, and

(ii) any change in the information set out in Sentences 3.2.4.3.(4) and (5),

(g) the registered person shall give prompt written notice to the *director* of any material change in any of the information, other than the information referred to in Clause (f), that is contained in or accompanies an application for registration or renewal of a registration,

(h) the registered person shall, from time to time, at the registered person's expense, give the *director* such documents or information relating to the registration or to activities carried out under the registration as the *director* may reasonably require, and

(i) the registered person shall allow the representatives of the *director* access to the registered person's books and records during normal business hours for the purpose of confirming matters related to the registration.

3.2.4.8. Suspension, Revocation, Refusal to Register or Renew a Registration

(1) The *director* may, in the circumstances set out in Sentence (2),

(a) refuse to register an applicant or to renew a registration, or

(b) suspend or revoke a registration.

(2) The circumstances referred to in Sentence (1) are,

(a) the registered person is in contravention of the Act or this Code,

(b) the registered person is in breach of a condition of the registration other than the condition set out in Clause 3.2.4.7.(1)(f),

(c) the registration was issued on the basis of mistaken, false or incorrect information,

(d) the *director* is of the opinion that the past conduct of the applicant or registered person or, if the applicant or registered person is a partnership or a corporation, the partners, officers or directors of the applicant or registered person, as the case may be, affords reasonable grounds for belief that the business that would be or is authorized by the registration will not be carried on in accordance with law,

(e) the application is incomplete, or

(f) any fees required under Article 3.2.4.5. remain unpaid.

(3) If the *director* proposes to refuse to register or renew a registration or proposes to suspend or revoke a registration under Sentence (1), the *director* shall serve a notice of the proposal, together with the reasons for it, on the applicant or registered person.

(4) A notice under Sentence (3) shall state that the applicant or registered person is entitled to a hearing before the *Tribunal* if the applicant or registered person, within 15 days after service of the notice referred to in Sentence (3), serves the *director* and the *Tribunal* with notice in writing requesting a hearing.

(5) If the applicant or registered person does not request a hearing by the *Tribunal* in accordance with Sentence (4), the *director* may carry out the proposal stated in the notice under Sentence (3).

(6) If the applicant or registered person requests a hearing before the *Tribunal* in accordance with Sentence (4), the *Tribunal* shall appoint a time for and hold a hearing and may by order direct the *director* to carry out the *director's* proposal or refrain from carrying it out and to take such other action as the *Tribunal* considers the *director* ought to take in accordance with the Act and this Code, and for those purposes the *Tribunal* may substitute its opinion for that of the *director*.

(7) The *director*, the applicant or registered person who requested the hearing, and such other persons as the *Tribunal* may specify, are parties to proceedings before the *Tribunal*.

(8) Sentences (3) to (7) do not apply and the *director* may cancel the registration of a registered person upon receipt of a request in writing for cancellation from the registered person in a form established by the *director*.

(9) If, within the time period set out in Sentence 3.2.4.3.(2), the registered person has applied for renewal of a registration, paid the fee required under Article 3.2.4.5. and provided evidence satisfactory to the *director* that the registered person is covered by insurance required under Subsection 3.6.2. for the term of the renewal of the registration, the registration is deemed to continue until the earliest of,

(a) the day the registration is renewed,

(b) if the registered person is served with notice that the *director* proposes to refuse to renew the registration, the day the time for giving notice requesting a hearing expires or, if a hearing is held, the day the *Tribunal* makes its order, and

(c) the day when the registered person ceases to be covered by the insurance required under Subsection 3.6.2.

3.2.4.9. Mandatory Suspension or Revocation of Registration or Refusal to Register or Renew Registration

(1) The *director* shall, in the circumstances set out in Sentence (2),

(a) refuse to register an applicant,

(b) refuse to renew a registration, or

(c) suspend or revoke a registration.

(2) The circumstances referred to in Sentence (1) are that,

(a) the applicant or registered person is not covered by the insurance required under Subsection 3.6.2., or

(b) an order under subsection 69 (2) of the *Provincial Offences Act* is in effect directing that the registration of the person be suspended and no registration be issued to the person until a fine is paid.

(3) If the *director* refuses to register an applicant, refuses to renew a registration or suspends or revokes a registration under Sentence (1), the *director* shall serve a notice of the refusal, suspension or revocation, together with the reasons for it, on the applicant or registered person.

(4) A suspension or revocation of a registration under Sentence (1) takes effect immediately and the commencement of a proceeding before the *Tribunal* does not stay the operation of the suspension or revocation of the registration.

(5) A notice under Sentence (3) shall state that the applicant or registered person is entitled to a hearing before the *Tribunal* if the applicant or registered person, within 15 days after service of the notice referred to in Sentence (3), serves the *director* and the *Tribunal* with notice in writing requesting a hearing.

(6) The *Tribunal* may, on the application of the registered person, stay the operation of a decision of the *director* to suspend or revoke the registration, and may grant the stay subject to conditions.

(7) If the applicant or registered person requests a hearing before the *Tribunal* in accordance with Sentence (5), the *Tribunal* shall appoint a time for and hold a hearing and may by order confirm, alter or revoke the decision of the *director* to refuse to register or to suspend or revoke the registration, as the case may be, and may take such action as the *Tribunal* considers the *director* ought to take in accordance with the Act and this Code, and for those purposes the *Tribunal* may substitute its opinion for that of the *director*.

(8) The *director*, the applicant or registered person who requested the hearing, and such other persons as the *Tribunal* may specify, are parties to proceedings before the *Tribunal*.

3.2.5. Qualifications — Other Designers

3.2.5.1. General

(1) Except as provided in Sentence (3), a person who carries out *design activities* but is not required under Sentence 3.2.4.1.(1) to be registered with the *director* under Sentence 3.2.4.2.(1) must have the following qualification:

(a) the person must be registered with the *director* under Sentence 3.2.5.2.(1).

(2) A registration shall be in a form established by the *director*.

(3) A person is exempt from the requirement to comply with the qualification in Sentence (1), if his or her *design activities* relate only to,

(a) *design activities* in respect of which a person described in Clause 3.2.4.7.(1)(c) or who has the qualification required under Sentence (1) will review and take responsibility,

(b) *construction* of,

(i) a house owned by the person, or

(ii) an ancillary *building* that serves,

(A) a house described in Subclause (i), or

(B) an individual *dwelling unit* in a house described in Subclause (i),

(c) *construction* of a *farm building* that,

(i) is of *low human occupancy*,

(ii) is 2 *storeys* or less in *building height*, and

(iii) has a *building area* of less than 600 m^2,

(d) a *sewage system* to be *constructed* by that person and,

(i) the person is registered under Article 3.3.3.2., or

(ii) the *sewage system* is owned by the person,

(e) *construction* of tents described in Sentence 3.14.1.2.(2) of Division B,

(f) *construction* of signs,

(g) *construction* of site services including,

(i) surface drainage, and

(ii) *plumbing* located underground, either outside a *building* or under a *building*,

(h) *construction* of pre-engineered elements of a *building*, if the design of the elements is carried out by a person competent in the specific discipline appropriate to the circumstances,

(i) *construction* of appliances, equipment and similar incidental components of a *building*,

(j) *construction* of an ancillary *building*,

(i) that serves a house or an individual *dwelling unit* in a house, and

(ii) that has a *building area* of not more than 55 m^2, or

(k) *construction* of a *building* for which a permit under section 8 of the Act is applied for or issued before January 1, 2006 and for which *construction* is commenced within six months after the permit is issued.

3.2.5.2. Registration and Renewal of a Registration

(1) Subject to Article 3.2.5.7., the *director* may register an applicant, or renew a registration, in each class of registration applied for, if,

(a) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code in the category of qualification set out in Column 2 of Table 3.5.2.1. that corresponds to each class of registration set out in Column 1 of Table 3.5.2.1. for which application is made.

(b) the application is complete, and

(c) all fees required under Article 3.2.5.5. are paid.

(2) Subject to Article 3.2.5.7., a person who, on December 31, 2024, is registered under Sentence 3.2.5.2.(1) of Division C of Ontario Regulation 332/12 (Building Code) made under the Act and complies with the conditions of registration set out in Article 3.2.5.6. of Division C of that regulation is deemed to be registered under Sentence 3.2.5.2.(1) of this Code, and for these purposes, the person's registration is deemed to continue until its term expires.

(3) For the purposes of a registration or a renewal of a registration, a person who, on December 31, 2024, has the qualifications set out in Clause 3.2.5.2.(1)(a) of Division C of Ontario Regulation 332/12 is deemed to have the qualifications set out in Clause 3.2.5.2.(1)(a) of this Code.

3.2.5.3. Application for Registration or Renewal of a Registration

(1) An application for registration or renewal of a registration shall be made to the *director* in a form established by the *director*.

(2) An application for renewal of a registration shall be made within 60 days before the expiry of the registration to be renewed.

(3) An application for registration or renewal of a registration shall include an undertaking by the applicant or registered person to comply with the conditions set out in Article 3.2.5.6.

(4) An application for registration or renewal of a registration shall,

(a) set out the applicant's or registered person's name, residence address, residential mailing address, if different from the residence address, and email address, if applicable, and

(b) contain evidence, provided by the applicant or registered person, that the applicant or registered person has the qualifications set out in Clause 3.2.5.2.(1)(a).

3.2.5.4. Term

(1) A registration expires one year after it is issued but the *director* may, for the purposes of staggering the renewal dates of the registrations, issue the initial registration for a term of not less than 90 days and not more than 18 months.

3.2.5.5. Fees

(1) The fee payable for an application to take an examination that is part of an examination program referred to in Clause 3.2.5.2.(1)(a) is $150.

(2) The fee for a registration or renewal of a registration is $128, for 2025 and subsequent calendar years.

3.2.5.6. Conditions

(1) The following are the conditions of a registration:

(a) the registered person shall carry out *design activities* only in respect of the type of *buildings* described in Column 3 of Table 3.5.2.1. that correspond to the class or classes of registration held by the registered person,

(b) the registered person shall, within 15 days after the event, notify the *director* in writing of any change in the information set out in Clause 3.2.5.3.(4)(a),

(c) the registered person shall include the following information on any document respecting *design activities* that the person has reviewed and taken responsibility for and that is submitted to a *chief building official* or *registered code agency* in the circumstances set out in subsection 15.11 (5) of the Act:

(i) the person's name and any identifying number assigned to the person by the *director* in respect of the person's registration,

(ii) a statement that the person has reviewed and taken responsibility for the *design activities*, and

(iii) the person's signature.

3.2.5.7. Suspension, Revocation, Refusal to Register or Renew a Registration

(1) The *director* may, in the circumstances set out in Sentence (2),

(a) refuse to register an applicant or to renew a registration, or

(b) suspend or revoke a registration.

(2) The circumstances referred to in Sentence (1) are,

(a) the registered person is in breach of a condition of the registration,

(b) the registration was issued on the basis of mistaken, false or incorrect information,

(c) an order under subsection 69 (2) of the *Provincial Offences Act* is in effect directing that the registration of the person be suspended and that no registration be issued to that person until a fine is paid,

(d) the application is incomplete, or

(e) any fees required under Article 3.2.5.5. remain unpaid.

(3) If the *director* proposes to refuse to register or renew a registration or proposes to suspend or revoke a registration, the *director* shall serve a notice of the proposal, together with the reasons for it, on the applicant or registered person.

(4) A notice under Sentence (3) shall state that the applicant or registered person is entitled to a hearing before the *Tribunal* if the applicant or registered person, within 15 days after service of the notice referred to in Sentence (3), serves the *director* and the *Tribunal* with notice in writing requesting a hearing.

(5) If the applicant or registered person does not request a hearing by the *Tribunal* in accordance with Sentence (4), the *director* may carry out the proposal stated in the notice under Sentence (3).

(6) If the applicant or registered person requests a hearing before the *Tribunal* in accordance with Sentence (4), the *Tribunal* shall appoint a time for and hold a hearing and may by order direct the *director* to carry out the *director's* proposal or refrain from carrying it out and to take such other action as the *Tribunal* considers the *director* ought to take in accordance with the Act and this Code, and for those purposes, the *Tribunal* may substitute its opinion for that of the *director*.

(7) The *director*, the applicant or registered person who requested the hearing, and such other persons as the *Tribunal* may specify, are parties to proceedings before the *Tribunal*.

(8) Sentences (3) to (7) do not apply and the *director* may cancel the registration of a registered person upon receipt of a request in writing for cancellation from the registered person in a form established by the *director*.

(9) If, within the time period set out in Sentence 3.2.5.3.(2), the registered person has applied for renewal of a registration and paid the fee required under Article 3.2.5.5., the registration is deemed to continue until the earlier of,

(a) the day the registration is renewed, and

(b) if the registered person is served with notice that the *director* proposes to refuse to renew the registration, the day the time for giving notice requesting a hearing expires or, if a hearing is held, the day the *Tribunal* makes its order.

3.2.6. Public Register

3.2.6.1. Public Register

(1) The *director* shall establish and maintain a register available to the public that lists every person who has the qualifications required by clause 8 (2) (c) and subsection 15.11 (5) of the Act.

(2) The register referred to in Sentence (1) shall contain the following information with respect to every person registered under Sentence 3.2.4.2.(1):

(a) the name of the registered person,

(b) any identifying number assigned by the *director* to the registered person,

(c) the business address of the registered person,

(d) the classes of registration of the registered person,

(e) the names of the person or persons who will review and take responsibility for *design activities* carried out by the registered person in each class of registration, and

(f) any identifying number assigned by the *director* to the person or persons referred to in Clause (e).

(3) The register referred to in Sentence (1) shall contain the following information with respect to every person registered under Sentence 3.2.5.2.(1):

(a) the name of the registered person,

(b) any identifying number assigned by the *director* to the registered person, and

(c) the classes of registration of the registered person.

3.2.7. Classes of Registration and Categories of Qualifications

3.2.7.1. Classes and Categories

(1) Table 3.5.2.1. contains the classes of registration and categories of qualifications for the purposes of this Section.

Section 3.3. Qualifications for Persons Engaged in the Business of Constructing On Site, Installing, Repairing, Servicing, Cleaning or Emptying Sewage Systems

3.3.1. Scope

3.3.1.1. Scope

(1) This Section prescribes, for the purposes of subsection 15.12 (1) of the Act, the qualifications for persons engaged in the business of *constructing* on site, installing, repairing, servicing, cleaning or emptying *sewage systems*.

3.3.2. Definition

3.3.2.1. Definition

(1) In this Section,

"registered" means registered under Sentence 3.3.3.2.(1).

3.3.3. Qualifications

3.3.3.1. General

(1) Persons engaged in the business of *constructing* on site, installing, repairing, servicing, cleaning or emptying *sewage systems* shall have the following qualification:

(a) the person must be registered with the *director*.

(2) A registration shall be in a form established by the *director*.

(3) A person is exempt from the requirement to comply with the qualification in Sentence (1) in respect of the activities of cleaning and emptying *sewage systems* if,

(a) the person has been issued,

(i) before October 31, 2011, a certificate of approval under section 39 of the *Environmental Protection Act* in respect of these activities, or

(ii) on or after October 31, 2011, an environmental compliance approval under the *Environmental Protection Act* in respect of these activities, and

(b) the certificate of approval or the environmental compliance approval, as applicable, has not been suspended or revoked under that Act.

3.3.3.2. Registration and Renewal of a Registration

(1) Subject to Article 3.3.3.8., the *director* may register an applicant, or renew a registered person's registration, if,

(a) all persons who will supervise the *construction* on site, installation, repair, servicing, cleaning or emptying of *sewage systems* carried out by the applicant or registered person have successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act, this Code and the *construction*, maintenance and operation of *sewage systems*,

(b) the application is complete, and

(c) all fees required under Article 3.3.3.5. are paid.

(2) Subject to Article 3.3.3.8., a person who, on December 31, 2024, is registered under Sentence 3.3.3.2.(1) of Division C of Ontario Regulation 332/12 (Building Code) made under the Act and complies with the conditions of registration set out in Article 3.3.3.7. of Division C of that regulation is deemed to be registered under Sentence 3.3.3.2.(1) of this Code, and for these purposes, the person's registration is deemed to continue until its term expires.

(3) For the purposes of a registration or a renewal of a registration, a person who, on December 21, 2024, has the qualifications set out in Clause 3.3.3.2.(1)(a) of Division C of Ontario Regulation 332/12 is deemed to have the qualifications set out in Clause 3.3.3.2.(1)(a) of this Code.

3.3.3.3. Application for Registration or Renewal of a Registration

(1) An application for registration or renewal of a registration shall be made to the *director* in a form established by the *director*.

(2) An application for renewal of a registration shall be made within 60 days before the expiry of the registration to be renewed.

(3) An application for registration or renewal of a registration shall include an undertaking by the applicant or registered person to comply with the conditions set out in Article 3.3.3.7.

(4) If a partnership or a corporation is the applicant for registration or renewal of a registration, the application shall set out the names and residence addresses of all its partners, directors or officers, as the case may be.

(5) An application for registration or renewal of a registration shall contain the names of all partners, directors, officers or employees of the applicant or registered person, as

the case may be, and all other persons engaged by the applicant or registered person, who,

(a) have the qualifications set out in Clause 3.3.3.2.(1)(a), and

(b) will supervise the *construction* on site, installation, repair, servicing, cleaning or emptying of *sewage systems* to be carried out by the applicant or registered person.

(6) An application for registration or renewal of a registration shall contain evidence, provided by the applicant or registered person, that the persons referred to in Sentence (5) have the qualifications set out in Clause 3.3.3.2.(1)(a).

3.3.3.4. Term

(1) A registration expires one year after the date of its issuance.

3.3.3.5. Fees

(1) The fee payable for an application to take an examination that is part of an examination program referred to in Clause 3.3.3.2.(1)(a) is $150.

(2) The fee for a registration or renewal of a registration is $128, for 2025 and subsequent calendar years.

3.3.3.6. Not Transferable

(1) A registration is not transferable.

3.3.3.7. Conditions

(1) The following are the conditions of a registration:

(a) the registered person shall ensure that the *construction* on site, installation, repair, servicing, cleaning or emptying of *sewage systems* carried out by the registered person is supervised by a person who has the qualifications set out in Clause 3.3.3.2.(1)(a),

(b) the registered person shall, within 15 days after the event, notify the *director* in writing of,

(i) any change in address of the registered person for correspondence relating to the registration, and

(ii) any change in the information set out in Sentences 3.3.3.3.(4) and (5),

(c) the registered person shall give prompt written notice to the *director* of any material change in any of the information, other than the information referred to in Clause (b), that is contained in or accompanies an application for registration or renewal of a registration,

(d) the registered person shall, from time to time, at the registered person's expense, give the *director* such documents or information relating to the registration or to activities carried out under the registration as the *director* may reasonably require, and

(e) the registered person shall allow the representatives of the *director* access to the registered person's books and records during normal business hours for the purpose of confirming matters related to the registration.

3.3.3.8. Suspension, Revocation, Refusal to Register or Renew a Registration

(1) The *director* may, in the circumstances set out in Sentence (2),

(a) refuse to register an applicant or to renew a registration, or

(b) suspend or revoke a registration.

(2) The circumstances referred to in Sentence (1) are,

(a) the registered person is in contravention of the Act or this Code,

(b) the registered person is in breach of a condition of the registration,

(c) the registration was issued on the basis of mistaken, false or incorrect information,

(d) the *director* is of the opinion that the past conduct of the applicant or registered person or, if the applicant or registered person is a partnership or a corporation, the partners, officers or directors of the applicant or registered person, as the case may be, affords reasonable grounds for belief that the business that would be or is authorized by the registration will not be carried on in accordance with law,

(e) an order under subsection 69 (2) of the *Provincial Offences Act* is in effect directing that the registration of the person be suspended and that no registration be issued to that person until a fine is paid,

(f) the application is incomplete, or

(g) any fees required under Article 3.3.3.5. remain unpaid.

(3) If the *director* proposes to refuse to register or renew a registration or proposes to suspend or revoke a registration, the *director* shall serve a notice of the proposal, together with the reasons for it, on the applicant or registered person.

(4) A notice under Sentence (3) shall state that the applicant or registered person is entitled to a hearing before the *Tribunal* if the applicant or registered person, within 15 days after service of the notice referred to in Sentence (3), serves the *director* and the *Tribunal* with notice in writing requesting a hearing.

(5) If the applicant or registered person does not request a hearing by the *Tribunal* in accordance with Sentence (4), the *director* may carry out the proposal stated in the notice under Sentence (3).

(6) If the applicant or registered person requests a hearing before the *Tribunal* in accordance with Sentence (4), the *Tribunal* shall appoint a time for and hold a hearing and may by order direct the *director* to carry out the *director's* proposal or refrain from carrying it out and to take such other action as the *Tribunal* considers the *director* ought to take in accordance with the Act and this Code, and for those purposes the *Tribunal* may substitute its opinion for that of the *director*.

(7) The *director*, the applicant or registered person who requested the hearing, and such other persons as the *Tribunal* may specify, are parties to proceedings before the *Tribunal*.

(8) Sentences (3) to (7) do not apply and the *director* may cancel the registration of a registered person upon receipt of a request in writing for cancellation from the registered person in a form established by the *director*.

(9) If, within the time period set out in Sentence 3.3.3.3.(2), the registered person has applied for renewal of a registration and paid the fee required under Article 3.3.3.5., the registration is deemed to continue until the earlier of,

(a) the day the registration is renewed, and

(b) if the registered person is served with notice that the *director* proposes to refuse to renew the registration, the day the time for giving notice requesting a hearing expires or, if a hearing is held, the day the *Tribunal* makes its order.

3.3.4. Public Register

3.3.4.1. Public Register

(1) The *director* shall establish and maintain a register available to the public that lists every person who has the qualifications required by subsection 15.12 (1) of the Act.

(2) The register referred to in Sentence (1) shall contain the following information with respect to every registered person:

(a) the name of the registered person,

(b) any identifying number assigned by the *director* to the registered person,

(c) the business address of the registered person,

(d) the names of the person or persons who will supervise the *construction* on site, installation, repair, servicing, cleaning or emptying of *sewage systems* carried out by the registered person, and

(e) any identifying number assigned by the *director* to the person or persons referred to in Clause (d).

Section 3.4. Qualifications for Registered Code Agencies

3.4.1. Scope

3.4.1.1. Scope

(1) This Section prescribes, for the purposes subsection 15.11 (4) of the Act, the qualifications that a person must have in order to be eligible to be appointed as a *registered code agency* under the Act.

3.4.2. Definition

3.4.2.1. Definition

(1) In this Section,

"registered" means registered under Sentence 3.4.3.2.(1).

3.4.3. Qualifications

3.4.3.1. General

(1) The following are prescribed as qualifications for persons to be appointed under the Act as a *registered code agency*:

(a) the person must be registered with the *director*.

(2) A registration shall be in a form established by the *director*.

3.4.3.2. Registration and Renewal of a Registration

(1) Subject to Articles 3.4.3.8. and 3.4.3.9., the *director* may register an applicant, or renew a registered person's registration, in each class of registration applied for, if,

(a) the applicant or registered person or, if the applicant or registered person is a corporation or partnership, a director, officer, partner or employee of the applicant or registered person, has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code and the powers and duties of a *registered code agency*,

(b) the applicant or registered person or, if the applicant or registered person is a corporation or partnership, one or more directors, officers, partners or employees of the applicant or registered person, have successfully completed the examination program administered or authorized by the

Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code in the category of qualification set out in Column 2 of Table 3.5.2.2. that corresponds to each class of registration set out in Column 1 of Table 3.5.2.2. for which application is made,

(c) all persons who will carry out plans review and inspection activities on behalf of the registered person have successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs and Housing relating to the person's knowledge of the Act and this Code in the category of qualification set out in Column 2 of Table 3.5.2.2. that corresponds to each class of registration set out in Column 1 of Table 3.5.2.2. for which application is made,

(d) the applicant or registered person has in place a quality management plan referred to in Sentence 3.4.3.3.(3) for carrying out the activities of the applicant or registered person under the registration that is acceptable to the *director*,

(e) the applicant or registered person is covered by the insurance required under Subsection 3.6.2. during the term of the registration applied for,

(f) the application is complete, and

(g) all fees required under Article 3.4.3.5. are paid.

(2) Subject to Articles 3.4.3.8. and 3.4.3.9., a person who, on December 31, 2024, is registered in a class of registration under Sentence 3.4.3.2.(1) of Division C of Ontario Regulation 332/12 (Building Code) made under the Act and complies with the conditions of registration set out in Article 3.4.3.7. of Division C of that regulation is deemed to be registered in the class of registration under Sentence 3.4.3.2.(1) of this Code, and for these purposes, the person's registration in the class of registration is deemed to continue until its term expires.

(3) For the purposes of a registration or a renewal of a registration,

(a) a person who, on December 31, 2024, has the qualifications set out in Clause 3.4.3.2.(1)(a) of Division C of Ontario Regulation 332/12 is deemed to have the qualifications set out in Clause 3.4.3.2.(1)(a) of this Code,

(b) a person who, on December 31, 2024, has the qualifications set out in Clause 3.4.3.2.(1)(b) of Division C of Ontario Regulation 332/12 in a class of registration is deemed to have the qualifications set out in Clause 3.4.3.2.(1)(b) of this Code in the class of registration, and

(c) a person who, on December 31, 2024, has the qualifications set out in Clause 3.4.3.2.(1)(c) of Division C of Ontario Regulation 322/12 in a class of registration is deemed to have the qualifications set out in Clause 3.4.3.2.(1)(c) of this Code in the class of registration.

3.4.3.3. Application for Registration or Renewal of a Registration

(1) An application for registration or renewal of a registration shall be made to the *director* in a form established by the *director*.

(2) An application for renewal of a registration shall be made within 60 days before the expiry of the registration to be renewed.

(3) An application for registration or renewal of a registration shall include a quality management plan for carrying out the activities of the applicant or registered person under the registration, including, without limitation,

(a) procedures relating to the commencement of activities as a *registered code agency*, including procedures to verify that the applicant or registered person is qualified to undertake the activities and to verify that there exists no conflict of interest within the meaning of Sentence 3.7.2.1.(4),

(b) identification of the responsibilities of persons who will carry out plans review and inspection activities of the applicant or registered person and procedures for the supervision of those persons,

(c) procedures for assessing plans and specifications for conformity with this Code, including procedures for the assessment of *alternative solutions*,

(d) procedures for inspecting the *construction* of *buildings*,

(e) procedures for receipt of notices that *construction* is ready for inspection and of written reports from *architects* and *professional engineers* arising out of the general review of the *construction* of *buildings*,

(f) procedures for the issuance of certificates and orders under the Act, including the responsibility of the persons with the qualifications set out in Sentences 3.7.4.3.(1) and (2),

(g) procedures for referral of matters to a *chief building official* under subsection 14 (5) of the Act,

(h) procedures for participation of the applicant or registered person in proceedings before the Building Code Commission under section 24 of the Act and before the Superior Court of Justice under section 25 of the Act,

(i) procedures for documenting the activities of the applicant or registered person under the registration, including data control, records retention and the maintenance of security and confidentiality of records, and transferring records to the *principal authority*,

(j) procedures for training and supervision of personnel, and

(k) procedures for the review and updating of the quality management plan.

(4) An application for registration or renewal of a registration shall include an undertaking by the applicant or registered person to comply with the conditions set out in Article 3.4.3.7.

(5) If a partnership or a corporation is the applicant for registration or renewal of a registration, the application shall set out the names and residence addresses of all its partners, directors or officers, as the case may be.

(6) An application for registration or renewal of a registration shall contain the names of all partners, directors, officers or employees of the applicant or registered person, as the case may be, and all other persons engaged by the applicant or registered person, who,

(a) have the qualifications set out in Clause 3.4.3.2.(1)(a),

(b) have the qualifications set out in Clause 3.4.3.2.(1)(b) in the class or classes of registration for which the application is made, and

(c) have the qualifications set out in Clause 3.4.3.2.(1)(c) in the class or classes of registration for which the application is made and will exercise powers and perform functions under the Act on behalf of the applicant or registered person in that class of registration.

(7) An application for registration or renewal of a registration shall contain evidence, provided by the applicant or registered person, that the persons referred to in Sentence (6) have the qualifications set out in Clause 3.4.3.2.(1)(a), (b) or (c).

(8) An application for registration or renewal of a registration shall contain evidence, provided by the applicant or registered person in such form and in such detail as may be required by the *director*, that the applicant or registered person is covered by the insurance required under Subsection 3.6.2. during the term of the registration applied for.

3.4.3.4. Term

(1) A registration expires one year after the date of its issuance.

3.4.3.5. Fees

(1) The fee payable for an application to take an examination that is part of an examination program referred to in Clause 3.4.3.2.(1)(a), (b) or (c) is $150.

(2) The fee for a registration is $484, for 2025 and subsequent calendar years.

(3) The fee for the addition of a new class of registration is $82, for 2024 and subsequent calendar years.

(4) The fee for renewal of a registration is $356, for 2025 and subsequent calendar years.

3.4.3.6. Not Transferable

(1) A registration is not transferable.

3.4.3.7. Conditions

(1) The following are the conditions of a registration:

(a) the registered person shall carry out activities under the registration in accordance with the Act, this Code and the quality management plan described in Clause 3.4.3.2.(1)(d),

(b) if the registered person is a corporation or partnership, during the term of the registration there must be,

(i) an officer, director, partner or employee of the registered person who has the qualifications set out in Clause 3.4.3.2.(1)(a), and

(ii) one or more officers, directors, partners or employees of the registered person who have the qualifications set out in Clause 3.4.3.2.(1)(b) in respect of each class of registration that is held by the registered person,

(c) the registered person shall, during the term of the registration, be covered by the insurance required under Subsection 3.6.2.,

(d) the registered person shall, within 15 days after the event, notify the *director* in writing of,

(i) any change in address of the registered person for correspondence relating to the registration, and

(ii) any change in the information set out in Sentences 3.4.3.3.(5) and (6),

(e) the registered person shall give prompt written notice to the *director* of any material change in any of the information, other than the information referred to in Clause (d), that is contained in or accompanies an application for registration or renewal of a registration,

(f) the registered person shall, from time to time, at the registered person's expense, give to the *director* such documents or information relating to the registration or to activities carried out under the registration as the *director* may reasonably require, and

(g) the registered person shall allow the representatives of the *director* access to the registered person's books and records during normal business hours for the purpose of confirming matters related to the registration.

3.4.3.8. Suspension, Revocation, Refusal to Register or Renew a Registration

(1) The *director* may, in the circumstances set out in Sentence (2),

(a) refuse to register an applicant,

(b) refuse to renew a registration, or

(c) suspend or revoke a registration.

(2) The circumstances referred to in Sentence (1) are,

(a) the registered person is in contravention of the Act or this Code,

(b) the registered person is in breach of a condition of the registration other than the condition set out in Clause 3.4.3.7.(1)(d),

(c) the registration was issued on the basis of mistaken, false or incorrect information,

(d) the *director* is of the opinion that the past conduct of the applicant or registered person or, if the applicant or registered person is a partnership or a corporation, the partners, officers or directors of the applicant or registered person, as the case may be, affords reasonable grounds for belief that the business that would be or is authorized by the registration will not be carried on in accordance with law,

(e) the *director* is of the opinion that there are reasonable grounds for belief that the activities of the applicant or registered person are or will be carried on in a manner that poses a threat to public safety,

(f) the application is incomplete, or

(g) any fees required under Article 3.4.3.5. remain unpaid.

(3) If the *director* proposes to refuse to register or renew a registration or proposes to suspend or revoke a registration under Sentence (1), the *director* shall serve a notice of the proposal, together with the reasons for it, on the applicant or registered person.

(4) A notice under Sentence (3) shall state that the applicant or registered person is entitled to a hearing before the *Tribunal* if the applicant or registered person, within 15 days after service of the notice referred to in Sentence (3), serves the *director* and the *Tribunal* with notice in writing requesting a hearing.

(5) If an applicant or registered person does not request a hearing by the *Tribunal* in accordance with Sentence (4), the *director* may carry out the proposal stated in the notice under Sentence (3).

(6) If the applicant or registered person requests a hearing before the *Tribunal* in accordance with Sentence (4), the *Tribunal* shall appoint a time for and hold a hearing and may by order direct the *director* to carry out the *director's* proposal or refrain from

carrying it out and to take such other action as the *Tribunal* considers the *director* ought to take in accordance with the Act and this Code, and for those purposes the *Tribunal* may substitute its opinion for that of the *director*.

(7) The *director*, the applicant or registered person who requested the hearing, and such other persons as the *Tribunal* may specify, are parties to proceedings before the *Tribunal*.

(8) A proposal to suspend or revoke a registration by reason of Clause (2)(e) takes effect immediately and the commencement of a proceeding before the *Tribunal* does not stay the operation of the proposal to suspend or revoke the registration.

(9) The *Tribunal* may, on the application of the registered person, stay the operation of the proposal of the *director* to suspend or revoke the registration, and may grant the stay subject to conditions.

(10) Sentences (3) to (9) do not apply and the *director* may cancel the registration of a registered person upon receipt of a request in writing for cancellation from the registered person in a form established by the *director*.

(11) Subject to Sentence (8), if within the time period set out in Sentence 3.4.3.3.(2) a registered person has applied for renewal of a registration, paid the fee required under Article 3.4.3.5. and provided evidence satisfactory to the *director* that the registered person is covered by insurance required under Subsection 3.6.2. for the term of the renewal of the registration, the registration is deemed to continue until the earliest of,

(a) the day the registration is renewed,

(b) if the registered person is served with notice that the *director* proposes to refuse to renew the registration, the day the time for giving notice requesting a hearing expires or, if a hearing is held, the day the *Tribunal* makes its order, and

(c) the day when the registered person ceases to be covered by the insurance required under Subsection 3.6.2.

3.4.3.9. Mandatory Suspension or Revocation of Registration or Refusal to Register or Renew a Registration

(1) The *director* shall, in the circumstances set out in Sentence (2),

(a) refuse to register an applicant,

(b) refuse to renew a registration, or

(c) suspend or revoke a registration.

(2) The circumstances referred to in Sentence (1) are that,

(a) the applicant or registered person is not covered by the insurance required under Subsection 3.6.2., or

(b) an order under subsection 69 (2) of the *Provincial Offences Act* is in effect directing that the registration of the person be suspended and no registration be issued to that person until a fine is paid.

(3) If the *director* refuses to register an applicant, refuses to renew a registration or suspends or revokes a registration under Sentence (1), the *director* shall serve a notice of the refusal, suspension or revocation, together with the reasons for it, on the applicant or registered person.

(4) A suspension or revocation of a registration under Sentence (1) takes effect immediately and the commencement of a proceeding before the *Tribunal* does not stay the operation of the suspension or revocation of the registration.

(5) The *Tribunal* may, on the application of the registered person, stay the operation of a decision of the *director* to suspend or revoke the registration, and may make the stay subject to conditions.

(6) A notice under Sentence (3) shall state that the applicant or registered person is entitled to a hearing before the *Tribunal* if the applicant or registered person, within 15 days after service of the notice referred to in Sentence (3), serves the *director* and the *Tribunal* with notice in writing requesting a hearing.

(7) If the applicant or registered person requests a hearing before the *Tribunal* in accordance with Sentence (6), the *Tribunal* shall appoint a time for and hold a hearing and may by order confirm, alter or revoke the decision of the *director* to refuse to register or to suspend or revoke the registration, as the case may be, and may take such action as the *Tribunal* considers the *director* ought to take in accordance with the Act and this Code, and for such purposes the *Tribunal* may substitute its opinion for that of the *director*.

(8) The *director*, the applicant or registered person who requested the hearing, and such other persons as the *Tribunal* may specify, are parties to proceedings before the *Tribunal*.

3.4.4. Public Register

3.4.4.1. Public Register

(1) The *director* shall establish and maintain a register available to the public that lists every person who has the qualifications required by subsection 15.11 (4) of the Act.

(2) The register referred to in Sentence (1) shall contain the following information with respect to every registered person:

(a) the name of the registered person,

(b) any identifying number assigned by the *director* to the registered person,

(c) the business address of the registered person,

(d) the classes of registration of the registered person, and

(e) the names of any persons who will exercise powers and perform functions under the Act on behalf of the registered person in each class of registration and any identifying number assigned by the *director* to that person.

3.4.5. Classes of Registration and Categories of Qualifications

3.4.5.1. Classes and Categories

(1) Table 3.5.2.2. contains the classes of registration and categories of qualifications for the purposes of this Section.

Section 3.5. Classes of Registration and Categories of Qualifications

3.5.1. Scope

3.5.1.1. Scope

(1) This Section sets out classes of registration and categories of qualifications for the purposes of Sections 3.1., 3.2., 3.4. and 3.7.

3.5.2. Classes of Registration and Categories of Qualifications

3.5.2.1. Inspectors and Persons Who Carry out Design Activities

(1) Table 3.5.2.1. sets out the classes of registration and categories of qualifications for *inspectors* and persons who carry out *design activities*.

Table 3.5.2.1.
Classes of Registration and Categories of Qualifications for Inspectors and Persons Who Carry out Design Activities(1) (2)

Forming Part of Sentence 3.5.2.1.(1)

Item	Column 1 Classes of Registration for *Inspectors* and Persons Who Carry out *Design Activities*	Column 2 Categories of Qualifications for *Inspectors* and Persons Described in Clauses 3.2.4.2.(1)(a) and (b) and 3.2.5.2.(1)(a)	Column 3 Type of *Building*

1.	House	House	(a) A detached house, semi-detached house, or rowhouse containing not more than two *dwelling units* and the *building* systems, works, fixtures and service systems appurtenant to these *buildings*, including: (b) an ancillary *building* that serves the *building*, and excluding: (c) *buildings* and parts of *buildings* described in Column 3 of any of Items 5, 6, 7, 8, 10 and 11 of this Table.
2.	Small *Buildings*	Small *Buildings*	(a) *Buildings* described in Sentence 1.3.3.3.(1) of Division A and the *building* systems, works, fixtures and service systems appurtenant to these *buildings*, including: (b) *buildings* and parts of *buildings*, (i) described in Column 3 of Item 1 of this Table, or (ii) to which any of Sections 3.10., 3.11., 3.12., 3.14. and 3.15. of Division B apply and that are appurtenant to or serve *buildings* described in Clause (a), excluding: (c) *buildings* and parts of *buildings* described in Column 3 of any of Items 4 to 10 of this Table, and (d) signs described in Clause 1.3.3.5.(1)(e) of Division A.
3.	Large *Buildings*	Large *Buildings*	(a) *Buildings* described in Sentence 1.3.3.2.(1), (3) or (4) of Division A and the *building* systems, works, fixtures and service systems appurtenant to these *buildings*, excluding: (b) *buildings* and parts of *buildings* described in Column 3 of any of Items 4 to 11 of this Table, and (c) signs described in Clause 1.3.3.5.(1)(e) of Division A.
4.	Complex *Buildings*	Complex *Buildings*	(a) *Building* systems, works, fixtures and service systems to which Subsection 3.2.6. of Division B or any provision in Articles 3.2.8.3. to 3.2.8.8. of Division B applies, and (b) *buildings* and parts of *buildings* described in Column 3 of Item 3 of this Table.

5.	*Plumbing* – House	*Plumbing* – House	All *plumbing* systems to which Part 7 of Division B applies that are appurtenant to a house.
6.	*Plumbing* - All *Buildings*	*Plumbing* - All *Buildings*	(a) All *plumbing* systems to which Part 7 of Division B applies, including: (b) *buildings* and parts of *buildings* described in Column 3 of Item 5 of this Table.
7.	HVAC – House	HVAC – House	All *building* systems, works, fixtures and service systems to which Section 9.32. or 9.33. of Division B applies that are appurtenant to a house.
8.	*Building* Services	*Building* Services	(a) *Building* systems, works, fixtures and service systems that are appurtenant to *buildings* described in Sentence 1.3.3.2.(1), (3) or (4) or Sentence 1.3.3.3.(1) of Division A and that relate to fire suppression, fire detection, smoke control, exhaust, vertical movement of smoke, energy efficiency, lighting and emergency power, and (b) *building* systems, works, fixtures and service systems appurtenant to *buildings* to which Part 6 of Division B applies or to which Section 9.32. or 9.33. of Division B applies, including: (c) *buildings* and parts of *buildings* described in Column 3 of Item 7 or 11 of this Table.
9.	*Building* Structural	*Building* Structural	Internal and external *loadbearing* structural elements essential to the stability or strength of a *building* described in Sentence 1.3.3.2.(2) or 1.3.3.3.(1) of Division A and that resist *dead loads* or *live loads* including, but not limited to, *foundations*, floors, walls, roofs, columns and beams.
10.	On-site *Sewage Systems*	On-site *Sewage Systems*	*Sewage systems* to which Part 8 of Division B applies.
11.	Detection, Lighting and Power	Detection, Lighting and Power	Early warning and electrical systems including systems appurtenant to *buildings* described in Sentence 1.3.3.2.(1) or 1.3.3.3.(1) of Division A and that relate to fire alarm and detection systems, voice communication systems, lighting systems, emergency lighting systems or emergency power systems for *building* services in all *buildings*.

12.	Fire Protection	Fire Protection	Fire suppression, fire detection, firefighting and fire safety systems appurtenant to *buildings* described in Sentence 1.3.3.2.(1) or 1.3.3.3.(1) of Division A.

Notes to Table 3.5.2.1.:

(1) An *inspector* registered in one class of registration may carry out plans review and inspection in another class where to do so does not constitute a substantial part of the plans review or inspection on any project.

(2) A person registered in one class of registration may carry out *design activities* in another class where to do so does not constitute a substantial part of the *design activities* on any project.

3.5.2.2. Registered Code Agencies

(1) Table 3.5.2.2. sets out the classes of registration for *registered code agencies* and the categories of qualifications for persons described in Clauses 3.4.3.2.(1)(a) to (c).

Table 3.5.2.2.
Classes of Registration and Categories of Qualifications for Registered Code Agencies

Forming Part of Sentence 3.5.2.2.(1)

Item	Column 1	Column 2	Column 3
	Classes of Registration for *Registered Code Agencies*	Category of Qualification for Persons Described in Clauses 3.4.3.2.(1)(a) to (c)	Type of *Building* Reference to Table 3.5.2.1.
1.	House	House	Column 3 of Item 1
		Plumbing - House	Column 3 of Item 5
		HVAC – House	Column 3 of Item 7
		On-Site *Sewage Systems*	Column 3 of Item 10
2.	Small *Buildings*	Small *Buildings*	Column 3 of Item 2
		Plumbing - All *Buildings*	Column 3 of Item 6
		Building Services	Column 3 of Item 8
		Building Structural	Column 3 of Item 9
		On-Site *Sewage Systems*	Column 3 of Item 10
3.	Large *Buildings*	Large *Buildings*	Column 3 of Item 3
		Plumbing - All Buildings	Column 3 of Item 6
		Building Services	Column 3 of Item 8
		Building Structural	Column 3 of Item 9
		On-site *Sewage Systems*	Column 3 of Item 10
4.	Complex *Buildings*	Complex *Buildings*	Column 3 of Item 4
		Plumbing - All *Buildings*	Column 3 of Item 6
		Building Services	Column 3 of Item 8

		Building Structural	Column 3 of Item 9
		On-site *Sewage Systems*	Column 3 of Item 10
5.	On-site *Sewage Systems*	On-site *Sewage Systems*	Column 3 of Item 10

Section 3.6. Insurance

3.6.1. Scope

3.6.1.1. Scope

(1) This Section prescribes, for the purposes of subsection 15.13 (1) of the Act, the insurance coverage that *registered code agencies* and persons referred to in subsection 15.11 (5) of the Act must have.

3.6.2. Insurance for Registered Code Agencies and Persons Referred to in Subsection 15.11 (5) of the Act

3.6.2.1. Definition

(1) In this Subsection,

"registered person" means a person who is registered under Sentence 3.2.4.2.(1) or 3.4.3.2.(1).

3.6.2.2. Scope

(1) Every registered person shall have insurance coverage under an insurance policy that satisfies the requirements set out in Article 3.6.2.3.

3.6.2.3. Insurance Coverage

(1) The insurance policy,

(a) shall indemnify the registered person against liability imposed by law arising out of the performance of or the failure to perform services as a registered person during any time while the person is registered under Sentence 3.2.4.2.(1) or 3.4.3.2.(1) for claims that are first made and reported to the insurer during the period of insurance or during any extended reporting period required by Clause (1)(c),

(b) shall set out the name of the registered person,

(c) in the case of a *registered code agency* registered under Sentence 3.4.3.2.(1),

(i) shall require an extended reporting period of two years for the purposes of giving notice of any claim or occurrence that the *registered code agency* could reasonably foresee might give rise to a

claim, with respect to an event that occurs prior to the person ceasing to be insured,

(ii) shall provide that the extended reporting period described in Subclause (i) shall commence on the day the *registered code agency* ceases to be insured, and

(iii) shall require the *registered code agency* to make full payment of all premiums for the extended reporting period referred to in Subclause (i) as part of the premiums for the issuance of the insurance policy,

(d) shall provide for insurance coverage to commence,

(i) on the date the registered person becomes registered, or

(ii) in the case of a registered person previously insured in accordance with this Article, on the expiry of the previous policy,

(e) shall require the insurer to provide prompt written notice to the *director* if the policy is declared void for material misrepresentation,

(f) shall specify a limit of indemnity for any one claim and in the aggregate during any one period of insurance that is not less than,

(i) in the case of persons registered under Sentence 3.2.4.2.(1),

(A) $1,000,000 per claim and $2,000,000 in the aggregate, if the person billed $100,000 or more in fees in the 12 months immediately before the issuance of the policy,

(B) $500,000 per claim and $1,000,000 in the aggregate, if the person billed more than $50,000 and less than $100,000 in fees in the 12 months immediately before the issuance of the policy,

(C) $250,000 per claim and $500,000 in the aggregate, if the person billed $50,000 or less in fees in the 12 months immediately before the issuance of the policy, or

(D) the limits of indemnity for any one claim and in the aggregate that are set out in Sub-subclause (A), (B) or (C), as determined by reference to the person's estimated fees billings for the 12-month period immediately after the issuance of the policy, if the person has been registered less than one year before the issuance of the policy, and

(ii) in the case of a *registered code agency* registered under Sentence 3.4.3.2.(1), $1,000,000 per claim and $2,000,000 in the aggregate, except that those limits shall apply exclusively to the exercise of the powers and performance of the duties of a *registered code agency*

under the Act and shall be in addition to any insurance applicable to any other activities carried on by the *registered code agency*,

(g) shall provide that any costs and expenses necessarily incurred by the insurer in the investigation, defence or settlement of claims under the policy shall not be part of the limit of indemnity set out in Clause (f) unless the limit of indemnity from any one claim exceeds $2,000,000,

(h) shall not provide that the insured shall be responsible for the first portion of any sum that the insured becomes legally liable to pay in respect of a claim made against him, her or it in respect of any one claim or occurrence in an amount exceeding the lesser of,

(i) $70,000, and

(ii) 5% of,

(A) the amount of fees billed by the insured in the 12 months immediately before the issuance of the policy, or

(B) the amount of the insured's estimated fees billings for the 12-month period immediately after the issuance of the policy, if the insured has been registered under Sentence 3.2.4.2.(1) less than one year before the issuance of the policy,

(i) shall provide that it cannot be cancelled by the insured unless,

(i) the insured immediately replaces the policy with another policy that satisfies the requirements of this Article,

(ii) the insurer has given notice in writing of the proposed cancellation to the *director*, and

(iii) the notice described in Subclause (ii) was received by the *director* at least 30 days before the day the policy is cancelled,

(j) shall provide that it cannot be cancelled by the insurer unless,

(i) it is cancelled for non-payment of a premium,

(ii) the insurer has given notice in writing of the proposed cancellation to the *director*, and

(iii) the notice described in Subclause (ii) was sent to the *director* at least 30 days before the day the policy is cancelled,

(k) shall provide for the continuation of coverage if the insured is adjudged a bankrupt, insolvent, incompetent or dies during the period of insurance, and

(l) may provide that coverage be subject to such exclusions and conditions and otherwise on such terms as are consistent with normal insurance industry practice from time to time.

Section 3.7. Registered Code Agencies

3.7.1. When a Registered Code Agency may not be Appointed under Section 4.1 of the Act

3.7.1.1. Agreements

(1) A *registered code agency* may not be appointed under subsection 4.1 (2) of the Act, unless the agreement entered into between a *principal authority* and the *registered code agency* complies with the requirements set out in Sentences (2) and (3).

(2) An agreement described in Sentence (1) shall,

(a) be made in writing,

(b) specify the functions that the *registered code agency* is authorized to perform,

(c) specify the *construction* of the *building* or class of *buildings* in respect of which the functions will be performed,

(d) set out the procedure by which the *principal authority* will appoint the *registered code agency* to perform specified functions in respect of the *construction* of a *building* or class of *buildings*,

(e) require that the *registered code agency* carry out its functions under the agreement in accordance with the Act and this Code and the quality management plan described in Clause 3.4.3.2.(1)(d), and

(f) provide for the provision by the *principal authority* to the *registered code agency* of such plans, specifications and other information, including applications for permits, that the *registered code agency* may require in order to act under the appointment.

(3) An agreement described in Sentence (1),

(a) may contain provisions in addition to the provisions required under Sentence (2) if the additional provisions are not inconsistent with the provisions required under that Sentence, and

(b) shall not contain any provision that relates to the *construction* of *buildings* for a class of registration for which the *registered code agency* is not registered under Sentence 3.4.3.2.(1).

3.7.1.2. Appointments

(1) A *registered code agency* may not be appointed under subsection 4.1 (2) of the Act unless the appointment complies with the requirements of Sentences (2) and (3).

(2) An appointment described in Sentence (1) shall,

(a) be made in writing,

(b) specify the *construction* of the *building* or class of *buildings* in respect of which the appointment relates,

(c) specify the functions described in section 15.15 of the Act that the *registered code agency* is appointed to perform, and

(d) require that the *registered code agency* carry out its functions under the appointment in accordance with the Act and this Code and the quality management plan described in Clause 3.4.3.2.(1)(d).

(3) An appointment described in Sentence (1) may contain provisions in addition to the provisions required under Sentence (2) if the additional provisions are not inconsistent with the provisions required under that Sentence.

3.7.2. When a Registered Code Agency may not be Appointed or Continue to Act under an Appointment

3.7.2.1. General

(1) A *registered code agency* may not be appointed to perform functions under section 15.15 of the Act in respect of a *building* or continue to act under an appointment in respect of a *building* if the *registered code agency*,

(a) is not registered under Sentence 3.4.3.2.(1) in respect of the class of registration to which the *construction* of the *building* relates, or

(b) is in breach of a condition of its registration under Article 3.4.3.7.

(2) Where the design and general review of *construction* of a *building* must be undertaken by an *architect* or a *professional engineer* or a combination of both, a *registered code agency* may not be appointed to perform functions under section 15.15 of the Act or continue to act under an appointment in respect of the *construction* of the *building* unless the *registered code agency* or an officer, director, partner or employee of the *registered code agency* is an *architect* or *professional engineer* or both, as the case may be.

(3) A *registered code agency* may not be appointed under the Act or continue to act under an appointment if the *registered code agency* would be in a conflict of interest.

(4) For the purposes of Sentence (3), a *registered code agency* would be in a conflict of interest if the *registered code agency* or an officer, director, partner or employee of the *registered code agency* or any person engaged by the *registered code agency* to perform functions for it,

(a) has participated or participates, in any capacity, in *design activities* or *construction* relating to any part of the *building* to which an appointment relates,

(b) is or has been employed within the previous 180 days by a person who carried out *design activities* or *construction* relating to any part of the *building*,

(c) has a professional or financial interest in,

(i) the *construction* of the *building* to which the appointment relates,

(ii) the *building* to which the appointment relates, or

(iii) the person responsible for the design of the *building* to which the appointment relates, or

(d) is an elected official, officer or employee of a *principal authority*.

(5) For the purposes of Clause (4)(c), involvement with a *building* as a *registered code agency* and entitlement to any fee paid for acting as a *registered code agency* in respect of a *building* shall not be considered to be a professional or financial interest in the *construction* of the *building*, the *building* or the person responsible for the design of the *building*.

3.7.3. Additional Functions that Registered Code Agencies may be Appointed to Perform

3.7.3.1. General

(1) In addition to the functions described in paragraphs 1 to 5 of section 15.15 of the Act, a *registered code agency* may be appointed to perform the functions set out in Sentence 3.7.4.3.(5) or (6).

3.7.4. Manner in Which Registered Code Agency Shall Perform Functions

3.7.4.1. General

(1) The *registered code agency* shall perform the functions specified in an appointment in accordance with the Act and this Code and the quality management plan described in Clause 3.4.3.2.(1)(d).

(2) The *registered code agency* shall perform the functions specified in an appointment in accordance with the code of conduct set out in MMAH Supplementary Standard SC-1, "Code of Conduct for Registered Code Agencies".

3.7.4.2. Plans Review and Inspection Activities

(1) The *registered code agency* shall ensure that plans review and inspection activities of the *registered code agency* are carried out by a person who has the qualifications set out in Clause 3.4.3.2.(1)(b) or (c) in respect of the type of *building* set out in Column 3 of Table 3.5.2.2. for which the person is carrying out the activities.

(2) A *registered code agency* shall prepare written records of every inspection of the *construction* of a *building* that is undertaken by the *registered code agency* in the course of performing functions under an appointment.

(3) The record required under Sentence (2) shall include,

(a) the date of receipt of the notice of readiness for inspection, if any,

(b) the date of the inspection,

(c) the reason for the inspection, and

(d) whether non-compliance with this Code was observed in the course of the inspection and the details of the non-compliance.

(4) If a *registered code agency* has issued an order under subsection 12 (2), 13 (1) or 13 (6) of the Act, the *registered code agency* shall prepare a written record consisting of,

(a) a copy of the order,

(b) the persons on whom the order was served and the date and manner of service,

(c) when and how the order was complied with, and

(d) if the order has not been complied with, the efforts made by the *registered code agency* to achieve compliance by the persons responsible for compliance.

3.7.4.3. Issuance of Certificates by Registered Code Agencies

(1) Subject to Sentence (2), every certificate issued under the Act by a *registered code agency* shall, in accordance with the quality management plan described in Clause 3.4.3.2.(1)(d), be signed by the *registered code agency* or, if the *registered code agency* is a corporation or partnership, by a person who has the qualifications set out in Clause 3.4.3.2.(1)(a).

(2) If the certificate is issued in respect of the *construction* of a *building* that would be required to be designed by and under the general review of an *architect* or a *professional engineer* or a combination of both, the certificate shall also be signed on

behalf of the *registered code agency* by an *architect* or a *professional engineer* or both, as the case may be, who is an officer, director, partner or employee of the *registered code agency*.

(3) A *registered code agency* may issue a *plans review certificate* if the *registered code agency*,

(a) has been appointed to perform the functions described in clause 4.1 (4) (a) or (c) of the Act in respect of the proposed *construction* of the *building* to which the *plans review certificate* applies,

(b) has, in conformity with the Act, this Code and the quality management plan described in Clause 3.4.3.2.(1)(d), carried out the applicable functions for which the *registered code agency* was appointed, and

(c) is satisfied on reasonable grounds that, on date on which the *plans review certificate* is issued, the proposed *construction* of the *building* to which the *plans review certificate* relates is in compliance with this Code.

(4) A *registered code agency* may issue a *change certificate* if the *registered code agency*,

(a) has been appointed to perform the functions described in clause 4.1 (4) (a), (b) or (c) of the Act in respect of the *construction* or proposed *construction* of the *building* to which the *change certificate* applies,

(b) has, in conformity with the Act, this Code and the quality management plan described in Clause 3.4.3.2.(1)(d) , carried out the applicable functions for which the *registered code agency* was appointed, and

(c) is satisfied on reasonable grounds that, on the date on which the *change certificate* is issued, the proposed *construction* of the *building* to which the *change certificate* relates is in compliance with this Code.

(5) A *registered code agency* may issue a *certificate for the occupancy of a building not fully completed* if the *registered code agency*,

(a) has been appointed to perform the functions described in clause 4.1 (4) (b) or (c) of the Act in respect of the *construction* of the *building* to which the *certificate for the occupancy of a building not fully completed* applies,

(b) has, in conformity with the Act, this Code and the quality management plan described in Clause 3.4.3.2.(1)(d), carried out the applicable functions for which the *registered code agency* was appointed, and

(c) is satisfied on reasonable grounds that, on the date on which the *certificate for the occupancy of a building not fully completed* is issued, the *construction* of the *building* to which the *certificate for the occupancy of a*

building not fully completed relates is in compliance with Clauses 1.3.3.1.(3)(a) to (q) or 1.3.3.7.(8)(a) to (y), as applicable.

(6) A *registered code agency* may issue a *certificate for the occupancy of a building described in Sentence 1.3.3.4.(3) of Division C* if the *registered code agency*,

(a) has been appointed to perform the functions described in clause 4.1 (4) (b) or (c) of the Act in respect of the *construction* of a *building* described in Sentence 1.3.3.4.(3) to which the certificate applies,

(b) has, in conformity with the Act, this Code and the quality management plan described in Clause 3.4.3.2.(1)(d), carried out the applicable functions for which the *registered code agency* was appointed, and

(c) is satisfied on reasonable grounds that, on the date on which the *certificate for the occupancy of a building described in Sentence 1.3.3.4.(3) of Division C* is issued, the *construction* of the *building* to which the certificate relates is in compliance with Clauses 1.3.3.4.(4)(a) to (i).

(7) A *registered code agency* may issue a *certificate for the occupancy of a building described in Sentence 1.3.3.5.(1) of Division C* if the *registered code agency*,

(a) has been appointed to perform the functions described in clause 4.1 (4) (b) or (c) of the Act in respect of the *construction* of a *building* described in Sentence 1.3.3.5.(1) to which the certificate applies,

(b) has, in conformity with the Act, this Code and the quality management plan described in Clause 3.4.3.2.(1)(d), carried out the applicable functions for which the *registered code agency* was appointed, and

(c) is satisfied on reasonable grounds that, on the date on which the *certificate for the occupancy of a building described in Sentence 1.3.3.5.(1) of Division C* is issued, the *construction* of the *building* to which the certificate relates is in compliance with Clauses 1.3.3.5.(3)(a) to (r).

(8) A *registered code agency* may issue a *final certificate* if the *registered code agency*,

(a) has been appointed to perform the functions described in clause 4.1 (4) (b) or (c) of the Act in respect of the *construction* of the *building* to which the *final certificate* applies,

(b) has, in conformity with the Act, this Code and the quality management plan described in Clause 3.4.3.2.(1)(d), carried out the applicable functions for which the *registered code agency* was appointed, and

(c) is satisfied on reasonable grounds that on the date on which the *final certificate* is issued, the *construction* of the *building* to which the *final certificate* relates is in compliance with this Code.

(9) Every certificate issued under the Act by a *registered code agency* shall be in a form approved by the *Minister*.

3.7.4.4. Issuance of Orders by Registered Code Agencies

(1) Orders under subsections 13 (6) and 14 (1) of the Act shall, in accordance with the quality management plan described in Clause 3.4.3.2.(1)(d), be signed by the *registered code agency* or a person who has the qualifications set out in Clause 3.4.3.2.(1)(a).

(2) Orders under subsections 12 (2) and 13 (1) and clause 18 (1) (f) of the Act shall, in accordance with the quality management plan described in Clause 3.4.3.2.(1)(d), be signed by the *registered code agency* or by a person who has the qualifications set out in Clause 3.4.3.2.(1)(b) or (c).

3.7.4.5. Authorized Persons

(1) Persons who have the qualifications set out in Clause 3.4.3.2.(1)(a), (b) or (c) are prescribed for the purposes of subsection 15.17 (1) of the Act.

(2) The certificate of authorization referred to in subsection 15.17 (2) of the Act shall, in accordance with the quality management plan described in Clause 3.4.3.2.(1)(d), be signed by a representative of the *registered code agency* who has the qualifications set out in Clause 3.4.3.2.(1)(a) and shall contain the following information:

(a) the name of the *registered code agency* and any identifying number issued by the *director* to the *registered code agency*,

(b) the title, business address and business telephone number of a representative of the *registered code agency* who may be contacted to answer questions about the certificate and the authorization to which it relates,

(c) the name of the authorized person and any identifying number issued by the *director* to the authorized person in respect of that person's qualifications,

(d) the scope of the powers that may be exercised and the functions that may be performed by the authorized person,

(e) the date of issuance of the certificate.

(3) Every person described in Sentence (1) shall carry his or her certificate of authorization when performing duties and shall produce the certificate for inspection upon request.

3.7.4.6. Prohibition

(1) A *registered code agency* shall not dismiss, suspend, demote, discipline, harass or otherwise disadvantage an employee, or deny an employee a benefit of employment, by reason that,

(a) the employee, acting in good faith and on the basis of reasonable belief, has disclosed to the *director* that the *registered code agency* or any other person has contravened or intends to contravene a provision of the Act or this Code or a predecessor of this Code,

(b) the employee, acting in good faith and on the basis of reasonable belief, has refused or stated an intention of refusing to do anything that is a contravention of a provision of the Act or this Code or a predecessor of this Code,

(c) the employee, acting in good faith and on the basis of reasonable belief, has done or stated an intention of doing anything that is required to be done in order that a provision of the Act or this Code or a predecessor of this Code not be contravened, or

(d) the *registered code agency* believes that the employee will do anything referred to in Clause (a), (b) or (c).

(2) Nothing in this Section impairs any right of an employee either at law or under an employment contract or collective agreement.

(3) In this Article,

"employee" includes an independent contractor and "employer" includes the person who retains an employee who is an independent contractor.

3.7.4.7. Information and Records

(1) The *registered code agency* shall maintain records of all plans review and inspection activity, of all certificates and orders and of any other activities taken in carrying out functions under an appointment in accordance with the quality management plan described in Clause 3.4.3.2.(1)(d).

(2) Any information collected by a *registered code agency* in the course of the exercise of powers and the performance of duties under the Act may be used only for the purpose of performing functions under an appointment under subsection 4.1 (2) of the Act and may be disclosed only,

(a) to a *principal authority* pursuant to an agreement under subsection 4.1 (1) of the Act,

(b) to a *principal authority* to aid the enforcement in any manner of the Act, or

(c) where required or permitted under the Act, this Code, other applicable legislation or an order of a court.

(3) A *registered code agency* shall ensure that any agreement under which the *registered code agency* engages a person to assist the *registered code agency* to perform functions under an appointment includes a provision that requires the person to comply with Sentences (1) and (2).

3.7.5. Termination of Appointment of a Registered Code Agency

3.7.5.1. Termination of an Appointment Made under Subsection 4.1 (2) of the Act

(1) A *principal authority* may, in accordance with the terms of an agreement under subsection 4.1 (1) of the Act, terminate the appointment of a *registered code agency* before the appointment expires under section 15.19 of the Act.

3.7.6. Information to be Provided

3.7.6.1. Information to be Provided by a Principal Authority to the Director

(1) If a *principal authority* that has appointed a *registered code agency* terminates the appointment before the appointment expires under section 15.19 of the Act, the *principal authority* shall, as soon as possible after the termination, give the *director* notice of the termination and such other information concerning the circumstances of the termination and as may be required by the *director*.

(2) If a *chief building official* has issued an order under subsection 15.21 (1) of the Act, the *principal authority* shall as soon as possible after the order is issued give the *director* a copy of the order and such other information concerning the circumstances of the order and as may be required by the *director*.

3.7.6.2. Information to be Provided by a Registered Code Agency to the Director

(1) A *registered code agency* that becomes or expects to become unable to carry out the functions for which the *registered code agency* was appointed shall as soon as possible give notice to the *director* of this situation.

3.7.6.3. Information to be Provided by a Registered Code Agency to the Chief Building Official

(1) A *registered code agency* shall notify the *chief building official* if the *registered code agency* becomes or expects to become unable to carry out the functions for which the *registered code agency* was appointed.

(2) A *registered code agency* shall give copies of the following records to the *chief building official*,

(a) all orders issued by the *registered code agency* under subsections 12 (2), 13 (1) and 13 (6) of the Act,

(b) all written records prepared by the *registered code agency* under Sentences 3.7.4.2.(3), (4) and (5),

(c) all *final certificates* that are issued by the *registered code agency*,

(d) records described in Section 2.1. relating to the use of an *alternative solution*, and

(e) any records of information, copies of documents or things, tests, samples or photographs produced, removed, required, taken or ordered to be taken under subsection 18 (1) of the Act.

(3) The documents referred to in Sentence (2) shall be given to the *chief building official*,

(a) within the time period specified in any agreement under Article 3.7.1.1. or appointment under Article 3.7.1.2. in respect of which the documents relate, whichever time period ends earlier,

(b) within 15 days after the expiry or termination of the appointment of the *registered code agency* in respect of which the documents relate, if there is no time period specified in the agreement or appointment referred to in Clause (a), or

(c) if the *chief building official* has given notice to the *registered code agency* that he or she requires the documents before the time set out in Clause (a) or (b), within 2 days after the request for documents.

(4) The requirements of Sentence (2) apply even if the *registered code agency* is no longer registered under Sentence 3.4.3.2.(1).

(5) If a *registered code agency* in the course of carrying out functions under an appointment has reason to believe that a *building* described in Sentence (7) is unsafe within the meaning of subsection 15.9 (2) or (3) of the Act, the *registered code agency* shall as soon as possible give notice to the *chief building official* of,

(a) the location of the *building*, and

(b) the reason why the *registered code agency* has reason to believe that the *building* is unsafe.

(6) A *registered code agency* that has given a notice to the *chief building official* under Sentence (5) shall give the *chief building official* such other information about the unsafe condition as the *chief building official* may require.

(7) Sentence (5) applies to,

(a) a *building* in respect of which the *registered code agency* has been appointed to perform functions, and

(b) a *building* that has been adversely affected by the *construction* of a *building* referred to in Clause (a).

(8) For the purposes of Sentence (3), a time period referred to in Clause (3)(a), (b) or (c),

(a) does not start until the day after the day on which the obligation to provide the documents arises, and

(b) does not include Saturdays, holidays and all other days on which the offices of the *principal authority* are not open for the transaction of business with the public.

3.7.7. Referral of Stop Work Order

3.7.7.1. Referral

(1) A *registered code agency* shall refer a matter under subsection 14 (5) of the Act to the *chief building official* by giving the *chief building official*, as soon as possible,

(a) a report that contains the following information:

(i) a copy of the order made under section 12 or 13 of the Act that was not complied with and of the order under section 14 of the Act,

(ii) the persons on whom the orders were served and the date and manner of service,

(iii) a statement that the orders have not been complied with, and

(iv) the efforts made by the *registered code agency* to achieve compliance with the orders by the persons responsible for compliance, and

(b) such other information as the *chief building official* may require in respect of the matter that has been referred.

(2) The report under Clause (1)(a) shall be signed, in accordance with the quality management plan described in Clause 3.4.3.2.(1)(d), by the *registered code agency* or, if the *registered code agency* is a corporation or partnership, by a person who has the qualifications set out in Clause 3.4.3.2.(1)(a).