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June 19, 2017

TO: BUILDING CODE USERS

The enclosed replacement pages to the 2012 Building Code Compendium Edition[1] reflect recent amendments to the Building Code (O. Reg. 332/12) made by O. Reg. 139/17.

In particular, the 2012 Building Code Compendium is amended by new requirements that support the Long-Term Affordable Housing Strategy by establishing construction standards for retirement homes and two-unit houses that come into effect July 1, 2017. The requirements for two-unit houses apply to single-detached, semi-detached and row houses, but not to stacked townhouse units.

The new requirements also support Climate Change Action Plan commitments through new requirements for the installation of electric vehicle charging in new houses and workplaces. Lastly, an interim amendment has been made to incorporate requirements for the use of a new effluent distribution technology to support the protection of ground and surface water quality. These changes come into effect January 1, 2018.

Changes to the Code are identified on the amendment pages by a unique symbol and a corresponding effective date. These pages should be inserted in your Code for July 1, 2017 with the exception of pages identified with a date bar at the bottom indicating an effective date of January 1, 2018. Pages effective January 1, 2018 should be placed after the tab "Pending Amendments" and are to replace the existing corresponding pages on January 1, 2018.

ServiceOntario Publications is the official publisher and vendor of the 2012 Building Code Compendium and the amendment pages. You may contact ServiceOntario Publications by phone at 416-326-5300, 1-800-668-9938 (toll-free), TTY 1-800-268-7095 or www.serviceontario.ca/publications.

For further information, please visit the Building Code website at www.ontario.ca/buildingcode.

Hannah Evans
Director

Encl.

[1] The Compendium is not an official copy of the Act and Code. Official copies of the legislation can be accessed from www.e-laws.gov.on.ca.

2012 Building Code Compendium

Volume 1

July 1, 2017 update
(Containing O. Reg. 139/17)

COMMENCEMENT

Ontario Regulation 332/12 comes into force on the 1st day of January, 2014.

r_1 Amending Ontario Regulation 151/13 comes into force on the 1st day of January, 2014.
r_2 Amending Ontario Regulation 360/13 comes into force on the 1st day of January, 2014.
$r_{2.1}$ Amending Ontario Regulation 360/13 comes into force on the 1st day of January, 2015.
r_3 Amending Ontario Regulation 361/13 comes into force on the 1st day of January, 2014.
$r_{3.1}$ Amending Ontario Regulation 361/13 comes into force on the 1st day of January, 2015.
r_4 Amending Ontario Regulation 368/13 comes into force on the 1st day of January, 2015.
r_5 Amending Ontario Regulation 191/14 comes into force on the 1st day of January, 2015.
r_6 Amending Ontario Regulation 139/17 comes into force on the 1st day of July, 2017.
$r_{6.1}$ Amending Ontario Regulation 139/17 comes into force on the 1st day of January, 2018.

m_1 Ruling of the Minister of Municipal Affairs and Housing (Minister's Ruling) MR-13-S-24 comes into force on the 1st day of January 2014.
m_2 Ruling of the Minister of Municipal Affairs (Minister's Ruling) MR-16-S-25 comes into force on the 7th day of July 2016.
m_3 Ruling of the Minister of Municipal Affairs (Minister's Ruling) MR-16-S-26 comes into force on the 7th day of July 2016.
m_4 Ruling of the Minister of Municipal Affairs (Minister's Ruling) MR-16-S-27 comes into force on the 1st day of January 2017.

EDITORIAL

e_1 Editorial correction issued for January 1st, 2014.
e_2 Editorial correction issued for January 1st, 2014.
$e_{2.1}$ Editorial correction issued for January 1st, 2015.
e_3 Editorial correction issued for January 1st, 2015.
e_4 Editorial correction issued for July 7th, 2016.
e_5 Editorial correction issued for January 1st, 2017.
e_6 Editorial correction issued for July 1st, 2017.
$e_{6.1}$ Editorial correction issued for January 1st, 2018.

COVER PHOTO CREDITS

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Code Amendment History

The first Ontario Building Code was issued in 1975. The 1975 and subsequent editions of the Building Code have been issued as follows:

Building Code Edition	Date Filed	Effective Date
O. Reg. 925/75 (1975 Building Code)	November 24, 1975	December 31, 1975
O. Reg. 583/83 (1983 Building Code)	September 15, 1983	November 30, 1983
O. Reg. 419/86 (1986 Building Code)	July 18, 1986	October 20, 1986
O. Reg. 413/90 (1990 Building Code)	July 30, 1990	October 1, 1990
O. Reg. 403/97 (1997 Building Code)	November 3, 1997	April 6, 1998
O. Reg. 350/06 (2006 Building Code)	June 28, 2006	December 31, 2006
O. Reg. 332/12 (2012 Building Code)	November 2, 2012	January 1, 2014

The following Table lists the amendments to the 2012 Building Code made since the filing of O. Reg. 332/12.

Regulatory Amendments to the 2012 Building Code – Ontario Regulation 332/12			
Amendment	Date Filed	Effective Date	Nature of Amendment
O. Reg. 151/13	May 9, 2013	January 1, 2014	Sprinklering of retirement homes
O. Reg. 360/13	December 20, 2013	January 1, 2014	Fees
		January 1, 2015	
O. Reg. 361/13	December 20, 2013	January 1, 2014	Housekeeping changes, fireplace emission limits Revise Supplementary Standard SA-1
		January 1, 2015	EIFS
O. Reg. 368/13	December 27, 2013	January 1, 2015	Accessibility
O. Reg. 191/14	September 23, 2014	January 1, 2015	Midrise wood construction, accessibility, housekeeping changes Revise Supplementary Standards SA-1, SB-1, SB-2, SB-3, SB-12
O. Reg. 139/17	May 17, 2017	July 1, 2017	Retirement homes, 2 unit houses Revise Supplementary Standard SA-1
		January 1, 2018	Electric vehicle charging, pipe sizing, sewage systems Revise Supplementary Standard SA-1

The following Table lists Minister's Rulings that have been made to adopt amendments to codes, formulae, standards, guidelines or procedures referenced in the 2012 Building Code.

Minister's Rulings to adopt amendments to codes, formulae, standards, guidelines or procedures referenced in the 2012 Building Code			
Ruling Number	Date of Ruling	Effective Date	Nature of Amendment
MR-13-S-24	September 1, 2013	January 1, 2014	Revise Table 1.3.1.2. of Division B Revise Supplementary Standards SA-1, SB-5 and SB-12
MR-16-S-25	July 7, 2016	July 7, 2016	Revise Table 1.3.1.2. of Division B Revise Supplementary Standard SB-5
MR-16-S-26	July 7, 2016	July 7, 2016	Revise Table 1.3.1.2. of Division B Revise Supplementary Standard SB-12
MR-16-S-27	December 22, 2016	January 1, 2017	Revise Table 1.3.1.2. of Division B Revise Supplementary Standard SB-10

Building Code Act, 1992

S.O. 1992, Chapter 23

as amended by:	S.O. 1997	c. 24, s. 224 except s. 224(17) in force June 17, 1998
	S.O. 1997	c. 30, Schedule B, s. 1-20 in force April 6, 1998
	S.O. 1999	c. 12, Schedule M, s. 1-11 in force December 22, 1999
	S.O. 2000	c. 5, s. 7 in force January 1, 2001
	S.O. 2000	c. 26, Schedule K, s. 1 in force December 6, 2000
	S.O. 2002	c. 9, s. 5, 6(1), (2), 16, 24, 25, 27, 31(1), 34, 40(1), 41(1), 43, 51(6), (9), (11)-(15), 53(3), 54, 55 in force September 1, 2003
	S.O. 2002	c. 9, s. 1-4, 6(3), 7-15, 17-19, 20(1), (2), 21-23, 26, 28-30, 31(2), 32, 33, 35-39, 40(2), (3), 41(2), 42, 44-50, 51(1), (2), (4), (5), (7), (8), (10), 52, 53(1), (2) in force July 1, 2005
	S.O. 2002	c. 17, Schedule C, s. 1-6 in force July 1, 2005
	S.O. 2002	c. 17, Schedule F, Table in force January 1, 2003
	S.O. 2005	c. 33, s. 1 in force December 15, 2005
	S.O. 2006	c. 19, Schedule O, s. 1 in force June 22, 2006
	S.O. 2006	c. 21, Schedule F, s. 104, 136(1) in force July 25, 2007
	S.O. 2006	c. 22, s. 112 in force July 3, 2007
	S.O. 2006	c. 32, Schedule C, s. 3 in force January 1, 2007
	S.O. 2006	c. 33, Schedule Z.3, s. 4 in force January 1, 2009
	S.O. 2006	c. 35, Schedule C, s. 8 in force August 20, 2007
	S.O. 2009	c. 12, Schedule J in force May 14, 2009
	S.O. 2009	c. 33, Schedule 6, s. 43 in force June 1, 2011
	S.O. 2009	c. 33, Schedule 21, s. 2(1) in force December 15, 2009
	S.O. 2009	c. 33, Schedule 21, s. 2(4), (7), (8) and (9) in force July 1, 2010
	S.O. 2009	c. 33, Schedule 21, s. 2(2), (3), (5) and (6) in force January 1, 2011
	S.O. 2010	c. 19, Schedule 2, s. 1, s. 2(1), (2) in force April 1, 2011
	S.O. 2014	c. 7, Schedule 3, s. 1 in force July 23, 2014
	S.O. 2017	c. 10, Schedule 4, s. 1 in force May 30, 2017.

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35. prescribing an appeal to a prescribed tribunal from a refusal to issue or renew a certificate, registration or licence or a suspension, revocation or cancellation of a certificate, registration or licence, prescribing the circumstances in which the decision appealed from takes effect immediately despite the appeal, and prescribing the circumstances in which the tribunal may stay the decision pending the outcome of the appeal;

35.1 requiring the Ontario Association of Architects and the Association of Professional Engineers of Ontario to give the prescribed information to the director;

35.2 prescribing fees payable to the Crown by the Ontario Association of Architects and the Association of Professional Engineers of Ontario in connection with the registers referred to in paragraphs 33 and 34 and in respect of the development of training materials for a purpose described in paragraph 33 or 34;

35.3 prescribing the persons who are required under subsection 15.13(1) to have insurance coverage and prescribing the kinds and amounts of insurance that are required and the circumstances in which the person will be considered to be covered by insurance;

35.4 prescribing additional functions that registered code agencies may perform;

35.5 prescribing the manner in which registered code agencies and persons authorized by them under subsection 15.17(1) are required to perform any of their functions;

35.6 prescribing the manner in which a registered code agency is authorized to collect, use and disclose information;

35.7 prescribing circumstances in which a registered code agency may be appointed in respect of a building even though an inspector or another registered code agency has already carried out a function described in section 15.15;

35.8 prescribing circumstances in which a registered code agency cannot be appointed, including circumstances that would constitute a conflict of interest for a registered code agency;

35.9 prescribing the information that a registered code agency is required to give to the director or to the chief building official;

35.10 prescribing the classes of persons that may be authorized by a registered code agency under subsection 15.17(1), the conditions to which the authorization may be subject and the information that must be included in a certificate of authorization;

35.11 prescribing certificates and the form of certificates referred to in subsection 15.18(2), the information that the certificates are required to contain and the circumstances and manner in which registered code agencies are permitted to issue them;

35.12 prescribing the circumstances in which the appointment of a registered code agency may be terminated and the conditions that must be met before the termination of an appointment, including,

i. requiring the consent of the director and authorizing the director to impose conditions and restrictions in connection with the consent, and

ii. authorizing an appeal to a person specified in the regulations from a decision of the director or conditions imposed by the director;

36. designating persons, specifying powers of a chief building official or inspector that those designated persons may exercise to enforce this Act and the building code in relation to the qualifications of persons described in sections 15.11 and 15.12 and the requirement in section 15.13 for insurance coverage, and establishing conditions for the exercise of the specified powers;

37. prescribing any transitional matters necessary for the regulation of sewage systems, including matters relating to,

i. licensing and certification and the qualifications of inspectors and persons described in subsection 15.12(1),

ii. certificates of approval and orders issued under the *Environmental Protection Act*,

iii. enforcement issues,

iv. matters commenced under the *Environmental Protection Act*, including appeals,

v. records and documents to be kept or transferred and the payment of associated costs,

vi. certification of records and their use in courts,

vii. the continuation of matters commenced under the *Environmental Protection Act*, and

viii. the transfer of responsibilities involving any municipality or any board of health, conservation authority or planning board prescribed under section 3.1;

38. permitting the Building Code Commission to sit in one or more divisions simultaneously upon such conditions as may be prescribed in the regulation;

39. authorizing one member of the Building Code Commission, with the approval of the chair or vice-chair, to hear and determine any matter and deeming the member to constitute the commission for that purpose, under such conditions as may be prescribed in the regulation;

39.1 prescribing relationships for the purposes of clause 23(3)(d) (eligibility to be a member of the Commission);

39.2 prescribing the period within which the Building Code Commission must hold a hearing in respect of a dispute described in clause 24(1)(b) or (c);

39.3 providing for transitional provisions relating to the effect of a repeal or re-enactment of any provision of this Act;

39.4 prescribing provisions of the building code for the purposes of section 97.1 of the *Municipal Act, 2001* and section 108.1 of the *City of Toronto Act, 2006*;

39.5 prescribing conditions and limits for the purposes of section 97.1 of the Municipal Act, 2001 and section 108.1 of the City of Toronto Act, 2006;

40. prescribing any matter referred to in this Act as prescribed. 1992, c. 23, s. 34(1); 1997, c. 30, Sched. B, s. 17(1-4); 1999, c. 12, Sched. M, s. 11; 2002, c. 9, s. 51(1, 2, 4-14); 2006, c. 19, Sched. O, s. 1(12-17); 2006, c. 35, Sched. C, s. 8(3); 2009, c. 33, Sched. 21, s. 2(5-7); 2014, c. 7, Sched. 3, s. 3; 2017, c. 10, Sched. 4, s. 1.

Standards for Existing Buildings

(2) The Lieutenant Governor in Council may make regulations to establish standards that existing buildings must meet even though no construction is proposed, including regulations,

(a) prescribing any or all of the matters set out in subsection (1) as applicable to existing buildings;

(b) establishing standards for maintenance, retrofit, operation, occupancy and repair;

(c) prescribing standards related to resource conservation and environmental protection; and

(d) prescribing standards, methods and equipment for the inspection, cleaning, disinfecting and emptying of sewage systems. 1992, c. 23, s. 34(2); 1997, c. 30, Sched. B, s. 17(5); 2006, c. 22, s. 112(10).

Discretionary Maintenance Inspection Programs

(2.1) The Lieutenant Governor in Council may make regulations governing programs established under clause 7(1)(b.1), including regulations,

(a) governing the classes of buildings and area affected by a program;

(b) governing the type and manner of inspections that are conducted under a program and the frequency of the inspections;

(c) authorizing the principal authority that establishes a program, as an alternative to conducting an inspection, to accept a certificate, in a form approved by the Minister, that is signed by a person who belongs to a class of persons specified by the regulations and that confirms that the person has conducted an inspection and is of the opinion that the building that was inspected complies with the standards prescribed under clause (2)(b) that are enforced by the program. 2006, c. 22, s. 112(11).

Sewage System Maintenance Inspection Programs

(2.2) The Lieutenant Governor in Council may make regulations establishing and governing programs to enforce standards prescribed under clause (2)(b) in relation to sewage systems, including regulations,

(a) governing the classes of sewage systems affected by the program;

(b) requiring a principal authority that has jurisdiction in the area affected by the program to administer the program for that area and to conduct inspections under the program;

(c) governing the type and manner of inspections that are conducted under the program and the frequency of the inspections;

(d) authorizing the principal authority that administers the program, as an alternative to conducting an inspection, to accept a certificate, in a form approved by the Minister, that is signed by a person who belongs to a class of persons specified by the regulations and that confirms that the person has conducted an inspection and is of the opinion that the sewage system that was inspected complies with the standards prescribed under clause (2)(b) that are enforced by the program. 2006, c. 22, s. 112(11).

Application

(3) A regulation made under this section applies to buildings whether erected before or after the coming into force of this Act. 1992, c. 23, s. 34(3).

Limited Application

(4) Any regulation made under this section may be limited in its application territorially or to any class of activity, matter, person or thing. 1997, c. 30, Sched. B, s. 17(6).

Same

(4.1) A class under this Act may be defined with respect to any attribute, quality or characteristic and may be defined to consist of, include or exclude any specified member whether or not with the same attributes, qualities or characteristics. 1997, c. 30, Sched. B, s. 17(6).

Retroactive

(4.2) A regulation made under paragraph 37 of subsection (1) may be retroactive. 1997, c. 30, Sched. B, s. 17(6).

Purposes

(5) The purposes of the regulations made under this section are,

Part 1
Compliance and General

Section 1.1. Organization and Application

1.1.1. Organization of this Code

1.1.1.1. Scope of Division A

(1) Division A contains compliance and application provisions and the *objectives* and *functional statements* of this Code.

1.1.1.2. Scope of Division B

(1) Division B contains the *acceptable solutions* of this Code.

1.1.1.3. Scope of Division C

(1) Division C contains the administrative provisions of this Code.

1.1.1.4. Internal Cross-References

(1) If a provision of this Code contains a reference to another provision of this Code but no Division is specified, both provisions are in the same Division of this Code.

1.1.2. Application of Division B (See Appendix A.)

1.1.2.1. Application of Parts 1, 7 and 12

r5 **(1)** Part 1 of Division B applies to all *buildings*.

r5 **(2)** Subject to Article 1.1.2.6., Parts 7 and 12 of Division B apply to all *buildings*.

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

(1) Subject to Articles 1.1.2.6. and 1.3.1.2., Parts 3, 5 and 6 of Division B apply to all *buildings*,
(a) used for *major occupancies* classified as,
(i) Group A, *assembly occupancies*,
r1 (ii) Group B, *care, care and treatment* or *detention occupancies*, or
(iii) Group F, Division 1, *high hazard industrial occupancies*,
(b) exceeding 600 m^2 in *building area* or exceeding three *storeys* in *building height* and 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 hazard industrial occupancies* and *low hazard industrial occupancies*, or
r6 (c) used for *retirement homes*.

(2) Subject to Articles 1.1.2.6. and 1.3.1.2., Part 4 of Division B applies to,
(a) *post-disaster buildings*,
(b) *buildings* described in Sentence (1),
(c) 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,
(d) a pedestrian bridge appurtenant to a *building*,
(e) a crane runway,
(f) an exterior storage tank and its supporting structure that is not regulated by the *Technical Standards and Safety Act, 2000*,
(g) signs regulated by Section 3.15. of Division B that are not structurally supported by a *building*,
(h) a structure that supports a wind turbine generator having a rated output of more than 3 kW,
(i) an *outdoor pool* that has a water depth greater than 3.5 m at any point, and
(j) 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.

1.1.2.3. Application of Part 8

r5 **(1)** Subject to Article 1.1.2.6., 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*.

1.1.2.4. Application of Part 9

(1) Subject to Articles 1.1.2.6. and 1.3.1.2., Part 9 of Division B applies to all *buildings*,
(a) of three or fewer *storeys* in *building height*,
(b) having a *building area* not exceeding 600 m^2, and
(c) used for *major occupancies* classified as,
r6 (i) Group C, *residential occupancies* other than *buildings* used for *retirement homes*,
  (ii) Group D, *business and personal services occupancies*,
  (iii) Group E, *mercantile occupancies*, or
  (iv) Group F, Divisions 2 and 3, *medium hazard industrial occupancies* and *low hazard industrial occupancies*.

1.1.2.5. Application of Part 10

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

1.1.2.6. 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*.

1.1.2.7. Existing Buildings (See Appendix A.)

(1) Except as provided in Section 3.17. of Division B, Section 9.40. 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*.

1.1.3. Building Size Determination

1.1.3.1. Building Size Determination of Building Divided by Firewalls (See Appendix A.)

(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*.

1.1.3.2. Building Size Determination of Building Divided by Vertical Fire Separations

(1) Except as permitted in Sentence (2), if portions of a *building* are completely separated by a vertical *fire separation* that has a *fire-resistance rating* of at least 1 h and that extends through all *storeys* and *service spaces* of the separate portions, each separated portion may be considered to be a separate *building* for the purpose of determining *building height* if,
r6 (a) each separated portion is not more than three *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 to each separated portion is not more than 45 m.

(2) The vertical *fire separation* in Sentence (1) may terminate at the floor assembly immediately above a *basement* if the *basement* conforms to Article 3.2.1.2. of Division B.

Section 1.2. Compliance

1.2.1. Compliance With Division B

1.2.1.1. Compliance With Division B

(1) Compliance with Division B shall be achieved,
(a) by complying with the applicable *acceptable solutions* in Division B, or (See Appendix A.)
(b) by using *alternative solutions* that will achieve the 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 Appendix A.)

(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".

1.2.2. Materials, Appliances, Systems and Equipment

1.2.2.1. Characteristics of Materials, Appliances, Systems and Equipment

(1) All materials, *appliances*, systems and equipment installed to meet the requirements of this Code shall possess the necessary characteristics to perform their intended functions when installed in a *building*.

1.2.2.2. Used Materials, Appliances and Equipment

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

Section 1.3. Interpretation

1.3.1. Interpretation

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

1.3.1.2. Farm Buildings

(1) Except as provided in Sentences (2) to (6), *farm buildings* 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*.

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* on which the *foundation unit* 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 m²,
(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.

Branch means a *soil* or *waste pipe* that is connected at its upstream end to the junction of two or more *soil* or *waste pipes* or to a *soil* or *waste stack* and that is connected at its downstream end to another *branch*, a sump, a *soil* or *waste 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 that, at its upper end, is connected to another *branch vent*, a *stack vent*, a *vent stack* or a *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*,
(a) within the outside surface of exterior walls, or
(b) 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 means the number of *storeys* contained between the roof and the floor of the *first storey*.

Building sewer means a *sanitary building sewer* or *storm building sewer*.

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

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

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.

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

r6 *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.

Cavity wall means a construction of masonry units laid with a cavity between the wythes, where 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.

r_5 *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 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.

r_6 *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 shaft that is primarily vertical and that encloses 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 and 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.

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 is 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 containing no impurities or contaminants that are harmful to a person's health, plant or animal life or that impair the quality of the natural environment.

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, wired glass and 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, "Test for Determination of Non-Combustibility in Building Materials".

Combustible construction means a type of construction that does not meet the requirements for *noncombustible construction*.

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, and includes cotton, wool, hemp, sisal, jute, kapok, paper and cloth.

Combustible liquid means any 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 space within a *building* in which the temperature is controlled to limit variation in response to the exterior ambient temperature or interior differential temperatures 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.

r5 *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 those products or substances that are regulated by the *Transportation of Dangerous Goods Regulations* made under the *Transportation of Dangerous Goods Act, 1992* (Canada).

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 nonstructural components of a *building*.

Deep foundation means a *foundation unit* that provides support for a *building* by transferring loads either by end-bearing to a *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*.

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 an *occupancy* in which persons are under restraint or are incapable of self preservation because of security measures not under their control.

Developed length means, when applied to a pipe and fittings, the length along the centre line of the pipe and fittings.

Directly connected means physically connected in such a way that neither water nor 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* 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 per cent 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.

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 Appendix A.)

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.

r6 *House* means a detached house, semi-detached house or row house containing not more than two *dwelling units*.

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 being 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 means the *occupancy* or use of a *building* or part of a *building* for the assembling, fabricating, manufacturing, processing, repairing or storing of goods or 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.

e5 *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 *distribution pipe* and the stone or gravel layer in which the *distribution pipe* is located, and
(c) the backfill above the *distribution pipe*, 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* and the required lateral extent such that the *effluent* is absorbed.

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

Limiting distance means the distance from an *exposing building face* to a property line, to the centre line of a *street*, lane or public thoroughfare or to an imaginary line between two *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 percent 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* and 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 means, when applied to a *building* element, subjected to or designed to carry loads in addition to its own *dead load*, but does not include a wall element subject 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 of a *building* is used or intended to be used, and is 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:

(a) Group A, Division 1 - *Assembly occupancies* intended for the production and viewing of the performing arts,
(b) Group A, Division 2 - *Assembly occupancies* not elsewhere classified in Group A,
(c) Group A, Division 3 - *Assembly occupancies* of the arena type,
(d) Group A, Division 4 - *Assembly occupancies* in which occupants are gathered in the open air,
(e) Group B, Division 1 - *Detention occupancies*,
(f) Group B, Division 2 - *Care and treatment occupancies*,
(g) Group B, Division 3 - *Care occupancies*,
(h) Group C - *Residential occupancies*,
(i) Group D - *Business and personal services occupancies*,
(j) Group E - *Mercantile occupancies*,
(k) Group F, Division 1 - *High hazard industrial occupancies*,
(l) Group F, Division 2 - *Medium hazard industrial occupancies*, and
(m) Group F, Division 3 - *Low hazard industrial occupancies*.

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 includes *exits* and *access to exits* and means a continuous path of travel provided for the escape of persons from any point in a *building* or in a contained open space to,

(a) a separate *building*,
(b) an open public thoroughfare, or
(c) an exterior open space that is protected from fire exposure from the *building* and that has access to an open public thoroughfare.

Medium hazard industrial occupancy (Group F, Division 2) means an *industrial occupancy* in which the *combustible* content is more than 50 kg/m² or 1 200 MJ/m² of *floor area* and that is not classified as a *high hazard industrial occupancy*.

Mercantile occupancy means the *occupancy* or use of a *building* or part of a *building* 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.

r4 *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.

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

Noncombustible construction means a 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 of a *building* for the shelter or support of persons, animals or property.

Occupant load means the number of persons for which a *building* or part of a *building* 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 *soil* or *waste stack*.

Open air means the atmosphere outside a *building*.

Open-air storey means a *storey* in which at least 25 percent 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, one *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*,
(a) that is made of materials such as wood, steel or concrete or a combination of them, and
(b) that is either pre-manufactured and placed by driving, jacking, jetting or screwing, or cast-in-place in a hole formed by driving, excavating or boring.

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*. (See Appendix A.)

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 essential to the provision of services in the event of a disaster, and includes,
(a) hospitals, emergency treatment facilities and blood banks,
(b) telephone exchanges,
(c) power generating stations and electrical substations,
(d) control centres for land transportation,
(e) public water treatment and storage facilities,
(f) water and sewage pumping stations,
(g) emergency response facilities,
(h) fire, rescue and police stations,
(i) storage facilities for vehicles or boats used for fire, rescue and police purposes, and
(j) communications facilities, including radio and television stations.

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*.

r6 *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 and Climate Change 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*.

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

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*. (See Appendix A.)

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 another 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.

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 of a *building* 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 *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 the sprinkler and standpipe systems.

r6 *Residential occupancy* 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 *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 sprinkler and standpipe systems.

r6 *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*.

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

Rock means a portion of the earth's crust that is consolidated, coherent and relatively hard and that 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 sewage* to discharge into a *leader*.

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

Sanitary building drain means a *building drain* that conducts *sewage* to a *building sewer* from the most upstream *soil* or *waste 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 *sanitary 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.

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 Appendix A.)

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.

Surface water means water on the surface of the ground.

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 above 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.

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.

Vent connector means, when applied to a heating or cooling system, 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 that is oriented essentially vertically and 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 two 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*.

1.4.1.3. Definition of Applicable Law (See Appendix A.)

(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:
r_6 (0.i) 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*,
(i) section 114 of the *City of Toronto Act, 2006* with respect to the approval by the City of Toronto or the Ontario Municipal Board of plans and drawings,
(ii) 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*,
r_6 (iii) reserved,
(iv) section 194 of the *Education Act* with respect to the approval of the Minister for the *demolition* of a *building*,
(v) section 6 of Regulation 314 of the Revised Regulations of Ontario, 1990 (General), made under the *Elderly Persons Centres Act*, with respect to the approval of the Minister for the *construction* of a *building* project,
(vi) section 5 of the *Environmental Assessment Act* with respect to the approval of the Minister or the Environmental Review Tribunal to proceed with an undertaking,

(vii) 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,

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

(ix) 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,

(x) 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,

(xi) 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,

(xii) 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,

(xiii) 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,

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

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

(xvi) 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*,

(xvii) 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,

(xviii) 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*,

(xix) 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,

(xx) section 41 of the *Planning Act* with respect to the approval by the council of the *municipality* or the Ontario Municipal Board of plans and drawings,

(xxi) 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,

r3 (xxii) 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,

r3 (xxii.1) 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,

(xxiii) 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 5(4) 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(3) 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*,

r6 (b.1) by-laws made by a *municipality* under an agreement entered into under section 5.81 of the *Aeronautics Act* (Canada),

(c) regulations made by a conservation authority under clause 28(1)(c) of the *Conservation Authorities Act* 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,

(d) 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,

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

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

r_6 (g) subject to Clause (h), by-laws made under Ontario Regulation 173/16 (Community Planning Permits) made under the *Planning Act*,

(h) by-laws referred to in Clause (g) 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,

r_6 (i) 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,

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

(k) 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
	ABS	acrylonitrile-butadiene-styrene
	ASWG	American Steel Wire Gage
r6	amp	ampere(s)
	Bq	becquerel(s)
	$CBOD_5$	the five day carbonaceous biochemical oxygen demand
r5	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
	ft	foot (feet)
	g	gram(s)
	ga	gauge
	gal	imperial gallon(s)
	gal/min	imperial gallon(s) per minute
	h	hour(s)
	HVAC	heating, ventilating and air-conditioning
	Hz	hertz
	in.	inch(es)
	J	joule(s)
	kg	kilogram(s)
	kg/m^2	kilograms per square metre
	kN	kilonewton(s)
	kPa	kilopascal(s)
r6	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
	Column 1	2

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

	Symbol or Abbreviation	Meaning
	m	metre(s)
	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)
	RSI	thermal resistance, International System of Units
	s	second(s)
	temp.	temperature
	T&G	tongue and groove
r_6	V	volt(s)
	W	watt(s)
	wt	weight
e_1	%	percent
	µg	microgram(s)
	µm	micron
	Column 1	2

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Table 1.3.1.2. (Cont'd)
Documents Referenced in the Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document(1)	Code Reference
CSA	S16-09	Design of Steel Structures	Table 4.1.8.9. 4.3.4.1.(1)
CSA	CAN/CSA-S136-07	North American Specifications for the Design of Cold Formed Steel Structural Members (using the Appendix B provisions applicable to Canada)	Table 4.1.8.9. 4.3.4.2.(1)
CSA	CAN/CSA-S157-05 / S157.1-05	Strength Design in Aluminum / Commentary on CSA S157-05, Strength Design in Aluminum	4.3.5.1.(1)
CSA	S304.1-04	Design of Masonry Structures	Table 4.1.8.9. 4.3.2.1.(1)
CSA	S307-M1980	Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings	9.23.13.11.(5)
CSA	S367-09	Air-, Cable-, and Frame-Membrane Supported Structures	4.4.1.1.(1)
CSA	CAN/CSA-S406-92	Construction of Preserved Wood Foundations	9.13.2.8.(1) 9.15.2.4.(1) 9.16.5.1.(1)
CSA	S413-07	Parking Structures	4.4.2.1.(1)
CSA	S478-95	Guideline on Durability in Buildings	5.1.4.2.(3) Table 5.10.1.1.
CSA	Z32-09	Electrical Safety and Essential Electrical Systems in Health Care Facilities	3.2.7.3.(4) 3.2.7.6.(1) 3.7.5.1.(1)
CSA	CAN/CSA-Z91-02	Health and Safety Code for Suspended Equipment Operations	4.4.4.1.(1)
CSA	Z240 MH Series-09	Manufactured Homes	3.1.1.1.(2) of Division C 3.2.4.1.(3) of Division C
CSA	Z240.2.1-09	Structural Requirements for Manufactured Homes	9.1.1.9.(1) 9.12.2.2.(6) 9.15.1.3.(1)
CSA	Z240.10.1-08	Site Preparation, Foundation and Anchorage of Manufactured Homes	9.15.1.3.(1) 9.23.6.3.(1)
CSA	CAN/CSA-Z241 Series-03	Park Model Trailers	9.38.1.1.(1) 9.38.2.1.(1) 3.1.1.1.(2) of Division C 3.2.4.1.(3) of Division C
CSA	CAN/CSA-Z317.2-10	Special Requirements for Heating, Ventilation and Air Conditioning (HVAC) Systems in Health Care Facilities	6.2.1.1.(1)
CSA	CAN/CSA-Z662-11 / Z662.1-11	Oil and Gas Pipeline Systems / Commentary on CAN/CSA-Z662-11, Oil and Gas Pipeline Systems	3.2.3.21.(1)
CSA	Z7396.1-09	Medical Gas Piping Systems - Part 1: Pipelines for Medical Gases and Vacuum	3.7.5.2.(1)
CSA / IAPMO	CSA B45.5-11 / IAPMO Z124-2011	Plastic Plumbing Fixtures	7.2.2.2.(6)
CWC	2009	Engineering Guide for Wood Frame Construction	9.4.1.1.(1)
Column 1	2	3	4

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Table 1.3.1.2. (Cont'd)
Documents Referenced in the Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document(1)	Code Reference
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	2009	Rules and Regulations - FINA Facilities Rules 2009-2013 - FR5 Diving Facilities	3.11.4.1.(17)
HI	2005	Hydronics Institute Manuals	6.2.1.1.(1)
HRAI	2005	Digest	6.2.1.1.(1) 6.2.3.5.(1) 6.2.4.3.(13)
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 915-2009	Procedure for Loudness Rating of Residential Fan Products	9.32.3.9.(2) Table 9.32.3.9.
HVI	HVI 916-2009	Airflow Test Procedure	9.32.3.9.(1)
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: 2003	Graphical Symbols - Safety Colours and Safety Signs - Safety Signs Used in Workplaces and Public Areas	3.4.5.1.(2) 9.9.11.3.(2)
ISO	8201: 1987(E)	Acoustics - Audible Emergency Evacuation Signal	3.2.4.20.(2)
ISO	23599: 2012	Assistive Products for Blind and Vision-Impaired Persons – Tactile Walking Surface Indicators	3.8.3.18.(1)
r6 MMAH	Supplementary Standard SA-1, March 21, 2017	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
Column 1	2	3	4

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Table 1.3.1.2. (Cont'd)
Documents Referenced in the Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document(1)	Code Reference
NFPA	24-2013	Installation of Fire Service Mains and Their Appurtenances	7.2.11.1.(1)
NFPA	68-2007	Explosion Protection by Deflagration Venting	3.3.6.3.(1) 3.3.6.4.(2) 3.3.6.4.(4)
r6 NFPA	72-2013	National Fire Alarm and Signaling Code	3.2.4.22.(13) 9.10.19.1.(2) 9.10.19.3.(4)
NFPA	80-2010	Fire Doors and Other Opening Protectives	3.1.8.5.(2) 3.1.8.10.(2) 3.1.8.14.(1) 3.1.9.1.(5) 3.13.3.1.(2) 9.10.9.6.(13) 9.10.13.1.(1)
NFPA	82-2009	Incinerators, Waste and Linen Handling Systems and Equipment	6.2.6.1.(1) 9.10.10.5.(2)
NFPA	91-2010	Exhaust Systems for Air Conveying of Vapors, Gases, Mists and Noncombustible Particulate Solids	6.2.13.4.(1)
NFPA	96-2011	Ventilation Control and Fire Protection of Commercial Cooking Operations	3.2.4.9.(2) 6.2.2.6.(1)
NFPA	130-2010	Fixed Guideway Transit and Passenger Rail Systems	3.13.7.1.(1)
NFPA	211-2010	Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances	6.3.1.2.(2) 6.3.1.3.(1)
NFPA	214-2011	Water-Cooling Towers	6.2.3.14.(3)
NFPA	701-2010	Fire Tests for Flame Propagation of Textiles and Films	3.14.1.6.(1) 3.14.2.5.(1)
NLGA	2010	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 A-1 to A-10
NRCan	January 2005, including all amendments, revisions and supplements effective to May 31, 2006	EnerGuide for New Houses: Administrative and Technical Procedures	12.2.1.1.(3) 12.2.1.2.(3)
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	7.2.10.7.(1)
SMACNA	ANSI/SMACNA 006-2006, 3rd Edition 2005	HVAC Duct Construction Standards - Metal and Flexible	6.2.1.1.(1) 6.2.4.2.(3) 6.2.4.3.(11) 6.2.4.3.(12)
TPIC	2011	Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses (Limit States Design)	9.23.13.11.(6)
Column 1	2	3	4

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Table 1.3.1.2. (Cont'd)
Documents Referenced in the Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document(1)	Code Reference
UL	ANSI/UL 300-2005	Fire Extinguishing Systems for Protection of Commercial Cooking Equipment	6.2.2.6.(2)
UL	UL 2034-2008	Single and Multiple Station Carbon Monoxide Alarms	6.2.12.3.(1) 9.33.4.3.(1)
ULC	CAN/ULC-S101-07	Fire Endurance Tests of Building Construction and Materials	3.1.5.12.(3) 3.1.5.12.(4) 3.1.5.12.(6) 3.1.7.1.(1) 3.1.11.7.(1) 3.2.3.8.(1) 3.2.6.5.(6) 9.10.16.3.(1)
ULC	CAN/ULC-S102-10	Test for Surface Burning Characteristics of Building Materials and Assemblies	3.1.5.25.(1) 3.1.12.1.(1)
ULC	CAN/ULC-S102.2-10	Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies	3.1.12.1.(2) 3.1.13.4.(1)
ULC	CAN/ULC-S102.3-07	Fire Test of Light Diffusers and Lenses	3.1.13.4.(1)
ULC	CAN/ULC-S102.4-10	Fire and Smoke Characteristics of Electrical Wiring and Cables	3.1.5.18.(1) 3.1.5.20.(2) 3.6.4.3.(1)
ULC	CAN/ULC-S104-10	Fire Tests of Door Assemblies	3.1.8.4.(1) 3.2.6.5.(3)
ULC	CAN/ULC-S105-09	Fire Door Frames Meeting the Performance Required by CAN/ULC-S104	9.10.13.6.(1)
ULC	CAN4-S106-M80	Fire Tests of Window and Glass Block Assemblies	3.1.8.4.(1)
ULC	CAN/ULC-S107-10	Fire Tests of Roof Coverings	3.1.15.1.(1)
ULC	CAN/ULC-S109-03	Flame Tests of Flame-Resistant Fabrics and Films	3.1.16.1.(1) 3.14.1.6.(1) 3.14.2.5.(1) 6.2.3.16.(1) 6.2.3.17.(1) 6.2.4.9.(1)
ULC	CAN/ULC-S110-07	Test for Air Ducts	6.2.3.2.(2) 6.2.3.2.(4)
ULC	ULC-S111-07	Fire Tests for Air Filter Units	6.2.3.13.(1) 6.2.4.14.(1)
ULC	CAN/ULC-S112-10	Fire Test of Fire-Damper Assemblies	3.1.8.4.(1)
ULC	CAN/ULC-S112.1-10	Leakage Rated Dampers for Use in Smoke Control Systems	6.2.3.9.(3)
ULC	CAN/ULC-S112.2-10	Fire Test of Ceiling Firestop Flap Assemblies	3.1.9.5.(2) 3.6.4.3.(2)
ULC	CAN/ULC-S113-07	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-S114-05	Test for Determination of Non-Combustibility in Building Materials	1.4.1.2.(1) of Division A
Column 1	2	3	4

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Table 1.3.1.2. (Cont'd)
Documents Referenced in the Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document(1)	Code Reference
ULC	CAN/ULC-S115-11	Fire Tests of Firestop Systems	3.1.5.16.(3) 3.1.9.1.(1) 3.1.9.1.(2) 3.1.9.1.(3) 3.1.9.3.(7) 3.1.9.4.(3) 3.1.9.4.(7) 9.10.9.6.(2) 9.10.9.7.(3)
ULC	CAN/ULC-S124-06	Test for the Evaluation of Protective Coverings for Foamed Plastic	3.1.5.12.(2)
ULC	CAN/ULC-S126-06	Test for Fire Spread Under Roof-Deck Assemblies	3.1.14.1.(1) 3.1.14.2.(1)
ULC	CAN/ULC-S134-92	Fire Test of Exterior Wall Assemblies	3.1.5.5.(1) 3.2.3.7.(3) 3.2.3.7.(6)
ULC	CAN/ULC-S135-04	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-S138-06	Fire Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration	3.1.5.12.(7)
ULC	ULC-S139-00	Fire Test for Evaluation of Integrity of Electrical Cables	3.2.7.10.(2) 3.2.7.10.(3)
ULC	CAN/ULC-S143-09	Fire Tests for Non-Metallic Electrical and Optical Fibre Cable Raceways	3.1.5.20.(1)
ULC	S505-1974	Fusible Links for Fire Protection Service	3.1.8.9.(1)
ULC	S513-1978	Threaded Couplings for 38 mm and 65 mm Fire Hose	3.2.9.2.(7)
ULC	CAN/ULC-S524-06	Installation of Fire Alarm Systems	3.1.8.12.(2) 3.1.8.12.(3) 3.2.4.5.(1) 3.2.4.22.(6) 3.2.4.22.(11) 9.10.19.4.(3) 9.10.19.6.(2)
ULC	CAN/ULC-S531-02	Smoke Alarms	3.2.4.22.(1) 9.10.19.1.(1)
ULC	CAN/ULC-S537-04	Verification of Fire Alarm Systems	3.2.4.5.(2) 3.2.4.22.(6)
ULC	CAN/ULC-S543-09	Internal Lug Quick Connect Couplings for Fire Hose	3.2.9.2.(7)
r6 ULC	CAN/ULC-S553-02	Installation of Smoke Alarms	3.2.4.22.(9) 9.10.19.3.(3)
ULC	CAN/ULC-S561-03	Installation and Services for Fire Signal Receiving Centres and Systems	3.2.4.8.(4)
ULC	CAN/ULC-S572-10	Photoluminescent and Self-Luminous Signs and Path Marking Systems	3.4.5.1.(5) 9.9.11.3.(3)
ULC	CAN/ULC-S610-M87	Factory-Built Fireplaces	9.22.8.1.(1)
ULC	S628-93	Fireplace Inserts	9.22.10.1.(1)
ULC	CAN/ULC-S629-M87	650ºC Factory-Built Chimneys	9.21.1.2.(1)
Column 1	2	3	4

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Table 1.3.1.2. (Cont'd)
Documents Referenced in the Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document(1)	Code Reference
ULC	CAN/ULC-S639-M87	Steel Liner Assemblies for Solid Fuel-Burning Masonry Fireplaces	9.22.2.3.(1)
ULC	CAN/ULC-S701-11	Thermal Insulation, Polystyrene, Boards and Pipe Covering	Table 5.10.1.1. 9.15.4.1.(1) Table 9.23.16.2.A. 9.25.2.2.(1) 9.25.2.2.(4)
ULC	CAN/ULC-S702-09	Mineral Fibre Thermal Insulation for Buildings	Table 5.10.1.1. Table 9.23.16.2.A. 9.25.2.2.(1)
ULC	CAN/ULC-S703-09	Cellulose Fibre Insulation (CFI) for Buildings	Table 5.10.1.1. 9.25.2.2.(1)
ULC	CAN/ULC-S704-11	Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced	Table 5.10.1.1. Table 9.23.16.2.A. 9.25.2.2.(1)
ULC	CAN/ULC-S705.1-01	Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Material - Specification	Table 5.10.1.1. 9.25.2.2.(1)
ULC	CAN/ULC-S705.2-05	Thermal Insulation - Spray Applied Rigid Polyurethane Foam, Medium Density - Application	5.3.1.3.(3) Table 5.10.1.1. 9.25.2.5.(1)
ULC	CAN/ULC-S706-09	Wood Fibre Thermal Insulation for Buildings	Table 5.10.1.1. 9.23.15.7.(3) Table 9.23.16.2.A. 9.25.2.2.(1) 9.29.8.1.(1)
ULC	CAN/ULC-S716.1-12	Exterior Insulation and Finish Systems (EIFS) – Materials and Systems	5.10.3.1.(1) 9.27.13.1.(1) 9.27.13.2.(1)
ULC	CAN/ULC-S716.2-12	Exterior Insulation and Finish Systems (EIFS) – Installation of EIFS Components and Water Resistive Barrier	9.27.13.3.(2)
ULC	CAN/ULC-S716.3-12	Exterior Insulation and Finish Systems (EIFS) – Design Application	9.27.13.3.(1)
ULC	CAN/ULC-S741-08	Air Barrier Materials - Specification	5.4.1.2.(1)
ULC	ULC/ORD-C263.1-99	Sprinkler-Protected Window Systems	3.1.8.18.(1)
ULC	ULC/ORD-C199P-02	Combustible Piping for Sprinkler Systems	3.2.5.14.(2) 3.2.5.14.(5)
ULC	ULC/ORD-C1254.6-1995	Fire Testing of Restaurant Cooking Area Fire Extinguishing System Units	6.2.2.6.(2) 3.6.4.3.(1)
USDA	October 1993	Soil Survey Manual	8.2.1.2.(2)
Column 1	2	3	4

Notes to Table 1.3.1.2.:

(1) Some titles have been abridged to omit superfluous wording.

1.3.2. Abbreviations

1.3.2.1. Abbreviations of Proper Names (See Appendix A.)

(1) In this Code, an abbreviation of proper names listed in Column 1 of Table 1.3.2.1. has the meaning assigned opposite it in Column 2.

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
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APHA	American Public Health Association
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
AWPA	American Wood-Preservers' Association
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
CSA	Canadian Standards Association
CWC	Canadian Wood Council
DBR	Division of Building Research, known as the Institute for Research in Construction since 1985
EPA	Environmental Protection Agency
FINA	Fédération Internationale de Natation
HI	Hydronics Institute
HRAI	Heating, Refrigerating and Air-Conditioning Institute of Canada
HUD	U.S. Department of Housing and Urban Development
HVI	Home Ventilating Institute
Column 1	2

Table 1.3.2.1. (Cont'd)
Abbreviations of Proper Names
Forming Part of Sentence 1.3.2.1.(1)

	Abbreviation	Meaning
r_5	IAPMO	International Association of Plumbing and Mechanical Officials
	IESNA	Illuminating Engineering Society of North America
	ISO	International Organization for Standardization
r_6	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	NSF International, formerly called National Sanitation Federation
	SMACNA	Sheet Metal and Air Conditioning Contractors National Association Inc.
	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
	Column 1	2

3.1.2.6. Restaurants

(1) A restaurant is permitted to be classified as a Group E *major occupancy* provided the restaurant is designed to accommodate not more than 30 persons consuming food or drink.

3.1.2.7. Storage of Combustible Fibres

(1) *Buildings* or parts of them used for the storage of baled *combustible fibres* shall be classified as *medium hazard industrial occupancies*.

3.1.3. Multiple Occupancy Requirements

3.1.3.1. Separation of Major Occupancies

r5 **(1)** Except as provided by Sentences (2) to (5), *major occupancies* shall be separated from adjoining *major occupancies* by *fire separations* having *fire-resistance ratings* conforming to Table 3.1.3.1.

(2) In a *building* not more than 3 *storeys* in *building height*, if not more than two *dwelling units* are contained together with a Group E *major occupancy*, the *fire-resistance rating* of the *fire separation* between the two *major occupancies* need not be more than 1 h.

r5 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(1)												
	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	N/A	1	1	1	2	2	2	1	1	2	N/A	2	1
A-2	1	N/A	1	1	2	2	2	1(2)	1(3)	2	N/A	2	1
A-3	1	1	N/A	1	2	2	2	1	1	2	N/A	2	1
A-4	1	1	1	N/A	2	2	2	1	1	2	N/A	2	1
B-1	2	2	2	2	N/A	2	2	2	2	2	N/A	2	2
B-2	2	2	2	2	2	N/A	1	2	2	2	N/A	2	2
B-3	2	2	2	2	2	1	N/A	2	2	2	N/A	2	2
C	1	1(2)	1	1	2	2	2	N/A	1	2(4)	N/A	2	1
D	1	1(3)	1	1	2	2	2	1	N/A	N/A	3	N/A	N/A
E	2	2	2	2	2	2	2	2(4)	N/A	N/A	3	N/A	N/A
F-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	3	N/A	2	2
F-2	2	2	2	2	2	2	2	2	N/A	N/A	2	N/A	N/A
F-3	1	1	1	1	2	2	2	1	N/A	N/A	2	N/A	N/A
Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14

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 3.1.3.1.(3).
(3) See Sentence 3.1.3.1.(4).
(4) See Sentence 3.1.3.1.(2).

r5 **(3)** In a *building* within the scope of Article 3.2.2.43A., a *fire separation* with a 2 h *fire-resistance rating* is required between the Group C and Group A, Division 2 *major occupancies*.

r5 **(4)** In a *building* within the scope of Article 3.2.2.50A., a *fire separation* with a 2 h *fire-resistance rating* is required between the Group D and Group A, Division 2 *major occupancies*.

r5 **(5)** The *fire separations* required between *major occupancies* in Sentence (1) are permitted to be penetrated by floor openings protected in conformance with Subsection 3.2.8., except for *fire separations* for Group F, Division 1 *major occupancies* and for *mezzanines* described in Sentence 3.2.8.2.(1).

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. (See Appendix A.)

(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*.

r5 **(5)** A *building* within the scope of Article 3.2.2.43A. or 3.2.2.50A. shall not contain,
(a) a Group A, Division 1 or 3, Group B, or Group F, Division 1 or 2 *major occupancy*,
(b) a Group A, Division 2 or a Group E *major occupancy* above the second *storey*,
r6 (b.1) a *retirement home*, or
(c) except as permitted by Sentence (6), a Group F, Division 3 *major occupancy*.
(See Appendix A.)

r5 **(6)** A *storage garage* below the third *storey* is permitted in a *building* within the scope of Article 3.2.2.43A. or 3.2.2.50A. (See Appendix A.)

3.1.4. Combustible Construction

3.1.4.1. Combustible Materials Permitted

r5 **(1)** Except as required by this Part, a *building* permitted to be of *combustible construction* is permitted to be constructed of *combustible materials*, with or without *noncombustible* components.

3.1.4.2. Protection of Foamed Plastics

(1) Foamed plastics that form part of a wall or ceiling assembly in *combustible construction* shall be protected from adjacent spaces in the *building*, other than adjacent concealed spaces within *attic or roof spaces*, crawl spaces, and wall assemblies,
(a) by one of the interior finishes described in Subsections 9.29.4. to 9.29.9.,
(b) by any thermal barrier that meets the requirements of Sentence 3.1.5.12.(2), or
(c) where the *building* does not contain a Group B or Group C *major occupancy*, by sheet metal,
  (i) mechanically fastened to the supporting assembly independent of the insulation,
  (ii) not less than 0.38 mm thick, and
  (iii) with a melting point not below 650°C.
  (See Appendix A.)

(2) 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.

3.1.5.12. Combustible Insulation and its Protection

(1) *Combustible* insulation, other than foamed plastics, is permitted in a *building* required to be of *noncombustible construction* provided that it has 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, where the insulation is not protected as described in Sentences (3) and (4).

(2) Foamed plastic insulation having 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, is permitted in a *building* required to be of *noncombustible construction* provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier consisting of,

(a) not less than 12.7 mm thick gypsum board mechanically fastened to a supporting assembly independent of the insulation,
(b) lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
(c) masonry,
(d) concrete, or
(e) any thermal barrier that meets the requirements of classification B when tested in conformance with CAN/ULC-S124, "Test for the Evaluation of Protective Coverings for Foamed Plastic". (See Appendix A.)

(3) *Combustible* insulation having a *flame-spread rating* more than 25 but not more than 500 on an exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the exterior walls of a *building* required to be of *noncombustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier as described in Sentence (2), except that in a *building* that is not *sprinklered* and is more than 18 m high, measured between *grade* and the floor level of the top *storey*, or in a *building* that is not *sprinklered* and is regulated by the provisions of Subsection 3.2.6., the insulation shall be protected by a thermal barrier consisting of,

(a) gypsum board not less than 12.7 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled,
(b) lath and plaster, mechanically fastened to a supporting assembly independent of the insulation,
(c) masonry or concrete not less than 25 mm thick, or
(d) any thermal barrier that, when tested in conformance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials", will not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 10 min.

(4) *Combustible* insulation having a *flame-spread rating* more than 25 but not more than 500 on any exposed surface, or any surface that would be exposed by cutting through the material in any direction, is permitted in the interior walls, within ceilings and within roof assemblies of a *building* required to be of *noncombustible construction*, provided the insulation is protected from adjacent space in the *building*, other than adjacent concealed spaces within wall assemblies, by a thermal barrier as described in Sentence (2), except that in a *building* that is not *sprinklered* and is more than 18 m high, measured between *grade* and the floor level of the top *storey*, or in a *building* that is not *sprinklered* and is regulated by the provisions of Subsection 3.2.6., the insulation shall be protected by a thermal barrier consisting of,

(a) Type X gypsum board not less than 15.9 mm thick, mechanically fastened to a supporting assembly independent of the insulation and with all joints either backed or taped and filled, conforming to,
    (i) ASTM C1396 / C1396M, "Gypsum Board", or
    (ii) CAN/CSA-A82.27-M, "Gypsum Board",
(b) non-*loadbearing* masonry or concrete not less than 50 mm thick,
(c) *loadbearing* masonry or concrete not less than 75 mm thick, or
(d) any thermal barrier that, when tested in conformance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials",
    (i) will not develop an average temperature rise more than 140°C or a maximum temperature rise more than 180°C at any point on its unexposed face within 20 min, and
    (ii) will remain in place for not less than 40 min.

(5) *Combustible* insulation, including foamed plastics, installed above roof decks, outside of *foundation walls* below ground level and beneath concrete slabs-on-ground is permitted to be used in a *building* required to be of *noncombustible construction*.

(6) Thermosetting foamed plastic insulation having a *flame-spread rating* not more than 500 that forms part of a factory-assembled exterior wall panel that does not incorporate an air space is permitted to be used in a *building* required to be of *noncombustible construction* provided,
(a) the foamed plastic is protected on both sides by sheet steel not less than 0.38 mm thick that will remain in place for not less than 10 min when the wall panel is tested in conformance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials",
(b) the *flame-spread rating* of the wall panel, determined by subjecting a sample including an assembled joint to the appropriate test described in Subsection 3.1.12., is not more than the *flame-spread rating* permitted for the room or space that it bounds,
(c) the *building* does not contain a Group B or Group C *major occupancy*, and
(d) the *building* is not more than 18 m high, measured between *grade* and the floor level of the top *storey*.

(7) A factory-assembled non-*loadbearing* interior or exterior wall or ceiling panel containing foamed plastic insulation having a *flame-spread rating* of not more than 500 is permitted to be used in a *building* required to be of *noncombustible construction* provided,
(a) the *building* is *sprinklered*,
(b) the *building* is not more than 18 m high, measured between *grade* and the floor level of the uppermost *storey*,
(c) the *building* does not contain a Group A, Group B or Group C *major occupancy*,
(d) the panel does not contain an air space,
(e) the panel, when tested in conformance with CAN/ULC-S138, "Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration", meets the criteria defined in the document, and
(f) the *flame-spread rating* of a panel, determined by subjecting a sample, including an assembled joint typical of field installation, to the appropriate test described in Subsection 3.1.12., is not more than the *flame-spread rating* permitted for the room or space that it bounds.

3.1.5.13. 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* provided the *partitions*,
(a) are not required *fire separations*, and
r6 (b) are not located in a *care*, *care and treatment* or *detention occupancy* or in a *retirement home*.

r6 **(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*,
r6 (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*, and
(b) the *partitions* are not,
r6 (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).

3.1.5.14. Storage Lockers in Residential Buildings

r6 **(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*.

3.2.1.5. Fire Containment in Basements

(1) Except as permitted by Sentences (2) and 3.2.2.15.(3), in a *building* in which an automatic sprinkler system is not required to be installed by Articles 3.2.2.20. to 3.2.2.83., every *basement* shall,
(a) be *sprinklered*, or
(b) be subdivided into *fire compartments* not more than 600 m^2 in area by a *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly immediately above the *basement*.

(2) An *open-air storey* need not conform to Sentence (1).

3.2.1.6. Mezzanines

(1) The floor assembly of a *mezzanine* that is required to be considered as a *storey* in calculating *building height* shall be constructed in conformance with the *fire separation* requirements for floor assemblies in Articles 3.2.2.20. to 3.2.2.83.

3.2.2. Building Size and Construction Relative to Occupancy

3.2.2.1. Application

(1) Except as permitted by Article 3.2.2.3., a *building* shall be constructed in conformance with this Subsection to prevent fire spread and collapse caused by the effects of fire.

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 3.2.2.83. shall be protected against fire spread and collapse in conformance with good fire protection engineering practice. (See Appendix A.)

3.2.2.3. Exceptions to Structural Fire Protection

(1) Fire protection is not required for,
(a) steel lintels above openings not more than 2 m wide in *loadbearing* walls and not more than 3 m wide in non-*loadbearing* walls,
(b) steel lintels above openings more than 2 m wide in *loadbearing* walls and more than 3 m wide in non-*loadbearing* walls, provided the lintels are supported at intervals of not more than 2 m by structural members with the required *fire-resistance rating*,
(c) the bottom flanges of shelf angles and plates that are not a part of the structural frame,
(d) steel members for framework around elevator hoistway doorways, steel for the support of elevator and dumbwaiter guides, counterweights and other similar equipment, that are entirely enclosed in a hoistway and are not a part of the structural frame of the *building*,
(e) steel members of stairways and escalators that are not a part of the structural frame of a *building*,
(f) steel members of porches, exterior balconies, exterior stairways, fire escapes, cornices, *marquees* and other similar appurtenances, provided they are outside an exterior wall of a *building*, and
(g) *loadbearing* steel or concrete members wholly or partly outside a *building* face in a *building* not more than 4 *storeys* in *building height* and classified as Group A, B, C, D or F, Division 3 *major occupancy* provided the members are,
  (i) not less than 1 m away from any *unprotected opening* in an exterior wall, or
  (ii) shielded from heat radiation in the event of a fire within the *building* by construction that will provide the same degree of protection that would be necessary if the member was located inside the *building*, with the protection extending on either side of the member a distance equal to the projection of the member from the face of the wall.

3.2.2.4. Buildings with Multiple Major Occupancies

(1) The requirements restricting fire spread and collapse for a *building* of a single *major occupancy* classification are provided in this Subsection according to its *building height* and *building area*.

(2) If a *building* contains more than one *major occupancy*, classified in more than one Group or Division, the requirements of this Subsection concerning *building* size and construction relative to *major occupancy* shall apply according to Articles 3.2.2.5. to 3.2.2.8.

r6 **(3)** For the purposes of Sentences (1) and (2), a *retirement home* is deemed to be a separate *major occupancy*.

3.2.2.5. Applicable Building Height and Area

(1) In determining the fire safety requirements of a *building* in relation to each of the *major occupancies* contained in it, the *building height* and *building area* of the entire *building* shall be used.

r6 **(2)** For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy*.

3.2.2.6. Multiple Major Occupancies

r5 **(1)** Except as permitted by Articles 3.2.2.7. and 3.2.2.8. and Sentences 3.2.2.43A.(5) and 3.2.2.50A.(4), 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*.

r6 **(2)** For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy*.

3.2.2.7. Superimposed Major Occupancies

r5 **(1)** Except as permitted by Article 3.2.2.8. and Sentences 3.2.2.43A.(5) and 3.2.2.50A.(4), 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* was 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*.

r6 **(3)** For the purposes of Sentences (1) and (2), a *retirement home* is deemed to be a separate *major occupancy*.

3.2.2.8. Exceptions for Major Occupancies

(1) In a *building* in which the aggregate area of all *major occupancies* in a particular Group or Division is not more than 10% of the *floor area* of the *storey* in which they are located, these *major occupancies* need not be considered as *major occupancies* for the purposes of this Subsection, provided they are not classified as Group F, Division 1 or 2 *occupancies*.

r6 **(1.1)** For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy*.

(2) 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.

3.2.2.9. Crawl Spaces

(1) For the purposes of Articles 3.2.1.4. and 3.2.1.5., a crawl space shall be considered as a *basement* if it is,
(a) more than 1 800 mm high between the lowest part of the floor assembly and the ground or other surface below,
(b) used for any *occupancy*,
(c) used for the passage of *flue pipes*, or
(d) used as a *plenum* in *combustible construction*.

(2) A floor assembly immediately above a crawl space is not required to be constructed as a *fire separation* and is not required to have a *fire-resistance rating* provided the crawl space is not required to be considered as a *basement* by Sentence (1).

3.2.2.10. Streets

(1) Every *building* shall face a *street* located in conformance with the requirements of Articles 3.2.5.4 and 3.2.5.5 for access routes.

(2) For the purposes of Subsections 3.2.2. and 3.2.5. an access route conforming to Subsection 3.2.5. is permitted to be considered as a *street*.

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(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 Sentence 3.2.2.7.(1), the *building* shall be *sprinklered*,
(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 1 h, and
(d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.39. Group B, Division 2 or Division 3, up to 3 Storeys, Sprinklered

(1) A *building* classified as Group B, Division 2 or Division 3 is permitted to conform to Sentence (2) provided,
(a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(b) it is not more than 3 *storeys* in *building height*, and
(c) it has a *building area*,
  (i) that is 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) 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, and
(c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.40. Group B, Division 2 or Division 3, up to 2 Storeys, Sprinklered

(1) A *building* classified as Group B, Division 2 or Division 3 is permitted to conform to Sentence (2) provided,
(a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(b) it is not more than 2 *storeys* in *building height*, and
(c) it has a *building area* not more than,
  (i) 2 400 m^2 if 1 *storey* in *building height*, or
  (ii) 1 600 m^2 if 2 *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.

3.2.2.41. Group B, Division 2 or Division 3, 1 Storey, Sprinklered

(1) A *building* classified as Group B, Division 2 or Division 3 is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, provided,
(a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(b) it is not more than 1 *storey* in *building height*, and
(c) it has a *building area* not more than 500 m^2.

3.2.2.42. Group C, Any Height, Any Area, Sprinklered

r_6 **(1)** Except as permitted by Articles 3.2.2.43. to 3.2.2.48., a *building* classified as Group C other than 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 Sentence 3.2.2.7.(1), the *building* shall be *sprinklered*,
(b) except as permitted by Sentence (3), 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) 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*.

r5 3.2.2.43. Group C, up to 6 Storeys, Sprinklered, Noncombustible Construction

r6 **(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 Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(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*.

(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 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, 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 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*.

r5 3.2.2.43A. Group C, up to 6 Storeys, Sprinklered, Combustible Construction

r6 **(1)** A *building* classified as Group C other than a *retirement home* is permitted to conform to Sentence (2) provided,
(a) it is *sprinklered*,
(b) it is not more than 6 *storeys* in *building height*,
(c) it has a height of not more than 18 m, measured between the floor level of the *first storey* and the floor level of the uppermost *storey* or *mezzanine* that is not a rooftop enclosure, provided for elevator machinery, a stairway or a *service room* used for no purpose other than for service to the *building*, and
(d) it has a *building area* of 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*.

(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) except as permitted by Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
(b) roof assemblies shall have a *fire-resistance rating* not less than 1 h,
(c) except as provided by Sentence (4), where the roof assembly has a height greater than 25 m measured from the floor level of the *first storey* to the highest point of the roof assembly, the roof assembly shall,
  (i) be of *noncombustible construction*, or
  (ii) be constructed of *fire-retardant treated wood* conforming to Article 3.1.4.5.,
(d) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,
(e) the *fire separation* of *exits* described in Sentence 3.4.4.1.(3) shall be of *noncombustible construction*, and
(f) *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 construction of non-contiguous roof assemblies at different elevations is permitted to be evaluated separately to determine which roof assemblies are required to be constructed in accordance with Clause (2)(c).

(5) Group A, Division 2 *major occupancies*, Group E *major occupancies* and *storage garages* located in a *building* within the scope of this Article are permitted to be constructed in accordance with this Article provided they are located below the third *storey* of the *building*. (See Appendix A.)

3.2.2.44. Group C, up to 4 Storeys, Noncombustible Construction

r_6 **(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 3.2.2.44.

(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.

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Table 3.2.2.44.
Maximum Building Area, Group C, up to 4 Storeys
Forming Part of Sentence 3.2.2.44.(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
Column 1	2	3	4

(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.

r6 **(5)** reserved.

3.2.2.45. Group C, up to 4 Storeys, Sprinklered

r6 **(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 Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(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*.

(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) except as permitted by Sentences (3) and (4), 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) 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*, 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 a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.46. Group C, up to 3 Storeys, Increased Area

r6 **(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 3.2.2.46.

Table 3.2.2.46.
Maximum Building Area, Group C up to 3 Storeys, Increased Area
Forming Part of Sentence 3.2.2.46.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	2 400	3 000	3 600
2	1 200	1 500	1 800
3	800	1 000	1 200
Column 1	2	3	4

(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) except as permitted by Sentences (3) and (4), 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*, 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 a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

r6 **(5)** reserved.

3.2.2.47. Group C, up to 3 Storeys

r6 **(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 3.2.2.47.

Table 3.2.2.47.
Maximum Building Area, Group C, up to 3 Storeys
Forming Part of Sentence 3.2.2.47.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 800	2 250	2 700
2	900	1 125	1 350
3	600	750	900
Column 1	2	3	4

(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) except as permitted by Sentences (3) and (4), 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.

(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*, that are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 45 min but need not be constructed as *fire separations*.

(4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

r_6 **(5)** reserved.

3.2.2.48. Group C, up to 3 Storeys, Sprinklered

r_6 **(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 Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(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*.

(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) except as permitted by Sentences (3) and (4), 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.

(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*, that are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 45 min but need not be constructed as *fire separations*.

(4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

r_6 3.2.2.48A. Group C, Retirement Home, Any Height, Any Area, Sprinklered

(1) Except as permitted by Articles 3.2.2.48B. to 3.2.2.48E., 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 Sentence 3.2.2.7.(1), the *building* shall be *sprinklered*,
(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.

r6 3.2.2.48B. 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 Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(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.

r6 3.2.2.48C. 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 Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(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.

r6 3.2.2.48D. 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 Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(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 permitted 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.

r6 3.2.2.48E. 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 Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(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.

3.2.2.49. Group D, Any Height, Any Area

(1) Except as permitted by Articles 3.2.2.50. to 3.2.2.56., a *building* classified as Group D 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 Sentence 3.2.2.7.(1), the *building* shall be *sprinklered* if it is regulated by Subsection 3.2.6.,
(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 1 h,
(d) if the *building* is not *sprinklered*, roof assemblies shall have a *fire-resistance rating* not less than 1 h, except that in a *building* not more than 1 *storey* in *building height* this requirement is waived, and
(e) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.50. Group D, up to 6 Storeys

(1) A *building* classified as Group D is permitted to conform to Sentence (2) provided,
(a) it is not more than 6 *storeys* in *building height*, 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 D, up to 6 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	7 200	not limited	not limited
3	4 800	6 000	7 200
4	3 600	4 500	5 400
5	2 800	3 600	4 320
6	2 400	3 000	3 600
Column 1	2	3	4

(2) The *building* referred to in Sentence (1) 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, except that in a *building* not more than 1 *storey* in *building height* this requirement is waived, and
(d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

r5 3.2.2.50A. Group D, up to 6 Storeys, Sprinklered, Combustible Construction

(1) A *building* classified as Group D is permitted to conform to Sentence (2) provided,
(a) it is *sprinklered*,
(b) it is not more than 6 *storeys* in *building height*,
(c) it has a height of not more than 18 m, measured between the floor level of the *first storey* and the floor level of the uppermost *storey* or *mezzanine* that is not a rooftop enclosure, provided for elevator machinery, a stairway or a *service room* used for no purpose other than for service to the *building*, and
(d) it has a *building area* of not more than,
  (i) 18 000 m^2 if 1 *storey* in *building height*,
  (ii) 9 000 m^2 if 2 *storeys* in *building height*,
  (iii) 6 000 m^2 if 3 *storeys* in *building height*,
  (iv) 4 500 m^2 if 4 *storeys* in *building height*,
  (v) 3 600 m^2 if 5 *storeys* in *building height*, or
  (vi) 3 000 m^2 if 6 *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) roof assemblies shall have a *fire-resistance rating* not less than 1 h,
(c) except as provided by Sentence (3), where the roof assembly has a height greater than 25 m measured from the floor level of the *first storey* to the highest point of the roof assembly, the roof assembly shall,
  (i) be of *noncombustible construction*, or
  (ii) be constructed of *fire-retardant treated wood* conforming to Article 3.1.4.5.,
(d) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,
(e) the *fire separation* of *exits* described in Sentence 3.4.4.1.(3) shall be of *noncombustible construction*, and
(f) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

(3) The construction of non-contiguous roof assemblies at different elevations is permitted to be evaluated separately to determine which roof assemblies are required to be constructed in accordance with Clause (2)(c).

(4) Group A, Division 2 *major occupancies*, Group E *major occupancies* and *storage garages* located in a *building* within the scope of this Article are permitted to be constructed in accordance with this Article provided they are located below the third *storey* of the *building*. (See Appendix A.)

r5 3.2.2.51. Group D, up to 6 Storeys, Sprinklered, Noncombustible Construction

(1) A *building* classified as Group D is permitted to conform to Sentence (2) provided,
(a) except as permitted by Sentence 3.2.2.7.(1), the *building* is *sprinklered*,
(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 14 400 m^2 if 3 *storeys* in *building height*,
  (iii) not more than 10 800 m^2 if 4 *storeys* in *building height*,
  (iv) not more than 8 640 m^2 if 5 *storeys* in *building height*, or
  (v) not more than 7 200 m^2 if 6 *storeys* in *building height*.

(2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) 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, and
(c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

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(4) 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.

(5) A fire alarm system is not required in a *storage garage* conforming to Article 3.2.2.83. provided there are no other *occupancies* in the *building*.

3.2.4.2. Continuity of Fire Alarm System

(1) Except as permitted by Sentence (6), if there are openings through a *firewall*, other than those for piping, tubing, wiring and totally enclosed *noncombustible* raceways, the requirements in this Subsection shall apply to the *floor areas* on both sides of the *firewall* as if they were in the same *building*.

(2) Except as permitted by Sentence (4), if a *building* contains more than one *major occupancy* and a fire alarm system is required, a single system shall serve all *occupancies*.

(3) Except as permitted by Sentence (4), if a fire alarm system is required in any portion of a *building*, it shall be installed throughout the *building*.

(4) Except as required by Sentence (5), the requirements in this Subsection are permitted to be applied to each portion of a *building* not more than 3 *storeys* in *building height*, in which a vertical *fire separation* having a *fire-resistance rating* not less than 1 h separates the portion from the remainder of the *building* as if it were a separate *building*, provided there are no openings through the *fire separation*, other than those for piping, tubing, wiring and totally enclosed *noncombustible* raceways.

(5) The permission in Sentence (4) to consider separated portions of a *building* as separate *buildings* does not apply to *service rooms* and storage rooms.

(6) *Buildings* interconnected by *walkways* permitted in Articles 3.2.3.19. and 3.2.3.20. or by vestibules provided in conformance with Article 3.2.6.3. shall be treated as separate *buildings* for the purpose of fire alarm installation required by this Subsection.

3.2.4.3. Types of Fire Alarm Systems

(1) A fire alarm system shall be,
(a) a single stage system in a Group F, Division 1 *occupancy*,
(b) a two stage system in a Group B *occupancy* other than those described in Clause (c),
(c) a single or two stage system in a *building* 3 *storeys* or less in *building height* that contains a Group B, Division 3 *occupancy*,
(d) a single stage system in elementary and secondary schools, except for a special needs facility, and
(e) a single or two stage system in all other cases.

3.2.4.4. Description of Fire Alarm Systems

(1) A single stage fire alarm system shall, upon the operation of any manual pull station or *fire detector*, cause an *alarm signal* to sound on all audible signal devices in the system. (See Appendix A.)

(2) A two stage fire alarm system shall,
(a) cause an *alert signal* to sound upon the operation of any manual pull station 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 each manual pull station equipped so that the use of a key or other similar device causes an *alarm signal* to sound and continue to sound upon the removal of the key or similar device from the manual pull station, and (See Appendix A.)

(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 Appendix A.)

(3) A two stage fire alarm system is permitted to be zone coded so that, upon the operation of any manual pull station or *fire detector*,
(a) a coded *alert signal* is sounded indicating the zone of alarm initiation,
(b) the coded *alert signal* is repeated in its entirety no fewer than four times, and
(c) a continuous *alert signal* is sounded upon completion of the coded signals referred to in Clause (b) and Sentence (4).

(4) If a second manual pull station or *fire detector* is operated in a fire alarm system with zone coding as permitted by Sentence (3), in a zone other than that for which the first *alert signal* was sounded, the coded *alert signal* for the first zone shall be completed before the coded *alert signal* for the second zone is repeated no fewer than four times.

3.2.4.5. Installation and Verification of Fire Alarm Systems

(1) Fire alarm systems, including those with voice communication capability, shall be installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems".

(2) A fire alarm system shall be verified in conformance with CAN/ULC-S537, "Verification of Fire Alarm Systems", to ensure satisfactory operation.

3.2.4.6. Commissioning of Life Safety and Fire Protection Systems

(1) Where life safety and fire protection systems are installed to comply with the provisions of this Code or the Fire Code made under the *Fire Protection and Prevention Act, 1997*, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship between the systems. (See Appendix A.)

3.2.4.7. 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 Sentences 3.2.4.20.(9) and 3.2.4.23.(3) and (4), a fire alarm system shall not incorporate manual silencing switches other than those installed inside the fire alarm control unit. (See Appendix A.)

(3) Except as provided by Clause 3.2.4.23.(4)(a), in a *care and treatment occupancy* an *alert signal* is permitted to be silenced automatically after 1 min.

3.2.4.8. Signals to Fire Department

r_1 **(1)** If a fire alarm system is required to be installed and a single stage system is provided, the system shall be designed to notify the fire department in conformance with Sentence (4) that an *alarm signal* has been initiated in,
(a) a Group A *occupancy* having an *occupant load* more than 300,
(b) a Group B *occupancy*,
(c) a Group F, Division 1 *occupancy*,
(d) a *building* regulated by the provisions of Subsection 3.2.6.,
(e) a *building* containing *interconnected floor space* required to conform to Articles 3.2.8.3. to 3.2.8.11., or
r_6 (f) a *retirement home*.

(2) A fire alarm system that includes waterflow indicating devices shall be designed to notify the fire department, in conformance with Sentence (4), that an alarm has been initiated.

(3) If a fire alarm system is required to be installed and a two stage system is provided, the system shall be designed to notify the fire department, in conformance with Sentence (4), that an *alert signal* has been initiated.

(4) Notification of the fire department required by Sentences (1) to (3) shall be by way of,
(a) signals to a central station conforming to CAN/ULC-S561, "Installation and Services for Fire Signal Receiving Centres and Systems", or
(b) the municipal fire alarm system.
(See Appendix A.)

(5) Where a single stage fire alarm system is installed in a *building* that is not *sprinklered*, and Sentence (1) does not apply, a legible notice, that is not easily removed, shall be affixed to the wall near each manual pull station stating,
(a) that the fire department is to be notified in the event of a fire emergency, and
(b) the emergency telephone number for the *municipality* or the telephone number of the fire department. (See Appendix A.)

3.2.4.9. Annunciator and Zone Indication

(1) Except as permitted by Sentences (3) to (5), an annunciator shall be installed in close proximity to a *building* entrance that faces a *street* or an access route for fire department vehicles that complies with Sentence 3.2.5.5.(1).

(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 in a *building* that is not *sprinklered*, the area of coverage for each zone is neither more than,
  (i) 1 *storey*, nor
  (ii) 2 000 m^2,
(b) *floor area* so that in a *building* that is *sprinklered*, the area of coverage for each zone is neither more than,
  (i) 1 *storey*, nor
  (ii) the system area limits as specified in NFPA 13, "Installation of Sprinkler Systems",
(c) shaft required to be equipped with *fire detectors*,
(d) air handling system required to be equipped with *smoke detectors*,
(e) fire extinguishing system required by NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations",
(f) *contained use area*,
(g) *impeded egress zone*,
r6 (h) *fire compartment* required by Sentence 3.3.3.5.(2) or Sentence 3.3.4.11.(2), and
(i) *fire compartment* required to be separated by vertical *fire separations* having a *fire-resistance rating* not less than 2 h, other than *dwelling units* described in Subsection 3.3.4.
(See Appendix A.)

(3) An annunciator need not be provided for a fire alarm system if not more than one zone indicator is required in Sentence (2).

(4) If an annunciator is not installed as part of a fire alarm system in conformance with Sentence (1), a visual and audible trouble signal device shall be provided inside the main entrance of the *building*.

(5) The requirements in Sentence (1) are waived in a *building,*
(a) reserved
(b) that has an aggregate area for all *storeys* of not more than 2 000 m^2, and
(c) that is not more than 3 *storeys* in *building height*.

(6) The area limits of Clause (2)(a) are waived for an interior undivided open space used as an arena, a rink or a swimming pool provided that other spaces in the *building* that are separated from the open space are individually zoned in accordance with the requirements of Sentence (2).

(7) A fire alarm control unit installed in close proximity to a *building* entrance that faces a *street* or an access route for fire department vehicles that complies with Sentence 3.2.5.5.(1), is deemed to satisfy the requirement for an annunciator provided all indicators required for an annunciator or trouble signal device are included on the control unit. (See Appendix A.)

(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.

3.2.4.10. Electrical Supervision

(1) Electrical supervision shall be provided for a fire alarm system.

(2) If a fire alarm system in a *building* is required by Sentence 3.2.4.9.(1) to have an annunciator, each valve controlling water supplies in a standpipe system, except for hose valves, shall be equipped with an electrically supervised switch for transmitting a trouble signal to the annunciator in the event of movement of the valve handle.

(3) If a fire alarm system is installed in a *building*, an automatic sprinkler system shall be electrically supervised to indicate a supervisory signal on the *building* fire alarm system annunciator for each of the following,
(a) movement of a valve handle that controls the supply of water to sprinklers,
(b) loss of excess water pressure required to prevent false alarms in a wet pipe system,
(c) loss of air pressure in a dry pipe system,
(d) loss of air pressure in a pressure tank,
(e) a significant change in water level in any water storage container used for firefighting purposes,
(f) loss of power to any automatically starting fire pump, and (See Appendix A.)
(g) a temperature approaching the freezing point in any dry pipe valve enclosure or water storage container used for firefighting purposes.

(4) If a fire alarm system is installed in a *building*, a fire pump shall be electrically supervised in accordance with NFPA 20, "Installation of Stationary Pumps for Fire Protection".

(5) If a fire alarm system is required in a *building*, 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.

(6) In a *building* regulated by the provisions of Subsection 3.2.6., the indication of a supervisory signal in accordance with Sentence (3) shall be transmitted to a proprietary control centre or to an independent central station.

3.2.4.11. Fire Detectors

(1) *Fire detectors* required by this Article shall be connected to the fire alarm system.

(2) Except as provided in Article 3.2.4.16., if a fire alarm system is required, *fire detectors* shall be installed in each,
(a) storage room not within a *dwelling unit*,
(b) *service room* not within a *dwelling unit*,
(c) janitors' room,

(d) room in which hazardous substances are to be used or stored,
(e) elevator or dumbwaiter shaft,
(f) laundry room in a *building* of *residential occupancy*, but not one within a *dwelling unit*, and
(g) *hazardous classroom* and change room in an elementary or secondary school.

3.2.4.12. Smoke and Heat Detectors

(1) If a fire alarm system is required, *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 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 Group A, Division 1 *major occupancy*,
(d) each *public corridor* in portions of a *building* classified as Group C *major occupancy*,
(e) each *exit* stair shaft,
(f) each corridor serving classrooms in elementary and secondary schools, and
(g) each elevator machine room or machinery space.
(See Appendix A.)

(2) Except as provided in Article 3.2.4.16., if a fire alarm system is required, *heat detectors* shall be installed in,
(a) every room in portions of *buildings* classified as Group A, Division 1,
(b) except in a *hotel*, in every *suite*, and every room not located within a *suite*, in portions of *buildings* classified as Group C *major occupancy* and more than 3 *storeys* in *building height*, and
(c) in a *floor area* containing a *hotel*, 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.

r_1 **(3)** *Smoke detectors* required in sleeping rooms of *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 Appendix A.)

(4) *Smoke detectors* required by Clause (1)(g) shall, upon actuation, recall the elevators served by machinery located in the machine room or machinery space in which the *smoke detector* is installed.

(5) Except as permitted by Sentences (6) and (7), where a *building* is required to be equipped with a fire alarm system, a *smoke detector* shall be located near the entrance to,
(a) a *walkway* described in Articles 3.2.3.19. and 3.2.3.20., or
(b) a vestibule provided in conformance with Article 3.2.6.3.

(6) *Smoke detectors* installed at the entrance to a *walkway* in conformance with Article 3.1.8.12. are deemed to meet the requirements of Sentence (5).

(7) *Fire detectors* are permitted to be installed in lieu of the *smoke detectors* required by Sentence (5) in Group F *occupancies* where the *smoke detectors* may be subjected to false alarms due to the activities within the *building*.

3.2.4.13. Prevention of Smoke Circulation

(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 1 *storey*,
(b) serves more than one *suite* in a *storey*,
r_6 (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.(8).

3.2.4.14. Vacuum Cleaning System Shutdown

(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.

3.2.4.15. Elevator Emergency Return

(1) Except as permitted by Sentence (3), in a *building* having elevators that serve *storeys* above the *first storey* and that are equipped with an automatic emergency recall feature, *smoke detectors* shall be installed in the elevator lobbies on the recall level so that when these *smoke detectors* are actuated, the elevators will automatically return directly to an alternate floor level.

(2) *Smoke detectors* required by Sentence (1) shall be designed as part of the *building* fire alarm system.

(3) The alternate floor recall feature required by Sentence (1) is not required if the *floor area* containing the recall level is *sprinklered*.

3.2.4.16. Sprinklers in Lieu of Fire Detectors

(1) *Fire detectors* required by Article 3.2.4.11. and *heat detectors* required by Sentence 3.2.4.12.(2) need not be provided within a *floor area* if the *floor area* is *sprinklered* and the sprinkler system is electrically supervised in conformance with Sentence 3.2.4.10.(3). (See Appendix A.)

3.2.4.17. System Monitoring

(1) An automatic sprinkler system shall be equipped with waterflow detecting devices and, if an annunciator is required by Article 3.2.4.9., shall be installed so that each device serves,
(a) not more than 1 *storey*, and
(b) an area on each *storey* that is not more than the system area limits as specified in NFPA 13, "Installation of Sprinkler Systems".

(2) If a fire alarm system is provided, waterflow indicating devices required by Sentence (1) shall be connected to the fire alarm system so that on actuation an *alert signal* or an *alarm signal* is initiated.

3.2.4.18. Manual Pull Stations

(1) Except as permitted by Sentences (2) and (3), if a fire alarm system is installed, a manual pull station shall be installed,
(a) near the principal entrance to the *building*, and
(b) near every required *exit*.
(See Appendix A.)

(2) In a *building* that is *sprinklered*, a manual pull 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.

(3) In a *building* that is *sprinklered*, a manual pull station is not required at an exterior egress doorway from a *dwelling unit* that does not lead to an interior shared *means of egress* in a *building* not more than 3 *storeys* in *building height* containing only *dwelling units*, provided each *dwelling unit* is served by an exterior *exit* facility leading directly to ground level.

(4) In a *building* referred to in Sentence (2) or (3), manual pull stations shall be installed near doorways leading from shared interior corridors to the exterior.

(5) In a *building* containing a *hotel*, a manual pull station shall be installed in the main reception area serving the *hotel*.

r_6 **(6)** Except as permitted by Sentence (3), in Group C apartment *buildings* other than *retirement homes*, if a pull station is not installed on a *floor area* in accordance with Sentence (1) or (4),
(a) a manual pull 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*.

(7) In *floor areas* where the manual pull stations are located in *dwelling units*, a legible sign stating **FIRE ALARM PULL STATIONS LOCATED IN APARTMENT UNITS** shall be posted near every *exit* in a *public corridor*.

(8) Key switch activated pull stations are permitted in an *impeded egress zone* and a *contained use area* in Group B, Division 1 and 2 *occupancies*.

3.2.4.19. Alert and Alarm Signals

(1) In a two stage fire alarm system described in Sentence 3.2.4.4.(2), the same audible signal devices are permitted to be used to sound the *alert signals* and the *alarm signals.*

(2) If audible signal devices with voice reproduction capabilities are intended for paging and similar voice message use, other than during a fire emergency, they shall be installed so that *alert signals* and *alarm signals* take priority over all other signals.

(3) Audible signal devices forming part of a fire alarm or voice communication system shall not be used for playing music or background noise.

r_4 **(4)** Except as permitted by Sentence (6), visual signal devices shall be installed in addition to audible signal devices,
(a) in a *building* or portion of a *building* intended for use primarily by persons with hearing impairment,
(b) in a *public corridor* serving a Group A, B, C, D or E *occupancy*,
(c) 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*,
(d) in not less than 10% of the *suites* of a *hotel* or motel,
(e) in a washroom for *public use* described in Sentence 3.8.2.3.(2), (3), (4) or (6), and
(f) in the living space in a *suite* of *residential occupancy* in a Group C *major occupancy* apartment *building*.

(5) Visual signal devices are permitted to be installed in lieu of audible signal devices in the compartments referred to in Article 3.3.3.6.

(6) Visual signal devices required by Clauses (4)(b) and (c) 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. Audibility of Alarm Systems (See Appendix A.)

(1) Except as permitted by Sentence 3.2.4.19.(5) 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 Appendix A.)

(2) The sound pattern of an *alarm signal* shall conform to the temporal pattern defined in Clause 4.2 of International Standard ISO 8201, "Acoustics — Audible Emergency Evacuation Signal". (See Appendix A.)

(3) The sound patterns of *alert signals* shall be significantly different from the temporal patterns of *alarm signals*. (See Appendix A.)

(4) In all normally occupied spaces, the fire *alarm signal* sound pressure level,
(a) shall be not more than 100 dBA when measured at 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 Appendix A.)

(6) Except as required by Sentence (5), the sound pressure level from a fire alarm audible signal device in a *floor area* shall be not less than 10 dBA above the ambient noise level, but with a minimum value not less than 65 dBA.

(7) Fire alarm audible signal devices shall be supplemented by visual signal devices in any *floor area* in which,
(a) the ambient noise level is more than 87 dBA, or
(b) the occupants of the *floor area,*
  (i) use ear protective devices,
  (ii) are located within an audiometric booth, or
  (iii) are located within sound insulated enclosures.

(8) Sentence (7) shall also apply in an *assembly occupancy* in which music and other sounds associated with performances could exceed 100 dBA.

(9) Except as permitted by Sentence (13), an audible signal device located within a *dwelling unit* shall incorporate a means that enables the device to be silenced for a period of not more than 10 min, after which the device shall restore to normal operation. (See Appendix A.)

(10) 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 the 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 *suites* of *residential occupancy*.
(See Appendix A.)

(11) In a *building* or part of it 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 *suites* of *residential occupancy* or *dwelling units*.

(12) Audible signal devices shall be installed in a *service space* referred to in Sentence 3.2.1.1.(9) and shall be connected to the fire alarm system.

(13) Audible signal devices, within *dwelling units* that are wired on separate signal circuits, need not include a means for silencing as required by Sentence (9) provided the fire alarm system includes a provision for the 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 system referred to in Article 3.2.4.23. has a provision to override the automatic signal to allow the transmission of voice messages through silenced audible signal device circuits that serve the *dwelling units*.

(See Appendix A.)

(14) If a two stage fire alarm system has been installed with an automatic signal silence as described in Sentence (13), 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.

3.2.4.21. Visual Signals

(1) Visual signal devices required by Sentences 3.2.4.19.(4) and 3.2.4.20.(7) and (8) shall be installed so that the signal from at least one device is visible throughout the *floor area* or portion of it in which they are installed. (See Appendix A.)

(2) Visual signal devices permitted by Sentence 3.2.4.19.(5) shall be installed so that the signal from at least one device is visible throughout the compartment in which they are installed. (See Appendix A.)

3.2.4.22. Smoke Alarms

r_1 **(1)** Except as permitted by Sentence (6), *smoke alarms* conforming to CAN/ULC-S531, "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*.

(2) At least one *smoke alarm* shall be installed on each *storey* and *mezzanine* of a *dwelling unit*.

(3) On any *storey* of a *dwelling unit* containing sleeping rooms, a *smoke alarm* shall be installed in,
(a) each sleeping room, and
(b) 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.

(4) A *smoke alarm* shall be installed on or near the ceiling.

(5) Except as permitted by Sentence (6), *smoke alarms* required by Sentence (1) 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 not less than seven days in the normal condition, followed by 4 min of alarm.

(See Appendix A.)

(6) *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 within the individual *suites*,
(b) except as provided by Sentence (7), are installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems", and verified in conformance with CAN/ULC-S537, "Verification of Fire Alarm Systems", and
(c) form part of the fire alarm system.

(7) *Smoke detectors* permitted to be installed in lieu of *smoke alarms* as provided in Sentence (6) are not required under Clause (6)(b) to sound an alarm throughout the rest of the *building*, provided they sound localized alarms within individual *suites* and otherwise meet the requirements of Clause (6)(b). (See Appendix A.)

(8) If more than one *smoke alarm* is required in a *dwelling unit*, the *smoke alarms* shall be wired so that the actuation of one *smoke alarm* will cause all *smoke alarms* within the *dwelling unit* to sound.

(9) A *smoke alarm* required by Sentence (1) shall be installed in conformance with CAN/ULC-S553, "Installation of Smoke Alarms".

(10) Except as permitted by Sentence (11), 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*.

(11) *Suites* of *residential occupancy* equipped with *smoke detectors* installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems", as part of the fire alarm system in lieu of *smoke alarms* as permitted by Sentence (6), need not incorporate the manually operated silencing device required by Sentence (10).

(12) The sound patterns of *smoke alarms* shall,
(a) meet the temporal patterns of *alarm signals*, or
(b) be a combination of temporal pattern and voice relay.

r5 **(13)** *Smoke alarms* required by 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". (See Appendix A.)

r5 **(14)** The visual signalling component required by Sentence (13) 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*.

r5 **(15)** The luminous intensity for visual signalling components required by Sentence (13) that are installed in sleeping rooms shall be a minimum of 175 cd.

r6 **(16)** *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 (6) 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.

3.2.4.23. Voice Communication Systems

r6 **(1)** A voice communication system required by Sentences (7) to (10), Subsection 3.2.6., Clause 3.3.2.4.(14)(f) or Sentence 3.3.4.11.(12) shall consist of,
(a) a two-way means of communication with,
  (i) the central alarm and control facility, and
  (ii) the mechanical control centre from each *floor area*, and
(b) except as provided by Sentence (8), loudspeakers that are,
  (i) operated from the central alarm and control facility, and
  (ii) designed and located so that transmitted messages are audible and intelligible as required by Sentence (2) in all parts of the *building*, except in elevator cars.

(See Appendix A.)

(2) The voice communication system referred to in Clause (1)(b) shall be capable of broadcasting pre-recorded, synthesized or live messages with voice intelligibility meeting or exceeding the equivalent of a common intelligibility scale score of 0.70. (See Appendix A.)

(3) The voice communication system referred to in Sentence (1) shall include a means to silence the *alarm signal* in a single stage fire alarm system while voice messages are being transmitted, but only after the *alarm signal* has initially sounded for not less than 30 s.

(4) The voice communication system referred to in Sentence (1) shall include a means to silence the *alert signal* and the *alarm signal* in a two stage fire alarm system while voice messages are being transmitted, but only after the *alert signal* has initially sounded for not less than,
(a) 10 s in hospitals that have supervisory personnel on duty for twenty-four hours each day, or
(b) 30 s for all other *occupancies*.

3.2.5.6. Access Route Design

(1) A portion of a roadway or yard provided as a required access route for fire department use shall,
(a) have a clear width not less than 6 m, unless it can be shown that lesser widths are satisfactory,
(b) have a centreline radius not less than 12 m,
(c) have an overhead clearance not less than 5 m,
(d) have a change of gradient not more than 1 in 12.5 over a minimum distance of 15 m,
(e) be designed to support the expected loads imposed by firefighting equipment and be surfaced with concrete, asphalt or other material designed to permit accessibility under all climatic conditions,
(f) have turnaround facilities for any dead-end portion of the access route more than 90 m long, and
(g) be connected with a public thoroughfare.
(See Appendix A.)

r_5 **(2)** A *building* within the scope of Article 3.2.2.43A. or 3.2.2.50A. shall have no portion of the required access route more than 20 m below the floor level of the uppermost *storey* or *mezzanine* that is not a rooftop enclosure, provided for elevator machinery, a stairway or a *service room* used for no purpose other than for service to the *building*.

3.2.5.7. Water Supply (See Appendix A.)

(1) An adequate water supply for firefighting shall be provided for every *building*.

(2) Hydrants shall be located within 90 m horizontally of any portion of a *building* perimeter that is required to face a *street* in Subsection 3.2.2.

e_6 3.2.5.8. to 3.2.5.12. Reserved

3.2.5.13. Automatic Sprinkler Systems

r_1 **(1)** Except as provided by Sentences (2) to (4), an automatic sprinkler system shall be designed, constructed, installed and tested in conformance with NFPA 13, "Installation of Sprinkler Systems". (See Appendix A.)

(2) NFPA 13R, "Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height", is permitted to be used for the design, construction, installation and testing of an automatic sprinkler system installed in a *building,*
r_6 (a) of *residential occupancy* that does not contain a *retirement home* and that is not more than 4 *storeys* in *building height*,
(b) 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,
r_6 (c) that contains a *retirement home* constructed in accordance with Article 3.2.2.48D., or
r_6 (d) that contains a *retirement home* constructed in accordance with Article 3.2.2.48E., 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.

r_5 **(3)** Except as required by Sentence (9), NFPA 13D, "Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes", is permitted to be used for the design, construction, installation and testing of an automatic sprinkler system installed in a *building* of *residential occupancy* that contains not more than two *dwelling units*.

(4) If a *building* contains fewer than nine 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.

r_5 **(6)** Despite the requirements of the standards referenced in Sentences (1) and (2) for the installation of automatic sprinkler systems, sprinklers shall not be omitted in any room or closet in the *storey* immediately below a roof assembly if the *fire-resistance rating* of the roof assembly is waived as permitted by Article 3.2.2.17. (See Appendix A.)

r_5 **(7)** Despite the requirements of the standards referenced in Sentences (1) and (2) for the installation of automatic sprinkler systems, sprinklers shall be provided for all balconies and decks forming part of a *building* within the scope of Article 3.2.2.43A. or 3.2.2.50A., other than,

e_4 (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 Appendix A.)

r_5 **(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 Appendix A.)

r_6 **(9)** The sprinkler system described in Sentence (3) shall be provided with a minimum 20 min water supply when installed in a *retirement home*.

3.2.5.14. Combustible Sprinkler Piping

(1) *Combustible* sprinkler piping shall be used only for wet systems in *residential occupancies* and other light hazard *occupancies*. (See Appendix A.)

(2) *Combustible* sprinkler piping shall meet the requirements of ULC/ORD-C199P, "Combustible Piping for Sprinkler Systems".

(3) Except as permitted by Sentence (5), *combustible* sprinkler piping shall be separated from the area served by the sprinkler system, and from any other *fire compartment*, by ceilings, walls, or soffits consisting of, as a minimum,

(a) lath and plaster,

(b) gypsum board not less than 9.5 mm thick,

(c) plywood not less than 13 mm thick, or

(d) a suspended membrane ceiling with,

  (i) steel suspension grids, and

  (ii) lay-in panels or tiles having a mass not less than 1.7 kg/m^2.

(4) Except as permitted by Sentence (5), *combustible* sprinkler piping may be located above a ceiling, provided that the distance between the edge of any ceiling opening that is not protected in conformance with Sentence (3) and the nearest sprinkler is not more than 300 mm.

(5) The protection required by Sentences (3) and (4) is permitted to be waived where *combustible* sprinkler piping has been tested in conformance with ULC/ORD-C199P, "Combustible Piping for Sprinkler Systems", and has been shown to meet the requirements in that document without additional protection.

3.2.5.15. Sprinklered Service Space

(1) An automatic sprinkler system shall be installed in a *service space* referred to in Sentence 3.2.1.1.(9) if flooring for access within the *service space* is other than catwalks.

(2) The sprinkler system required by Sentence (1) shall be equipped with waterflow detecting devices, with each device serving not more than 1 *storey*.

(2) The fire department connection for an automatic sprinkler system shall be located so that the distance from the fire department connection to a hydrant is not more than 45 m and is unobstructed.

(3) The fire department connections required in Sentences (1) and (2) shall be,
(a) located on the outside of a *building* adjacent to a *street* or an access route, not less than 300 mm and not more than 900 mm above ground level, and
(b) provided with two 65 mm hose connections with female swivel hose couplings.

3.2.5.17. Portable Fire Extinguishers

(1) Portable fire extinguishers shall be installed in all *buildings*, except within *dwelling units*, in conformance with the provisions of Part 6 of Division B of the Fire Code made under the *Fire Protection and Prevention Act, 1997*.

(2) In a Group B, Division 1 *major occupancy*, portable fire extinguishers are permitted to be located in secure areas, or in lockable cabinets provided,
(a) identical keys for all cabinets are located at all supervisory or security stations, or
(b) electrical remote release devices are provided and are connected to an emergency power supply.

3.2.5.18. Protection from Freezing

(1) Equipment forming part of a fire protection system shall be protected from freezing if,
(a) it could be adversely affected by freezing temperatures, and
(b) it is located in an unheated area.

3.2.5.19. Fire Pumps

(1) A fire pump having a rated net head pressure greater than 280 kPa shall be installed in accordance with the requirements of NFPA 20, "Installation of Stationary Pumps for Fire Protection". (See Appendix A.)

3.2.6. Additional Requirements for High Buildings (See Appendix A.)

3.2.6.1. Application

(1) 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*,
r6 (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
r6 (e) containing a *retirement home*, where the floor level of the highest *storey* of the *retirement home* is more than 18 m above *grade*.

3.2.6.2. Limits to Smoke Movement

(1) A *sprinklered building* shall be designed in accordance with Sentences (2) to (5) 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".

(3) Each stairway that serves *storeys* above the lowest *exit level* shall have a vent to the outdoors, at or near the bottom of the stair shaft, that,
(a) has an openable area of 0.05 m^2 for every door between the stair shaft and a *floor area*, but not less than 1.8 m^2,
(b) opens directly to the outdoors or into a vestibule that has a similar opening to the outdoors, and
(c) has a door or *closure* that,
  (i) is openable manually, and
  (ii) can remain in the open position during a fire emergency.

(4) Measures shall be taken to limit movement of smoke from a fire in a *floor area* below the lowest *exit storey* into upper *storeys*.

(5) Except for exhaust fans in kitchens, washrooms and bathrooms in *dwelling units*, and except for fans used for smoke venting as required by Article 3.2.6.6., air moving fans in a system that serves more than 2 *storeys* shall be designed and installed so that in the event of a fire these fans can be stopped by means of a manually operated switch at the central alarm and control facility.

(6) 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.

3.2.6.3. Connected Buildings

(1) If a *building* described in Article 3.2.6.1. is connected to any other *building*, measures shall be taken to limit movement of contaminated air from one *building* into another during a fire.

3.2.6.4. Emergency Operation of Elevators

(1) Manual emergency recall shall be provided for all elevators serving *storeys* above the *first storey*.

(2) Key-operated switches for emergency recall described by Sentence (1) shall be provided in a conspicuous location at,
(a) each elevator lobby on the recall level, and
(b) the central alarm and control facility required in Article 3.2.6.7.

(3) In-car emergency service switches shall be provided in all elevator cars.

(4) Keys to operate the switches required by Sentences (2) and (3) shall be,
(a) provided in a suitably identified box conspicuously located on the outside of an elevator hoistway near the central alarm and control facility required by Article 3.2.6.7., and
(b) kept at the central alarm and control facility.

(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*, or (See Appendix A.)
(b) the *building* fire alarm system.

(7) *Smoke detectors* in Sentence (6) shall be designed as part of the *building* fire alarm system.

(3) Rooms and spaces used by the public shall be illuminated as described in Article 9.34.2.7.

(4) Lighting outlets in a *building* of *residential occupancy* shall be provided in conformance with Subsection 9.34.2.

(5) Elevator machine rooms shall be equipped to provide illumination to an average level of not less than 100 lx at floor level.

(6) 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.

(7) 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.

(8) Every storage room, dressing room, sanitary facility, service area and corridor serving the areas in Sentence (7) shall be equipped to provide illumination to a level of not less than 300 lx measured at the floor level.

3.2.7.2. Recessed Lighting Fixtures

(1) A recessed lighting fixture shall not be located in an insulated ceiling unless the fixture is designed for this type of installation.

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 an open *floor area* 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) corridors serving classrooms,
(f) underground *walkways*,
(g) *public corridors*,
(h) *floor areas* or parts of them where the public may congregate in,
  (i) Group A, Division 1 *occupancies*, or
  (ii) Group A, Divisions 2 and 3 *occupancies* having an *occupant load* of 60 or more,
(i) *floor areas* or parts of them in day care centres where persons are cared for,
(j) food preparation areas in commercial kitchens,
(k) 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
(l) 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.(9), 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 not be 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
r5 (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.,
r6 (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 3.2.2.43A. or 3.2.2.50A., and
(iv) 30 min for any other *building*.
(See Appendix A.)

(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 Installation

r5 **(1)** Except as required by Articles 3.2.7.6. and 3.2.7.7., an emergency electrical power 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 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 Appendix A.)

3.2.7.7. Fuel Supply Shut-Off Valves and Exhaust Pipes

(1) If a liquid or gas fuel-fired engine or turbine for an emergency electric power supply is dependent on a fuel supply from outside the *building*, the fuel supply shall be provided with a suitably-identified separate shut-off valve outside the *building*.

(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.

3.2.7.8. Emergency Power for Fire Alarm Systems

(1) Fire alarm systems, including those incorporating a voice communication system, shall be provided with an emergency power supply conforming to Sentences (2) to (4).

(2) The emergency power supply required by Sentence (1) shall be supplied from,
(a) a generator,
(b) batteries, or
(c) a combination of the items described in Clauses (a) and (b).

(3) The emergency power supply required by Sentence (1) shall be capable of providing,
(a) supervisory power for not less than 24 h, and
r5 (b) immediately following, 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 Group B *major occupancy* that is not within the scope of Subsection 3.2.6.,
r6 (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 3.2.2.43A. or 3.2.2.50A.,
(iv) 5 min for a *building* not required to be equipped with an annunciator, and
(v) 30 min for any other *building*.

(See Appendix A.)

(4) The emergency power supply required by Sentence (1) shall be designed so that, in the event of a failure of the normal power source, there is an immediate automatic transfer to emergency power with no loss of information.

3.2.7.9. Emergency Power for Building Services

(1) An emergency power supply capable of operating under a full load for not less than 2 h shall be provided by an emergency generator for,
(a) every elevator serving *storeys* above the *first storey* in a *building* that is more than 36 m high measured between *grade* and the floor level of the top *storey* and every elevator for firefighters in conformance with Sentence (2),
(b) water supply for firefighting in conformance with Article 3.2.5.7., if the supply is dependent on electrical power supplied to the *building*, and the *building* is within the scope of Subsection 3.2.6.,
(c) fans and other electrical equipment that are installed to maintain the air quality specified in Article 3.2.6.2., and
(d) fans required for venting by Article 3.2.6.6.

(See Appendix A.)

(2) Except as permitted by Sentence (3), the emergency power supply for elevators required by Clause (1)(a) shall be capable of operating all elevators for firefighters plus one additional elevator simultaneously.

(3) Sentence (2) does not apply if the time to recall all elevators under emergency power supply is not more than 5 min, each from its most remote *storey* to,
(a) the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4 and 3.2.5.5., or
(b) to a transfer lobby.

(4) Except as provided by Sentence (5), an emergency power supply capable of operating under a full load for not less than 30 min shall be provided by emergency generator for water supply for firefighting in conformance with Article 3.2.5.7., if the supply is dependent on electrical power supplied to the *building*, and the *building* is not within the scope of Subsection 3.2.6.

(5) Sentence (4) does not apply to the water supply for a standpipe system.

3.2.7.10. Protection of Electrical Conductors

(1) Electrical conductors shall conform to Sentences (2) to (9) if they,
(a) are within *buildings* identified in Article 3.2.6.1. and serve,
(i) fire alarm systems, or
(ii) emergency equipment within the scope of Articles 3.2.6.2. to 3.2.6.8.,
(b) serve fire pumps required to be installed under Article 3.2.5.19.,
(c) serve mechanical systems related to,
(i) compartments referred to in Clause 3.3.3.6.(1)(b),
(ii) *contained use areas* referred to in Clauses 3.3.3.7.(4)(a) and (b), or
(iii) provisions of Articles 3.2.8.4. to 3.2.8.6. and 3.2.8.9., or
(d) serve emergency lighting described in Article 3.2.7.3.

(2) Except as required by Sentence (3) and except as permitted in this Article, electrical conductors referred to in Sentence (1) shall,
(a) conform to ULC-S139, "Fire Test for Evaluation of Integrity of Electrical Cables", including the hose stream application, to provide a circuit integrity rating of not less than 1 h, or
(b) be located in a *service space* that is separated from the remainder of the *building* by a *fire separation* that has a *fire-resistance rating* of not less than 1 h.

(3) Electrical conductors that are used in conjunction with systems referred to in Clause (1)(c) shall,
(a) conform to ULC-S139, "Fire Test for Evaluation of Integrity of Electrical Cables", including the hose stream application, to provide a circuit integrity rating of not less than 2 h, or
(b) be located in a *service space* that is separated from the remainder of the *building* by a *fire separation* that has a *fire-resistance rating* of not less than 2 h.

(4) The *service spaces* referred to in Clause (2)(b) or (3)(b) shall not contain any *combustible* materials other than the electrical conductors being protected.

(5) Except as permitted by Sentences (7) and (9), the electrical conductors referred to in Sentence (1) are those that extend from the source of emergency power to,
(a) the equipment served, or
(b) the distribution equipment supplying power to the equipment served, if both are in the same room. (See Appendix A.)

(6) If a fire alarm transponder or annunciator located in one *fire compartment* is connected to a central processing unit or another transponder or annunciator located in a different *fire compartment*, the electrical conductors connecting them shall be protected in accordance with Sentence (2).

(7) Fire alarm system branch circuits within a *storey* that connect transponders and individual devices need not conform to Sentence (2). (See Appendix A.)

(8) Except as permitted by Sentence (9), if a distribution panel supplies power to emergency lighting, the power supply conductors leading up to the distribution panel shall be protected in accordance with Sentence (2).

(9) Conductors leading from a distribution panel referred to in Sentence (8) to emergency lighting units in the same *storey* need not conform to Sentence (2).

3.2.8. Mezzanines and Openings Through Floor Assemblies

3.2.8.1. Application

(1) Except as permitted by Article 3.2.8.2. and Sentence 3.3.4.2.(3), the portions of a *floor area* or a *mezzanine* that do not terminate at an exterior wall, a *firewall* or a vertical shaft shall,
(a) terminate at a vertical *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly and extending from the floor assembly to the underside of the floor or roof assembly above, or
(b) be protected in conformance with the requirements of Articles 3.2.8.3. to 3.2.8.11.

(2) The penetration of a floor assembly by an *exit* or a *vertical service space* shall conform to the requirements of Sections 3.4. to 3.6.

(3) A *floor area* containing sleeping rooms in a *building* of Group B, Division 2 or 3 *major occupancy* shall not be constructed as part of an *interconnected floor space*.

(4) Except as permitted in Sentence (5), an elementary or secondary school shall not,
(a) contain an *interconnected floor space*, or
(b) be located in an *interconnected floor space*.

(5) An *interconnected floor space* is permitted in an elementary or secondary school provided,
(a) the *interconnected floor space* consists of the *first storey*, and the *storey* next above or below it, but not both,
(b) the *interconnected floor space* is *sprinklered*,
(c) the portions of the upper *floor area* that do not terminate at an exterior wall, a *firewall* or a vertical shaft shall terminate at a vertical *fire separation* extending from the floor assembly to the underside of the floor or roof assembly above,

(8) 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.

r6 **(9)** 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.

(10) Dead end corridors in Sentence (9) shall contain no door openings to *service rooms* containing fuel-fired *appliances* or rooms that may be considered a hazard.

(11) 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.

(12) A dead end corridor is permitted in a *mercantile 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.

(13) 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.

(14) 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.

(15) 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*.

3.3.1.10. Door Swing

(1) Except as permitted by Article 3.3.1.11., a door that opens into a corridor or other facility providing *access to exit* from a *suite*, or a room not located within a *suite*, shall swing on a vertical axis.

(2) Except as permitted by Article 3.3.1.11., 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 *hazardous classroom* in an elementary or secondary school
(d) a Group B, Division 2 or 3 *occupancy*, or
r6 (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*.

3.3.1.11. Sliding Doors

(1) Except as permitted by Sentence (2), a sliding door provided in the locations described in Article 3.3.1.10. shall,
(a) be designed and installed to swing on the vertical axis in the direction of travel to the *exit* when pressure is applied, and
(b) be identified as a swinging door by means of a label or decal affixed to it.

(2) In a Group B, Division 1 *occupancy*, or in an *impeded egress zone* in other *occupancies*, sliding doors used in an *access to exit* need not conform to Sentence (1) and Article 3.3.1.10.

(3) Movable *partitions* used to separate a *public corridor* from an adjacent *business and personal services occupancy* or a *mercantile occupancy* need not conform to Sentence (1) and Sentences 3.3.1.10.(1) and (2) provided the *partitions* are not located in the only *means of egress.* (See Appendix A.)

3.3.1.12. Doors and Door Hardware

r_6 **(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 800 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 800 mm, and
(c) not open onto a step.

(2) 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, except that this requirement does not apply to a door serving a *contained use area,* or an *impeded egress zone*, provided the locking devices conform to Sentence (6).

(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.

r_6 **(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. (See Appendix A.)

(5) Door release hardware shall be installed not more than 1 200 mm above the finished floor.

(6) A door in a *means of egress* serving a *contained use area* or an *impeded egress zone* is permitted to be equipped with locking devices that can be released either locally or remotely in conformance with Sentence (7) or (8). (See Appendix A.)

(7) Local locking devices permitted by Sentence (6) shall be operable by a key from both sides of the door.

(8) Controls for the remote release of door locking devices permitted by Sentence (6) shall be located in an area readily available to security personnel.

(9) 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.

(10) A door in an *access to exit* is permitted to be equipped with an electromagnetic locking device conforming to Sentence 3.4.6.16.(4), except that this permission does not apply to a door,

r1 3.3.3. Care, Care and Treatment or Detention Occupancy

3.3.3.1. Scope

r1 **(1)** This Subsection applies to *care occupancies*, *care and treatment occupancies* and *detention occupancies*. (See Appendix A.)

3.3.3.2. Fire Separations

r1 **(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 right hand 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

r6 **(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. (See Appendix A.)

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). (See Appendix A.)

(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) A *closure* in a *fire separation* between *fire compartments* referred to in Sentence (2) shall be weatherstripped or otherwise designed and installed to retard the passage of smoke. (See Appendix A.)

(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 group of rooms.
(See Appendix A.)

(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 Facilities

(1) Compartments containing rooms such as operating rooms, recovery rooms, delivery rooms, 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*.

(4) A *contained use area*, in a *building* for which Articles 3.2.2.20. to 3.2.2.83. 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 3.3.1.12.(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.(3) to (5) and (9) to (11).

3.3.4. Residential Occupancy

3.3.4.1. Scope

(1) This Subsection applies to *residential occupancies*.

3.3.4.2. Fire Separations

(1) Except as permitted by Sentences (2) and 3.2.2.9.(2), *suites* of *residential occupancy* shall be separated from each other and the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) 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.

(3) Floor assemblies within a *dwelling unit* need not be constructed as *fire separations* provided,
(a) the distance between the lowest floor level and the uppermost floor level within the *dwelling unit* is not more than 6 m, and
(b) the *dwelling unit* is separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than,
  (i) 45 min if the *building* is *sprinklered* and is not more than 3 *storeys* in *building height*,
  (ii) 1 h if the *building* is *sprinklered* and is more than 3 *storeys* in *building height*,
  (iii) 1 h if the *building* is not *sprinklered* and is not more than 6 *storeys* in *building height*, or
  (iv) 2 h if the *building* is not *sprinklered* and is more than 6 *storeys* in *building height*.

r6 **(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,
(a) the *storage garage* contains not more than five vehicles,
(b) the *dwelling unit* and the attached *storage garage* are *sprinklered*,
(c) the *dwelling unit* is separated from the remainder of the *building* in conformance with Sentences (1) to (3),
(d) there are no air duct systems connecting the *storage garage* and the *dwelling unit*,
(e) the construction between the *storage garage* and the *dwelling unit* provides an effective barrier to gas and exhaust fumes, and
(f) 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.

r6 **(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.

3.3.4.3. Storage Rooms

(1) Sprinklers shall be installed in a storage room provided for the use of tenants in a *residential occupancy* within a *floor area* but not contained within a *suite*.

(2) Except as permitted by Sentence (3), a storage room referred to in Sentence (1) shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(3) The *fire-resistance rating* of the *fire separation* required by Sentence (2) 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) 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*.

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.
(See Appendix A.)

(2) Except as required by Sentence (8) and as permitted by Sentences (3) and (4), a *dwelling unit* containing more than 1 *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 *storey* 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 1 *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* in a *dwelling unit*, as required in 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 a 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* if 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 1 *storey* up or down within 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 3.2.2.44.(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.

3.3.4.5. Automatic Locking Prohibition

(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. (See Appendix A.)

3.3.4.6. Sound Transmission

(1) Sound transmission class ratings of *building* assemblies shall conform to Section 5.9.

3.3.4.7. Stairs, Ramps, Landings, Handrails and Guards for Dwelling Units

(1) Except as required by 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 Section 9.8. and Sentence 3.1.20.1.(1).

r3 **(3)** Loads on exterior *guards* serving a *single dwelling unit* shall comply with Part 4.

3.3.4.8. Protection of Openable Windows

(1) Except as provided by Sentence (2), openable windows in *suites* of *residential occupancy* shall be protected by,
(a) a *guard* with a minimum height of 1 070 mm constructed in accordance with Article 3.3.1.17., or
r5 (b) a mechanism capable of controlling the free swinging or sliding of the openable part of the window so as to limit any clear unobstructed opening to a size that will prevent the passage of a sphere having a diameter more than 100 mm.

(2) Windows need not be protected in accordance with Sentence (1) where,
(a) the only opening having greater dimensions than those allowed by Clause (1)(b) is located higher than 1 070 mm above the finished floor, or
(b) the bottom edge of the openable portion of the window is located less than 1 800 mm above the floor or ground on the other side of the window.

3.3.4.9. Stud Wall Reinforcement

r4 **(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)(f), and
(c) for a bathtub, a grab bar described in Clause 3.8.3.13.(4)(c).
(See Appendix A.)

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.

r6 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 weatherstripped 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 860 mm.

(12) A voice communication system conforming to Article 3.2.4.23. shall be provided in a *retirement home*.

3.3.5. Industrial Occupancy

3.3.5.1. Scope

(1) This Subsection applies to *industrial occupancies*.

3.3.5.2. Fire Extinguishing Systems

(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 53303, "National Fire Code of Canada", in the absence of provisions referred to in Clause (a).

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3.3.5.3. Basements

(1) A *basement* shall not be used for the storage, manufacture or handling of volatile solids, liquids or gases that generate explosive air-vapour mixtures or for processes that involve explosive dusts.

(2) Entrances and *exits* to a *basement* and to rooms containing *building* services shall be separate from the remainder of the *building* in a *building* in which,
(a) the storage, manufacture or handling of volatile materials can generate explosive air-vapour mixtures, or
(b) processes occur that produce explosive dusts.

(3) *Basements* and rooms referred to in Sentence (2) shall be separated from the remainder of the *building* with a vapour-tight separation.

3.3.5.4. Repair and Storage Garages (See Appendix A.)

(1) If access is provided from a *storage garage* to a stair tower or elevator serving *occupancies* above the level of the *storage garage*, the access shall be through a vestibule conforming to Sentence 3.3.5.7.(3).

(2) Treads and landings in interior stairs that extend to the roof of a *storage garage* shall be designed to be free of accumulations of ice and snow.

(3) A mechanical *storage garage* not more than 4 *storeys* in *building height*, in which no persons other than parking attendants are permitted above the *street* floor level, need not have a *fire separation* between the *exits* and the remainder of the *building*.

(4) A garage shall be provided with natural or mechanical ventilation in conformance with the requirements of Subsection 6.2.2. 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) A continuous curb not less than 150 mm high and a *guard* not less than 1 070 mm high shall be provided at every garage floor opening and around the perimeter of every floor where the exterior walls are omitted.

(7) Except for *open-air storeys*, every *storey* of a *storage garage* or *repair garage* located below *grade* shall be *sprinklered*.

3.3.5.5. Repair Garage Separation

(1) A *repair garage* and any ancillary spaces serving it, including waiting rooms, reception rooms, tool and parts storage areas and supervisory office space, shall be separated from other *occupancies* by a *fire separation* having a *fire-resistance rating* not less than 2 h.

3.3.5.6. Storage Garage Separation

(1) Except as permitted by Sentences 3.3.4.2.(4) and (5), a *storage garage* shall be separated from other *occupancies* by a *fire separation* with a *fire-resistance rating* not less than 1.5 h.

3.3.5.7. Vestibules

r6 **(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 (3).

(2) In a *building* more than 3 *storeys* in *building height*, access through a *fire separation* between a *storage garage* and a Group A, Division 2, 3 or 4, or a Group C *occupancy*, shall be through a vestibule conforming to Sentence (3).

(3) If access is provided through a vestibule, as required by Sentences (1), (2) and 3.3.5.4.(1), the vestibule shall,
(a) be not less than 1.8 m long,
(b) be ventilated,
  (i) naturally to outside air by a vent that has an unobstructed area of not less than 0.1 m^2 for each door that opens into the vestibule but not less than 0.4 m^2, or
  (ii) mechanically at a rate of 14 m^3/h for each square metre of vestibule floor surface area, and
(c) have openings between the vestibule and an adjoining *occupancy* provided with self-closing doors with no hold-open devices.

3.3.5.8. 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.

3.3.6. Design of Hazardous Areas

3.3.6.1. Application

(1) This Subsection applies to design and fire protection requirements for *buildings* or parts of *buildings* intended for the storage, handling, use and processing of,
(a) *dangerous goods*,
(b) materials that involve a risk of explosion or high flammability, and
(c) materials that are highly reactive.
(See Appendix A.)

3.3.6.2. Storage of Explosives

(1) The design of *buildings* or parts of *buildings* intended for the storage of explosives, blasting agents, detonators, propellant explosives, fireworks, pyrotechnics and ammunition shall conform to the *Explosives Act* (Canada) and the *Explosives Regulations* made under that Act.

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, "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 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.

(3) 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.

(4) 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.

3.4.6.5. Handrails

(1) A stairway shall have a handrail on at least one side, and if 1 100 mm or more in width, shall have handrails on both sides.

(2) If the required width of a ramp or flight of stairs is more than 2 200 mm, one or more intermediate handrails continuous between landings shall be provided, and located so that there will be not more than 1 650 mm between handrails.

(3) Handrails shall be continuously graspable along their entire length and shall have,
(a) a circular cross-section with an outside diameter not less than 30 mm and not more than 43 mm, or
(b) any non-circular shape with a graspable portion that has a perimeter not less than 100 mm and not more than 125 mm and whose largest cross-sectional dimension is not more than 45 mm.
(See Appendix A.)

(4) The height of handrails on stairs and ramps shall be measured vertically from the top of the handrail to,
(a) a straight line drawn tangent to the tread nosings of the stair served by the handrail, or
(b) the surface of the ramp, floor or landing served by the handrail.

(5) Except as provided by Sentences (6) and (7), the height of handrails on stairs and ramps shall be,
(a) not less than 865 mm, and
(b) not more than 965 mm.

(6) Handrails installed in addition to required handrails need not comply with Sentence (5).

(7) Where *guards* are required, handrails required on landings shall be not more than 1 070 mm in height.

(8) Except as required by Sentence (14) and except where interrupted by doorways or newels at changes in direction, at least one handrail shall be continuous throughout the length of a stairway or ramp, including landings.

(9) Handrails shall be terminated in a manner that will not obstruct pedestrian travel or create a hazard.

(10) 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 tread 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.

(11) The clearance between a handrail and any surface behind it shall be not less than 50 mm.

(12) Handrails and their supports shall be designed and constructed to withstand the loading values obtained from the nonconcurrent application of,

(a) a concentrated load not less than 0.9 kN applied at any point and in any direction for all handrails, and
(b) a uniform load not less than 0.7 kN/m applied in any direction to handrails not located within *dwelling units*.

(13) A ramp shall have handrails on both sides.

r_6 **(14)** In a long-term care home, a Group B, Division 3 *occupancy* and a *retirement home*, a continuous handrail shall be provided on both sides of a stairway throughout the length of the stairway, including landings, except where a handrail is interrupted by doorways or newels at changes in direction.

3.4.6.6. Guards

(1) Every *exit* shall have a wall or a well-secured *guard* on each side.

(2) Except as required by Sentence (4), the height of *guards* for *exit* stairs shall be 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 1 070 mm around landings.

(3) *Exit* ramps and their landings shall be protected with *guards* not less than 1 070 mm measured vertically to the top of the *guard* from the ramp surface where the difference in elevation between the adjacent ground or floor level and the ramp is more than 600 mm.

(4) The height of *guards* for exterior stairs and landings more than 10 m above adjacent ground level shall be not less than 1 500 mm measured vertically to the top of the *guard* from the surface of the landing or a line drawn through the outside edges of the stair nosings.

(5) Except as provided in Sentence (6), 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.

(6) 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.

(7) In a stairway, a window for which the distance measured vertically between the bottom of the window and a line drawn through the outside edges of the stair nosings is less than 900 mm, or a window that extends to less than 1 070 mm above the landing, shall,
(a) be protected by a *guard* that is,
  (i) located approximately 900 mm above a line drawn through the outside edges of the stair nosings, or
  (ii) not less than 1 070 mm high measured to the top of the *guard* from the surface of the landing, or
(b) be fixed in position and designed to resist the lateral design loads specified for *guards* and walls in Articles 4.1.5.14. and 4.1.5.16.

(8) 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.

3.4.6.7. Ramp Slope

(1) Except as required for aisles by Article 3.3.2.4., the maximum slope of a ramp shall be,
r_1 (a) 1 in 10 in any *assembly, care, care and treatment, detention* or *residential occupancy*,
(b) 1 in 6 in rooms or *floor areas* classified as *mercantile occupancy* or *industrial occupancy*,
(c) 1 in 8 in any other *floor area*, and
(d) 1 in 10 for an exterior ramp.

3.4.6.14. Sliding Doors

(1) Except as permitted by Sentence (2) an *exit* door leading directly to outdoors at ground level is permitted to be a sliding door provided it is released in conformance with Sentence 3.3.1.11.(1).

(2) An *exit* door serving a Group B, Division 1 *occupancy*, or an *impeded egress zone* in other *occupancies*, is permitted to be a sliding door that does not conform to Sentence 3.3.1.11.(1) provided it is designed to be released in conformance with Article 3.3.1.12.

3.4.6.15. Revolving Doors

(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-M, "Tempered or Laminated Safety Glass", or
  (ii) CAN/CGSB-12.11-M, "Wired Safety Glass".

(2) Except as permitted by Sentence (3), a revolving door shall not be considered to have an exiting capacity for more than 45 persons.

(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 centreline 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 glass conforming to,
  (i) CAN/CGSB-12.1-M, "Tempered or Laminated Safety Glass", or
  (ii) CAN/CGSB-12.11-M, "Wired Safety Glass".

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 3.3.1.12., and except as permitted by Sentence (4), 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. (See Appendix A.)

(2) If a door is equipped with a latching mechanism, a device that will release the latch and allow the door to swing wide open when a force of not more than 90 N is applied to the device in the direction of travel to the *exit* 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) 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.

(4) Except as permitted by Sentence 3.3.1.12.(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 (5) 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
r6 (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 to the fire alarm control panel or 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 pull station for the fire alarm system located on the wall not more than 600 mm from the door,
(g) a legible sign having the words **EMERGENCY EXIT UNLOCKED BY FIRE ALARM** is permanently mounted on the door,
(h) the lettering on the sign required in Clause (g) is at least 25 mm high with a 5 mm stroke,
(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 Clause 3.2.4.8.(4) (a), and
(k) emergency lighting is provided at the doors.
(See Appendix A.)

(5) Except as permitted by Sentences (6) and (7), 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*.

r6 **(6)** 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*.

(7) 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 Clause (4)(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.

(8) Door hardware for the operation of the doors referred to in this Section shall be installed at a height not more than 1 200 mm above the finished floor.

3.4.6.17. Reserved

3.4.6.18. Emergency Access to Floor Areas

(1) In a *building* more than 6 *storeys* in *building height*,
(a) except as permitted by Sentence (3), doors providing access to *floor areas* from *exit* stairs shall not have locking devices to prevent entry into,

(i) any *floor area* designated as an area of refuge,
(ii) *floor areas* located at intervals of 5 *storeys* or less, and
(iii) at least one of the three highest *storeys*,

(b) doors referred to in Clause (a) that provide access into the *floor area* shall be identified by a sign on the stairway side to indicate that they are openable from that side, and

(c) a master key to fit all door locking devices that are intended to prevent entry into a *floor area* from an *exit* stair shall be provided in a designated location accessible to firefighters, or the door shall 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.

(2) If access to *floor areas* through unlocked doors is required by Clause (1)(a) or through electromagnetically locked doors as permitted by Sentence (3), it shall be possible for a person entering the *floor area* to have access through unlocked doors or through electromagnetically locked doors within the *floor area* to at least one other *exit*.

(3) Electromagnetic locking devices may be installed on the doors providing access to *floor areas* from *exit* stairs as required by Clause (1)(a), provided all locking device release and signage provisions in Sentence 3.4.6.16.(4) are installed on both sides of the doors.

(4) 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 (1)(c) are complied with.

3.4.6.19. Floor Numbering

(1) Arabic numerals indicating the assigned floor number shall,

(a) be mounted permanently on each side of doors to *exit* stair shafts,

(b) be not less than 60 mm high, raised approximately 0.7 mm above the surface,

(c) be located 1 500 mm from the finished floor, and

(d) be contrasting in colour with the surface to which they are applied. (See Appendix A.)

(2) Upper case letters indicating the designation assigned to each *exit* stair shaft shall be mounted permanently on each side of doors to the *exit* stair shaft and shall,

(a) be not less than 60 mm high, raised approximately 0.7 mm above the surface,

(b) be located 1 500 mm from the finished floor, and

(c) be contrasting in colour with the surface on which they are applied.

3.4.7. Fire Escapes

3.4.7.1. Scope

(1) Except as permitted by Sentence (2), fire escapes shall not be erected on a *building*.

(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,

r_6 (a) not in an elementary or secondary school or a *retirement home*,

r_1 (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*.

3.4.7.2. Fire Escape Construction

(1) Fire escapes shall be of metal or concrete, of the stair type extending to ground level, constructed throughout in a strong substantial manner and securely fixed to the *building*, except that wooden fire escapes are permitted to be used on *buildings* of *combustible construction* if all posts and brackets are not less than 89 mm in their least dimension and all other woodwork is not less than 38 mm in its least dimension.

3.4.7.3. Access to Fire Escapes

(1) Access to fire escapes shall be from corridors through doors at floor level, except that access from a *dwelling unit* is permitted to be through a casement window having an unobstructed opening not less than 1 100 mm high by 550 mm wide with a sill height of not more than 900 mm above the inside floor.

(2) The clear area of a fire escape balcony onto which a door opens, shall be not less than 1 m^2.

3.4.7.4. Protection of Fire Escapes

(1) If a fire escape serves any *storey* above the second, openings located in a zone described in Sentence (2), including access doorways in the exterior walls of the *building* to which the fire escape is attached, shall be protected by *closures* conforming to Subsection 3.1.8.

(2) The zone referred to in Sentence (1) extends from any balcony, platform or stairway of a fire escape to a distance,
(a) 3 m horizontally,
(b) 10 m below, and
(c) 1 800 mm above.

3.4.7.5. Stairs

(1) Stairs shall be inclined at an angle of not more than 45° with the horizontal, and their steps shall have risers not more than 210 mm high and treads not less than 220 mm wide exclusive of nosing.

(2) Stairway headroom shall be not less than 1 950 mm plus the height of one riser measured vertically above the nosing of any tread or platform.

(3) The width of a fire escape shall conform to Articles 3.4.3.1., 3.4.3.2. and 3.4.3.4., except that the width is permitted to be reduced to 550 mm provided the fire escape serves,
(a) not more than 3 *storeys*, and
(b) not more than 15 persons.

(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.

3.4.7.6. Guards and Railings

(1) The open sides of every platform, balcony and stairway forming part of a fire escape shall be protected by *guards* not less than 920 mm high measured vertically above the nosing of any tread or platform.

(2) The top rail of a *guard* is permitted to serve as a handrail if it is free from obstructions that could break a handhold.

(3) A wall handrail shall be installed if the fire escape is more than 550 mm wide.

(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.

(5) Unless it can be shown that the location and size of openings do not present a hazard, a *guard* for a fire escape shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above a platform or the nosing of any tread will facilitate climbing.

3.6.2.7. Electrical Equipment Vaults

(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*, 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 3.3.1.19.(2).

(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 6.2.3.12.(3) and (4) 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 the electrical equipment vault described 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.

3.6.2.8. Emergency Power Installations

(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) 2 h for *buildings* within the scope of Subsection 3.2.6., and
  (ii) 1 h for other *buildings*, and
(b) contains only the generating set and equipment that is related to the emergency power supply system.

3.6.2.9. Storage of Oxygen Containers

r6 **(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.

3.6.3. Vertical Service Spaces and Service Facilities

3.6.3.1. Fire Separations for Vertical Service Spaces

(1) Except as required by Section 3.5., a *vertical service space* shall be separated from all other portions of each adjacent *storey* by a *fire separation* having a *fire-resistance rating* conforming to Table 3.6.3.1. for the *fire-resistance rating* required by Subsection 3.2.2. for,

(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 Appendix A.)

3.8.1. General

3.8.1.1. Application

r4 **(1)** The requirements of this Section apply to all *buildings* except,
r6 (a) *houses*, triplexes and boarding or rooming houses with fewer than 8 boarders or roomers,
(b) *buildings* of Group F, Division 1 *major occupancy*, (See Appendix A.)
(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 Appendix A.)

r4 3.8.1.2. Entrances (See Appendix A.)

(1) Except as provided in Sentence 3.13.8.1.(2), the number of *barrier-free* entrances into a *building* shall conform to Table 3.8.1.2.

Table 3.8.1.2.
Minimum Number of Pedestrian Entrances Required to be Barrier-Free
Forming Part of Sentence 3.8.1.2.(1)

Number of Pedestrian Entrances into *Building*	Minimum Number of Pedestrian Entrances Required to be *Barrier-Free*
1 to 3	1
4 to 5	2
More than 5	Not less than 50%
Column 1	2

(2) One of the *barrier-free* entrances required by Sentence (1) shall be the principal entrance to the *building*.

(3) 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.

(4) 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.

(5) 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.

(6) 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) The curb ramp permitted by Sentence (2) shall,
(a) have a running slope conforming to Table 3.8.3.2.,
r4 (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
Column 1	2

3.8.3.3. Doorways and Doors

r4 **(1)** Every doorway that is located in a *barrier-free* path of travel shall have a clear width of not less than 860 mm when the door is in the open position. (See Appendix A.)

r6 **(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 Appendix A.)

r4 **(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 Appendix A.)

r4 **(4)** Except as permitted by Sentence (12), every door that provides a *barrier-free* path of travel through a *barrier-free* entrance required by Article 3.8.1.2. shall be equipped with a power door operator if the entrance serves a *building* containing a Group A, Group B, Division 2 or 3, Group C, Group D or Group E *occupancy*. (See Appendix A.)

r4 **(5)** Except as permitted by Sentence (12), where a *barrier-free* entrance required by 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 in a *building* containing a Group A, Group B, Division 2 or 3, Group C, Group D of Group E *occupancy*.

r4 **(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 Appendix A.)

(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 Appendix A.)

r4 **(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 Appendix A.)

r4 **(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 Appendix A.)

(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.

r4 **(16)** Where a power door operator is provided, it shall be installed on the latch side so as to allow persons to activate the opening of the door from either side.

(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, "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) pull stations located at all *exit* doors including *exit* 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* stair 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, "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, "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.

r5 Section 3.17. Additional Requirements for Existing Buildings

3.17.1. Scope

3.17.1.1. Application

r5 **(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*,

r6 (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*.

r5 **(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*.

3.17.2. Additional Construction

3.17.2.1. Change of Use and Compensating Construction

r5 **(1)** Where proposed *construction* will result in a change of use described in Subclauses 3.17.1.1.(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).

3.17.2.2. 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*.

r5 **(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.

r5 **(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 6

Heating, Ventilating and Air-Conditioning

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Part 6

Heating, Ventilating and Air-Conditioning

Section 6.1. General (See Appendix A.)

6.1.1. Application

6.1.1.1. Scope

(1) The scope of this Part shall be as described in Subsection 1.1.2. of Division A.

(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. (See Appendix A.)

6.1.1.2. Application

(1) This Part applies to systems and equipment for heating, ventilating and *air-conditioning* services.

Section 6.2. Design and Installation

6.2.1. General

6.2.1.1. Good Engineering Practice

(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 as follows:
  (i) Fundamentals,
  (ii) Refrigeration,
  (iii) HVAC Applications,
  (iv) HVAC Systems and Equipment, and
  (v) ANSI/ASHRAE/IESNA 90.1, "Energy Standard for Buildings Except Low-Rise Residential Buildings",

r3.1 (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",

r3 (c) CAN/CSA-F326-M, "Residential Mechanical Ventilation Systems",

(d) the NFPA Fire Codes,

(e) the HRAI Digest,

(f) the Hydronics Institute Manuals,

(g) the SMACNA Manuals,

r3 (h) ACGIH, "Industrial Ventilation Manual",

(i) CAN/CSA-Z317.2, "Special Requirements for Heating, Ventilation, and Air Conditioning (HVAC) Systems in Health Care Facilities",
r3 (j) CCBFC NRCC 38730, "Model National Energy Code of Canada for Buildings",
r3 (k) CCBFC NRCC 54435, "National Energy Code of Canada for Buildings", and
(l) EPA/625/R-92/016, "Radon Prevention in the Design and Construction of Schools and Other Large Buildings".

6.2.1.2. 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 6.2.1.7.

(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 6.2.1.7.

6.2.1.3. Structural Movement (See Appendix A.)

(1) Mechanical systems and equipment shall be designed and installed to accommodate the maximum relative structural movement provided for in the *construction* of the *building*.

6.2.1.4. Installation Standards

r5 **(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.

r5 **(2)** The solid fuel-fired *appliances* in Sentence (1) shall conform to CSA B366.1, "Solid-Fuel-Fired Central Heating Appliances".

r6 **(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*, or
(b) a *building*, other than a *house*, where the *conditioned space* is not more than 1 400 m².

r6 **(4)** Except for *houses*, 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 m².

r5 **(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) CAN/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.

r3 **(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 November 1, 2013.
(See A-9.33.1.2.(2) in Appendix A.)

6.2.1.5. Fireplaces

(1) Fireplaces shall conform to the requirements of Section 9.22.

6.2.1.6. Heat Recovery Ventilators

(1) Except as provided in Sentence (2), heat recovery ventilators with rated capacities of not less than 25 L/s and not more than 200 L/s shall be installed in accordance with Article 9.32.3.11.

(2) Where *electric space heating*, other than forced-air electric heating system, is provided in *buildings* of *residential occupancy* within the scope of Part 9, the mechanical ventilation system shall include heat recovery ventilators designed to provide the greater of,
(a) the minimum rated efficiency required by the *Green Energy Act, 2009*, or
(b) a minimum 55% sensible heat recovery efficiency when tested to the low temperature thermal and ventilation performance test method set out in CAN/CSA-C439, "Rating the Performance of Heat/Energy-Recovery Ventilators", at a Station 1 test temperature of -25°C at an air flow not less than 30 L/s.

6.2.1.7. Outside Design Conditions

(1) The outside 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".

6.2.1.8. Installation – General

(1) Equipment requiring periodic maintenance and forming part of a heating, ventilating or *air-conditioning* system shall be installed with provision for access for inspection, maintenance, repair and cleaning. (See Appendix A.)

(2) Mechanical equipment shall be provided with guards to prevent injury.

(3) Heating, ventilating or *air-conditioning* systems shall be protected from freezing if they may be adversely affected by freezing temperatures.

6.2.1.9. Expansion, Contraction and System Pressure

(1) Heating and cooling systems shall be designed to allow for expansion and contraction of the heat transfer fluid and to maintain the system pressure within the rated working pressure limits of all components of the system.

6.2.1.10. Asbestos

(1) Asbestos shall not be used in air distribution systems or equipment in a form or in a location where asbestos fibres could enter the air supply or return systems.

6.2.1.11. Access Openings

(1) Any covering of an access opening through which a person could enter shall be openable from the inside without the use of keys where there is a possibility of the opening being accidentally closed while the system or equipment is being serviced.

6.2.1.12. 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.

6.2.2. Ventilation

6.2.2.1. Required Ventilation

(1) Except as provided in Sentence (3), all *buildings* shall be ventilated in accordance with this Part.

(2) Except in *storage garages* and *repair garages* covered by Article 6.2.2.3., the rates at which outdoor air is supplied in *buildings* by ventilation systems shall be not less than the rates required by ANSI/ASHRAE 62.1, "Ventilation for Acceptable Indoor Air Quality". (See Appendix A.)

r6 **(3)** Self-contained mechanical ventilation systems serving a *house* or an individual *dwelling unit* shall conform to,
(a) this Part, or
(b) Subsection 9.32.3.
(See Appendix A.)

(4) *Live/work units* shall be mechanically ventilated in accordance with the requirements of Sentence (1).

6.2.2.2. Natural Ventilation

(1) Except as permitted by Sentence (2), the ventilation required by Article 6.2.2.1. 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 m² 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*.

6.2.2.3. Ventilation of Storage and Repair Garages

(1) Except as provided in Sentences (4) and (6), an enclosed *storage garage* shall have a mechanical ventilation system designed to,
(a) limit the concentration of carbon monoxide to not more than 100 parts per million of air when measured between 900 mm and 1 800 mm from the floor, where the majority of the vehicles stored are powered by gasoline fuelled engines,
(b) limit the concentration of nitrogen dioxide to not more than 3 parts per million parts of air when installed in accordance with manufacturer's instructions, where the majority of the vehicles stored are powered by diesel fuelled engines, or
(c) provide, during operating hours, a continuous supply of outdoor air at a rate of not less than 3.9 L/s for each square metre of floor area.

(2) Mechanical ventilation systems provided in accordance with Clause (1)(a) shall be controlled automatically by carbon monoxide monitoring devices and systems provided in accordance with Clause (1)(b) shall be controlled automatically by nitrogen dioxide or other acceptable monitoring devices, located so as to provide full protection throughout the *storage garage*. (See Appendix A.)

(3) Mechanical ventilation systems provided in accordance with Sentence (1) shall be designed such that the pressure in the *storage garage* is less than the pressure in adjoining *buildings* of other *occupancy*, or in adjacent portions of the same *building* having a different *occupancy*.

(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.

(5) Except as provided in Sentence (6), ticket and attendant booths of *storage garages* shall be pressurized with a supply of outdoor air.

(6) The requirements of Sentences (1) to (5) shall not apply to *open-air storeys* in a *storage garage*.

(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.

6.2.2.4. Air Contaminants

(1) Air contaminants released within *buildings* shall be removed insofar as possible at their points of origin and shall not be permitted to accumulate in concentrations greater than permitted in the ACGIH, "Industrial Ventilation Manual". (See Appendix A.)

(2) Systems serving spaces that contain sources of contamination and systems serving other occupied parts of the *building* but located in or running through spaces that contain sources of contamination shall be designed in such a manner as to prevent spreading of such contamination to other occupied parts of the *building*. (See Appendix A.)

(3) Heating, ventilating and *air-conditioning* systems shall be designed to minimize growth of micro-organisms according to good engineering practice as described in 6.2.1.1.(1). (See Appendix A.)

(4) Mechanical rooms containing refrigeration equipment shall be ventilated in accordance with CSA-B52, "Mechanical Refrigeration Code".

6.2.2.5. Hazardous Gases, Dusts or Liquids

r5 **(1)** Except as provided in Subsection 6.2.13., 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 is described in the publications of the National Fire Protection Association and in the CCBFC NRCC 53303, "National Fire Code of Canada". (See Appendix A.)

(2) When indoor piping for Class I *flammable liquids* is installed in a trench, the trench shall be,
(a) provided with positive ventilation to the outdoors, or
(b) designed to prevent the accumulation of flammable vapours.

6.2.2.6. Commercial Cooking Equipment

(1) All commercial cooking equipment shall be provided with ventilation systems designed, constructed and installed to conform to NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations", except as required by Sentence 3.6.3.1.(1) and Article 3.6.4.2.

(2) Fire protection systems for high efficiency, high temperature commercial cooking equipment using vegetable oil or animal fat shall conform to,

r5 (a) ANSI/UL 300, "Fire Extinguishing Systems for Protection of Commercial Cooking Equipment", or
(b) ULC/ORD-C1254.6, "Fire Testing of Restaurant Cooking Area Fire Extinguishing System Units".

6.2.2.7. Crawl Spaces and Attic or Roof Spaces

(1) Every crawl space and every *attic or roof space* shall be ventilated by natural or mechanical means. (See Appendix A.)

6.2.3. Air Duct Systems

6.2.3.1. Application

(1) Except as provided in Sentence (2), this Subsection applies to the design, construction and installation of air duct distribution systems serving heating, ventilating and *air-conditioning* systems.

r6 **(2)** This Subsection does not apply to the design, construction and installation of air duct distribution systems serving heating, ventilating and *air-conditioning* systems that serve a *house* or an individual *dwelling unit* within the scope of Part 9.

6.2.3.2. Materials in Air Duct Systems

(1) Except as provided in Sentences (2) to (4) 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, asbestos-cement or similar *noncombustible* material.

(2) Ducts, associated fittings and *plenums* are permitted to contain *combustible* material provided they,
(a) conform to the appropriate requirements for Class 1 duct materials in CAN/ULC-S110, "Test for Air Ducts",
(b) conform to Article 3.1.5.15. in a *building* required to be of *noncombustible construction*,
(c) conform to Subsection 3.1.9.,
(d) are used only in horizontal runs in a *building* required to be of *noncombustible construction*,
(e) are not used in vertical runs serving more than 2 *storeys* in a *building* required to be of *noncombustible construction*, and
(f) are not used in air duct systems in which the air temperature may exceed 120°C.

(3) Duct sealants shall have a *flame-spread rating* of not more than 25 and a smoke developed classification of not more than 50.

(4) Duct connectors that contain *combustible* materials and that are used between ducts and air outlet units shall,
(a) conform to the appropriate requirements for Class 1 air duct materials in CAN/ULC-S110, "Test for Air Ducts",
(b) be limited to 4 m in length,
(c) be used only in horizontal runs, and
(d) not penetrate required *fire separations*.

(5) Materials in Sentences (1) to (4) installed in a location where they may be subjected to excessive moisture shall have no appreciable loss of strength when wet and shall be corrosion-resistant.

(3) When odour removal equipment of the adsorption type is used it shall be,
(a) installed to provide access so that adsorption material can be reactivated or renewed, and
(b) protected from dust accumulation by air filters installed on the inlet side.

(4) Facilities for flushing and drainage shall be provided where filters are designed to be washed in place.

6.2.3.14. Air Washers and Evaporative Cooling Sections or Towers

(1) The filter and water evaporation medium of every air washer and evaporative cooling section enclosed within a *building* shall be made of *noncombustible* material.

(2) Sumps for air washer and evaporative cooling sections shall be constructed and installed so that they can be flushed and drained.

(3) Evaporative cooling sections or towers shall comply with the requirements of NFPA 214, "Water-Cooling Towers".

6.2.3.15. Fans and Associated Air Handling Equipment

(1) Fans for heating, ventilating and *air-conditioning* systems shall be located and installed so that their operation,
(a) does not adversely affect the draft required for proper operation of fuel-fired *appliances*, and
(b) does not allow the air in the air duct system to be contaminated by air or gases from the *boiler*-room or *furnace*-room.

(2) Fans and associated air handling equipment, such as air washers, filters and heating and cooling units, when installed on the roof or elsewhere outside the *building*, shall be of a type designed for outdoor use.

6.2.3.16. Vibration Isolation Connectors

(1) Vibration isolation connectors in air duct systems shall be *noncombustible*, except that *combustible* fabric connectors are permitted provided they,
(a) do not exceed 250 mm in length,
(b) comply with the flame-resistance requirements of CAN/ULC-S109, "Flame Tests of Flame-Resistant Fabrics and Films", and
(c) are not used in a location where they are exposed to heated air or radiation from heat sources that may cause the exposed surface to exceed a temperature of 120°C.

6.2.3.17. Tape

(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, "Flame Tests of Flame-Resistant Fabrics and Films".

6.2.3.18. 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.

6.2.3.19. Clearances of Ducts and Plenums

(1) The clearances from *combustible* material and supply *plenums*, *supply ducts*, boots and register boxes of heating systems shall conform to the requirements of Subsection 6.2.4.

6.2.3.20. Return-Air System

(1) The return-air system shall be designed to handle the entire air supply.

(2) Where any part of a *return duct* will be exposed to radiation from the heat exchanger or other radiating part within the *furnace*, such part of a *return duct* directly above or within 600 mm of the outside *furnace* casing shall be *noncombustible*.

(3) *Return ducts* serving solid fuel-fired *furnaces* shall be constructed of *noncombustible* material.

(4) Where *combustible return ducts* are permitted, they shall be lined with *noncombustible* material below floor registers, at the bottom of vertical ducts and under *furnaces* having a bottom return.

(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*.

6.2.4. Air Ducts for Low Capacity Systems

6.2.4.1. Application

r6 **(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 a *house* or an individual *dwelling unit* within the scope of Part 9.

6.2.4.2. Duct Design

(1) Materials in *supply ducts* shall conform to Article 6.2.3.2.

(2) Galvanized steel or aluminum *supply ducts* shall conform to Table 6.2.4.2.

(3) The design of fitting for ducts shall conform to SMACNA, “HVAC Duct Construction Standards – Metal and Flexible”, except that metal thickness shall conform to Table 6.2.4.2.

r6

Table 6.2.4.2.
Minimum Metal Thickness of Ducts
Forming Part of Sentences 6.2.4.2.(2) and (3)

Type of Duct	Maximum Diameter, mm	Maximum Width or Depth, mm	Minimum Metal Thickness, mm	
			Duct Material	
			Galvanized Steel	Aluminum
Round ducts serving an individual *dwelling unit* in a *building* other than a *house*	125 or less	—	0.254	0.30
Round ducts serving a *house* or an individual *dwelling unit* in a *house*	350	—	0.33	0.30
	over 350	—	0.41	0.41
Rectangular, enclosed	—	350	0.33	0.30
	—	over 350	0.41	0.41
Rectangular, not enclosed, with required clearance up to 12 mm	—	350	0.33	0.41
	—	over 350	0.41	0.48
Rectangular, not enclosed, with required clearance of more than 12 mm	—	350	0.41	0.41
	—	over 350	0.48	0.48
Column 1	2	3	4	5

6.2.4.3. 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) *Combustible* ducts in concrete slabs-on-ground that are connected to a *furnace* supply *plenum* shall be located not closer than 600 mm to that *plenum* and not less than 600 mm from its connection to a riser or register.

(9) Ducts in or beneath concrete slabs-on-ground shall be watertight, corrosion-, decay- and mildew-resistant.

(10) 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.

e2 **(11)** 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 the SMACNA, "HVAC Duct Construction Standards – Metal and Flexible". (See Appendix A.)

e2 **(12)** Where a *supply duct* is located in a conditioned space, the ductwork shall be sealed to a Class C seal level in accordance with the SMACNA, "HVAC Duct Construction Standards – Metal and Flexible". (See A-6.2.4.3.(11) in Appendix A.)

(13) Underground ducts shall,
(a) be constructed and installed with a slope to provide interior drainage 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.

(14) A clean-out or pump-out connection shall be provided in an underground duct system at every low point of the duct system.

6.2.4.4. Warm-Air Supply Outlets (See Appendix A.)

(1) In a *dwelling unit*, a warm-air supply outlet shall be provided in each finished room that is located adjacent to unheated space, exterior air or exterior soil.

(2) Except as provided in Sentence (3), when a room described in Sentence (1) is located adjacent to exterior walls, such outlets shall be located so as to bathe at least one exterior wall or window with warm air, except in bathrooms, utility rooms or kitchens, where this may not be practical.

(3) Where the heating system is also designed to provide ventilation air, ceiling outlets or outlets located high on interior walls may be installed, provided the outlets are,
(a) designed for this purpose, and
(b) installed with diffusers.

(4) At least one warm-air supply outlet shall be provided for each 40 m^2 of floor surface area in unfinished *basements* serving *dwelling units*, located so as to provide adequate distribution of warm air throughout the *basement*.

(5) At least one warm-air supply outlet shall be provided for each 80 m^2 of floor surface area in heated crawl spaces serving *dwelling units*, and it shall be located so as to provide adequate distribution of warm-air throughout the crawl space.

(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.

(7) In *basements* and heated crawl spaces, the calculated heat gain from the *supply ducts* and *plenum* surfaces may be considered in calculating the design heat loss.

(8) The temperature of supply air at the warm-air supply outlets shall not exceed 70°C.

(9) Warm-air supply outlets located in finished areas shall be provided with diffusers and adjustable openings and shall not be located on a *furnace plenum*.

(10) Air duct systems serving *storage garages* shall not be interconnected with other parts of the *building*.

6.2.4.5. Reserved

6.2.4.6. Adjustable Dampers and Balance Stops

(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.

6.2.4.7. Return-Air System

(1) The return-air system shall be designed to handle the entire air supply.

(2) Except as provided in Sentences (3) and (4), *return ducts* shall be constructed of material having a surface *flame-spread rating* of not more than 150.

(3) Where any part of a *return duct* will be exposed to radiation from the heat exchanger or other radiating part within the *furnace*, such part of a *return duct* directly above or within 600 mm of the outside *furnace* casing shall be *noncombustible*. (See Appendix A.)

(4) *Return ducts* serving solid fuel-fired *furnaces* shall be constructed of *noncombustible* material.

(5) *Combustible return ducts* shall be lined with *noncombustible* material below floor registers, at the bottom of vertical ducts and under *furnaces* having a bottom return.

(6) Spaces between studs and joists used as *return ducts* shall be separated from the unused portions of such spaces by tight-fitting metal stops or wood blocking.

(7) A vertical *return duct* shall have openings to return air on not more than 1 floor.

(8) A *public corridor* shall comply with Sentences 6.2.3.9.(4) and (5).

(9) 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*.

r_6 **(10)** Except as provided in Sentence (14), return-air from a *dwelling unit* shall not be recirculated to any other *dwelling unit*.

(11) Except for floor levels that are less than 900 mm above or below an adjacent floor level that is provided with a return-air inlet, at least one return-air inlet shall be provided in each floor level in a *dwelling unit*.

(12) Provision shall be made for the return of air from all rooms by leaving gaps beneath doors, using louvred doors or installing *return duct* inlets.

(13) Return-air inlets shall not be installed in an enclosed room or crawl space that provides combustion air to a *furnace*.

r_6 **(14)** In a *house* containing two *dwelling units*, return-air from one *dwelling unit* may be recirculated to the other *dwelling unit*, provided a duct-type *smoke detector* is installed in the supply or return air duct system serving the entire *house* which would turn off the fuel supply and electrical power to the heating system upon activation of such detector.

6.2.4.8. Coverings, Linings and Insulation

(1) Foamed plastic insulation may 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 Article 3.1.5.12.

(2) Linings of ducts shall be installed so that they will not interfere with the operation of volume or balancing dampers.

6.2.4.9. Tape

(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, “Flame Tests of Flame-Resistant Fabrics and Films”.

6.2.4.10. Clearances of Ducts and Plenums (See Appendix A.)

(1) 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 duct from direct radiation from the *furnace* heat exchanger.

(2) 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,
(a) be equal to the required *plenum* clearance within a horizontal distance of 1 800 mm of the *plenum*, and
(b) be not less than 12 mm at a horizontal distance of 1 800 mm 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.

(3) Where the *plenum* clearance is more than 150 mm, the clearance between a *supply duct* and *combustible* material shall,
(a) be equal to the required *plenum* clearance within a horizontal distance of 1 000 mm of the *plenum*,
(b) be not less than 150 mm within a horizontal distance between 1 000 mm and 1 800 mm from the *plenum*, and
(c) be not less than 25 mm at a horizontal distance of 1 800 mm 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.

(4) Where a register is installed in a floor directly over a pipeless *furnace*, a double-walled register box with not less than 100 mm between walls, or a register box with the warm-air passage completely surrounded by the cold-air passage, shall be permitted in lieu of the clearances listed in Sentences (1), (2) and (3).

6.2.4.11. 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.

6.2.4.12. Make-Up Air

(1) In ventilating systems that exhaust air to the outdoors, provision shall be made for the admission of a supply of make-up air in sufficient quantity so that the operation of the exhaust system and other exhaust equipment or combustion equipment is not adversely affected.

6.2.4.13. Supply, Return, Intake and Exhaust Air 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.

(5) *Combustible* grilles, diffusers and other devices for the supply and return air openings installed in walls and ceilings shall have a *flame-spread rating* of,
(a) not more than 200 in bathrooms, and
(b) not more than 150 in rooms or spaces other than bathrooms.

6.2.4.14. Air Filters and Equipment

(1) Air filters for air duct systems shall conform to the requirements for Class 2 air filter units as described in ULC-S111, "Fire Tests For Air Filter Units".

(2) When electrostatic-type filters are used, they shall be installed so as to ensure that the electric circuit is automatically de-energized when filter access doors are opened or when the system circulating fan is not operating.

(3) When odour removal equipment of the adsorption type is used it shall be,
(a) installed to provide access so that adsorption material can be reactivated or renewed, and
(b) protected from dust accumulation by air filters installed on the inlet side.

6.2.5. Heating Appliances, General

6.2.5.1. Location of Appliances

(1) Except for *appliances* installed in *dwelling units*, fuel-fired heating *appliances* shall be located, enclosed or separated from the remainder of the *building* in conformance with Section 3.6.

6.2.5.2. Appliances Installed Outside the Building

(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.

6.2.6. Incinerators

6.2.6.1. Applicable Standard

(1) The design, construction, installation and material alteration of every indoor incinerator shall conform to NFPA 82, "Incinerators, Waste and Linen Handling Systems and Equipment".

6.2.7. Unit Heaters

6.2.7.1. Clearances

(1) Every *unit heater* using either steam or hot water as the heating medium shall be installed such that the clearances between the *appliance* and adjacent *combustible* material conform to Table 6.2.9.3.

6.2.8. Radiators and Convectors

6.2.8.1. Lining or Backing

(1) Every steam or hot water radiator and convector located in a recess or concealed space or attached to the face of a wall of *combustible construction* shall be provided with a *noncombustible* lining or backing.

(2) Every steam or hot water radiator and convector shall be installed to conform to the clearance requirements of Table 6.2.9.3.

6.2.9. Piping for Heating and Cooling Systems

6.2.9.1. Piping Materials and Installation

(1) Piping shall be made from materials designed to withstand the effects of temperatures and pressures that may occur in the system.

(2) Every pipe used in a heating or *air-conditioning* system shall be installed to allow for expansion and contraction due to temperature changes.

(3) Supports and anchors for piping in a heating or *air-conditioning* system shall be designed and installed to ensure that undue stress is not placed on the supporting structure.

6.2.9.2. Insulation and Coverings

(1) Insulation and coverings on pipes shall be composed of material suitable for the operating temperature of the system to withstand deterioration from softening, melting, mildew and mould.

(2) Insulation and coverings on pipes in which the temperature of the fluid exceeds 120°C,
(a) shall be made of *noncombustible* material, or
(b) shall not flame, glow, smoulder or smoke when tested in accordance with ASTM C411, "Hot-Surface Performance of High-Temperature Thermal Insulation", at the maximum temperature to which such insulation or covering is to be exposed in service.

(3) Except as provided in Sentence (7), where *combustible* insulation is used on piping in a *horizontal* or *vertical service space*, the insulation and coverings on such pipes shall have a *flame-spread rating* throughout the material of not more than 25 in *buildings* of *noncombustible construction* and not more than 75 in *buildings* of *combustible construction*.

(4) Except as provided in Sentence (7), insulation and coverings on piping located in rooms and spaces other than the *service spaces* described in Sentence (3) shall have a *flame-spread rating* of not more than that required for the interior finish for the ceiling of the room or space.

(5) Except as provided in Sentence (7), where *combustible* insulation and covering is used on piping in *buildings* described in Subsection 3.2.6., they shall have a smoke developed classification of not more than 100.

(6) Exposed piping or equipment subject to human contact shall be insulated so that the temperature of the exposed surface does not exceed 70°C. (See Appendix A.)

(7) No *flame-spread rating* or smoke developed classification limitations are required where *combustible* insulation and coverings are used on piping when such piping is,
(a) located within a concealed space in a wall,
(b) located in a floor slab, or
(c) enclosed in a *noncombustible* raceway or conduit.

(2) Adjacent compartments within every 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 1½ in. in *size*,
(b) extend independently to *open air*, and
(c) terminate not less than 2 000 mm above ground.

(4) The *vent pipes* referred to in Sentence (1) are permitted to be one *size* smaller than the largest connected drainage pipe but not less than 1¼ in. in *size*, or can be sized in accordance with the manufacturer's recommendations.

(5) Every *vent pipe* that serves an oil or grease *interceptor* and is located outside a *building* shall be not less than 3 in. in *size* in areas where it may be subject to frost closure.

(6) Every grease *interceptor* shall have a *vent pipe* that is not less than 1½ in. in *size* connected to the outlet pipe, that connects to the *plumbing venting system*.

(7) A *vent pipe* shall be provided within 1 500 mm of the inlet to a grease *interceptor* complete with a *cleanout* to provide cleaning of the *vent pipe*.

(8) 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 Corrosive Drain Piping and Dilution Tanks

(1) *Venting systems* for drain piping or dilution tanks conveying corrosive waste shall extend independently and terminate in *open air*.

7.5.5.4. Fresh Air Inlets

(1) Where a *building trap* is installed, a *fresh air inlet* not less than 4 in. in *size* shall be connected upstream and within 1 200 mm of the *building trap* and downstream of any other connection.

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 made for the necessary future connections.

r6 **(2)** Except as required in Sentence 7.5.7.7.(2), where a *plumbing system* is installed in a *house*, every *storey* in which *plumbing* is or may be installed, including the *basement* of the *house*, shall have extended into it or passing through it a *vent pipe* that is at least 1½ in. in *size* for the provision of future connections.

7.5.6. Arrangement of Vent Pipes

7.5.6.1. Drainage of Vent Pipes

(1) Every *vent pipe* shall be installed without depression in which moisture can collect.

(2) Every *waste pipe* shall be installed and *back vented* at the same time.

7.5.6.2. Vent Pipe Connections (See Appendix A.)

(1) Every *vent pipe* 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 soil* or *waste pipe*, the connection shall be above the horizontal centre line of the *soil* or *waste pipe*.

(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), a *vent pipe* that protects a *fixture trap* shall be located so that,
(a) the *developed length* of the *trap arm* is not less than twice the *size* 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°.

(2) The *trap arm* of water closets, S-*trap standards* or 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°.

(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* shall not exceed,
(a) 1 000 mm in the vertical plane, and
(b) 3 m in the horizontal plane.

(4) The maximum length and minimum slope of every *trap arm* shall conform to Table 7.5.6.3.

(5) The *vent pipe* from a water closet or any other *fixture* that has an integral siphonic flushing action may be connected to the *vertical leg* of its drainage pipe.

Table 7.5.6.3.
Length of Trap Arm
Forming Part of Sentence 7.5.6.3.(4)

Size of *Trap* Served, in.	Maximum *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
Column 1	2	3

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*.

Section 7.6. Potable Water Systems

7.6.1. Arrangement of Piping

7.6.1.1. Design

(1) Every *fixture* supplied with separate hot and cold water controls shall have the hot water control on the left and the cold on the right.

(2) 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.

(3) 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) Except as provided in Sentence (3), 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*.

(3) Where the *building control valve* required by Sentence (1) is of 1 in. trade *size* 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.

(4) Every pipe that is supplied with water from a tank on the property that is a gravity water tank or a tank of a *drinking water system* shall be provided with a shut-off valve located close to the tank.

(5) 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.

r_5 **(6)** 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 Appendix A.)

7.6.1.4. Shut-Off Valves

r_6 **(1)** Except for a *house* containing not more than one *dwelling unit*, every *riser* shall be provided with a shut-off valve at the source of supply.

7.6.1.5. Water Closets

(1) Every water closet shall be provided with a shut-off valve on its water supply pipe.

7.6.1.6. Suites

(1) Shut-off valves shall be installed in every *suite* in a *building* of *residential occupancy* as may be necessary to ensure that when the supply to one *suite* is shut off the supply to the remainder of the *building* is not interrupted. (See Appendix A.)

7.6.1.7. 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*.

7.6.1.8. 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.

7.6.1.9. Protection for Exterior Water Supply

(1) Every pipe that passes through an exterior wall to supply water to the exterior of the *building* shall be provided with,
(a) a frost-proof hydrant with a separate shut-off valve located inside the *building*, or
(b) a stop-and-waste cock located inside the *building* and close to the wall.

7.6.1.10. Check Valves

(1) A *check valve* shall be installed at the *building* end of the *water service pipe* where the pipe is made of plastic that is suitable for cold water use only. (See Appendix A.)

7.6.1.11. Flushing Devices

(1) Every flushing device that serves a water closet or one or more 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* that it serves.

(2) Where a manually operated flushing device is installed, it shall serve only one *fixture*.

7.6.1.12. Relief Valves (See Appendix A.)

(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) Every 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.

Part 9

Housing and Small Buildings

Section 9.1. General

9.1.1. Application

9.1.1.1. Scope

(1) The scope of this Part shall be as described in Subsection 1.1.2. 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 3.1.19. shall apply.

9.1.1.6. Food Premises

(1) The requirements of Subsection 3.7.6. 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/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* 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 Appendix A.)

(1) Except as provided in Sentence (2), a manufactured *building* intended for *residential occupancy* is deemed to comply with this Code if it is designed and constructed in compliance with,
e1 (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, "Procedures for Factory Certification of Buildings".

(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.

r6 9.1.1.12. Houses

(1) A *house* is permitted above another *house* provided there is not more than one *dwelling unit* in each *house*.

Section 9.2. Reserved

Section 9.3. Materials, Systems and Equipment

9.3.1. Concrete

9.3.1.1. General

(1) Except as provided in Sentence (2), unreinforced and nominally reinforced concrete shall be designed, mixed, placed, cured and tested in accordance with the requirements for "R" class concrete stated in Clause 8.13 of CSA A23.1, "Concrete Materials and Methods of Concrete Construction".

(2) Unreinforced and nominally reinforced site-batched concrete shall be designed, mixed, placed and cured in accordance with Articles 9.3.1.2. to 9.3.1.9.

(3) Except as provided in Sentence (4), Subsection 9.15.4. and Section 9.39., reinforced concrete shall be designed to conform to the requirements of Part 4.

r6 **(4)** For flat insulating concrete form walls described in Clause 9.15.1.1.(1)(c) or 9.20.1.1.(1)(b), the concrete and reinforcing shall comply with Part 4 or,
(a) the concrete shall conform to CSA A23.1, "Concrete Materials and Methods of Concrete Construction", with a maximum aggregate size of 19 mm, and
(b) the reinforcing shall,
r5 (i) conform to CSA G30.18, "Carbon Steel Bars for Concrete Reinforcement",
(ii) have a minimum specified yield strength of 400 MPa, and
(iii) be lapped a minimum of 450 mm for 10M bars and 650 mm for 15M bars.

9.3.1.2. Cement

(1) Cement shall meet the requirements of CAN/CSA-A3001, "Cementitious Materials for Use in Concrete".

9.3.1.3. Concrete in Contact With Sulfate Soil

(1) Concrete in contact with sulfate *soil*, which is deleterious to normal cement, shall conform to the requirements in Clause 4.1.1.6. of CSA A23.1, "Concrete Materials and Methods of Concrete Construction".

9.3.1.4. Aggregates

(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.

9.3.1.5. Water

(1) Water shall be clean and free of injurious amounts of oil, organic matter, sediment or any other deleterious material.

9.3.1.6. Compressive Strength

(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 for all other applications.

(2) Concrete used for garage and carport floors and exterior steps shall have air entrainment of 5 to 8%.

9.3.1.7. Concrete Mixes

(1) For site-batched concrete, the concrete mixes described in Table 9.3.1.7. shall be considered acceptable if the ratio of water to cementing materials does not exceed,
(a) 0.45 for garage floors, carport floors and all exterior flatwork,
(b) 0.65 for interior floors other than those for garages and carports, and
(c) 0.70 for all other applications.

(2) The size of aggregate in unreinforced concrete mixes referred to in Sentence (1) shall not exceed,
(a) 1/5 the distance between the sides of vertical forms, or
(b) 1/3 the thickness of flatwork.

Table 9.3.1.7.
Concrete Mixes
Forming Part of Sentence 9.3.1.7.(1)

Maximum Size of Coarse Aggregate, mm	Materials, volume					
	Cement		Fine Aggregate (damp average coarse sand)		Coarse Aggregate (gravel or crushed stone)	
	Parts	L(1)	Parts	L	Parts	L
14	1	28	1.75	49	2	56
20	1	28	1.75	49	2.5	70
28	1	28	2	56	3	84
40	1	28	2	56	3.5	98
Column 1	2	3	4	5	6	7

Notes to Table 9.3.1.7.:
(1) A 40 kg bag of cement contains 28 L.

9.3.1.8. Admixtures

r5 **(1)** Admixtures shall conform to ASTM C260 / C260M, "Air-Entraining Admixtures for Concrete", or ASTM C494 / C494M, "Chemical Admixtures for Concrete", as applicable.

9.3.1.9. Cold Weather Requirements

(1) When the air temperature is below 5°C , concrete shall be,
(a) kept at a temperature of not less than 10°C or more than 25°C while being mixed and placed, and
(b) maintained at a temperature of not less than 10°C for 72 h after placing.

(2) No frozen material or ice shall be used in concrete described in Sentence (1).

9.3.2. Lumber and Wood Products

9.3.2.1. Grade Marking

(1) Lumber for joists, rafters, trusses and beams and for the uses listed in Table 9.3.2.1. shall be identified by a grade stamp to indicate its grade as determined by the NLGA, "Standard Grading Rules for Canadian Lumber".
(See Appendix A.)

(3) Bow string, arch or semi-circular roof trusses having an unsupported span greater than 6 m shall be designed in conformance with the snow load requirements in Subsection 4.1.6.

9.4.2.3. Platforms Subject to Snow and Occupancy Loads

r6 **(1)** Balconies, decks and other accessible exterior platforms intended for an *occupancy* and subject to snow loads shall be designed to carry the specified roof snow load or 1.9 kPa, whichever is greater, where the platform, or each segregated area of the platform, serves a *house* or an individual *dwelling unit*. (See Appendix A.)

9.4.2.4. Attics and Roof Spaces

(1) Ceiling joists or truss bottom chords in residential *attic or roof spaces* having limited accessibility that precludes the storage of equipment or material shall be designed for a total specified load of not less than 0.35 kPa, where the total specified load is the sum of the specified *dead load* plus the specified *live load* of the ceiling. (See Appendix A.)

9.4.3. Deflections

9.4.3.1. Deflections

(1) The maximum deflection of structural members shall conform to Table 9.4.3.1.

(2) *Dead loads* need not be considered in computing deflections referred to in Sentence (1).

r6 Table 9.4.3.1.
Maximum Deflections
Forming Part of Sentence 9.4.3.1.(1)

Structural Members	Type of Ceiling Supported	Max. Allowable Deflection as an Expressed Ratio of the Clear Span
Roof rafters, roof joists and roof beams	No ceiling	1/180
	Other than plaster or gypsum board	1/240
	Plaster or gypsum board	1/360
Ceiling joists	Other than plaster or gypsum board	1/240
	Plaster or gypsum board	1/360
Floor beams, floor joists and floor decking	All cases	1/360
Beams, joists and decking for balconies, decks and other accessible exterior platforms	Serving a *house* or an individual *dwelling unit*	1/240
	Other	1/360
Column 1	2	3

9.4.4. Foundation Conditions

9.4.4.1. Allowable Bearing Pressures

(1) Footing sizes for *shallow foundations* shall be,
(a) determined in accordance with Section 9.15., or
(b) designed in accordance with Section 4.2. using,
  (i) the maximum *allowable bearing pressures* in Table 9.4.4.1., or
  (ii) *allowable bearing pressures* determined from *subsurface investigation*.

Table 9.4.4.1.
Allowable Bearing Pressure for Soil or Rock(1)
Forming Part of Sentence 9.4.4.1.(1)

Type and Condition of *Soil* or *Rock*	Maximum *Allowable Bearing Pressure*, kPa
Dense or compact sand or gravel	150
Loose sand or gravel	50
Dense or compact silt	100
Stiff clay	150
Firm clay	75
Soft clay	40
Till	200
Clay shale	300
Sound *rock*	500
Column 1	2

Notes to Table 9.4.4.1.:
(1) See Appendix A.

(2) The design procedures described in Section 4.2. are permitted to be used in lieu of the 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 scope 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.

9.4.4.2. Foundation Capacity in Weaker Soil and Rock

(1) Where a *soil* or *rock* within a distance equal to twice the footing width below the *bearing surface* has a lower *allowable bearing pressure* than that at the *bearing surface* as shown in Article 9.4.4.1., the design capacity of the *foundation* shall not be greater than would cause the weakest *soil* or *rock* to be stressed beyond its *allowable bearing pressure*.

(2) In calculating subsurface pressures referred to in Sentence (1), the loads from the footings shall be assumed to be distributed uniformly over a horizontal plane within a frustum extending downward from the footing at an angle of 60° to the horizontal.

9.4.4.3. High Water Table

(1) Where a *foundation* bears on gravel, sand or silt, and the water table is within a distance below the *bearing surface* equal to the width of the *foundation*, the *allowable bearing pressure* shall be 50% of that determined in Article 9.4.4.1.

9.4.4.4. Soil Movement

(1) Where a *foundation* is located in an area where *soil* movement caused by changes in *soil* moisture content, freezing, or chemical-microbiological oxidation is known to occur to the extent that it will damage a *building*, measures shall be taken to preclude such movement or to reduce the effects on the *building* so that the *building's* stability and the performance of assemblies will not be adversely affected. (See Appendix A.)

9.4.4.5. Reserved

9.4.4.6. Walls Supporting Drained Earth (See Appendix A.)

(1) Except where constructed in accordance with Section 9.15., walls supporting drained earth shall be designed,
(a) for a pressure equivalent to that exerted by a fluid with a density of not less than 480 kg/m^3 and a depth equal to that of the retained earth, or
(b) in accordance with Section 4.2. so as to be able to resist the loads and effects described in Article 4.1.2.1.

(2) Walls supporting other than drained earth shall be designed,
(a) for the pressure described in Clause (1)(a) plus the fluid pressure of the surcharge, or
(b) in accordance with Section 4.2. so as to be able to resist the loads and effects described in Article 4.1.2.1.

Section 9.5. Design of Areas, Spaces and Doorways

9.5.1. General

9.5.1.1. Application

(1) Except as otherwise specified in this Part, this Section applies only to *dwelling units* that are intended for use on a continuing or year-round basis as the principal residence of the occupant.

9.5.1.2. 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.

9.5.1.3. Floor Areas

(1) Minimum floor areas specified in this Section do not include closets or built-in bedroom cabinets unless otherwise indicated.

9.5.1.4. Combination Rooms (See Appendix A.)

(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 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.

9.5.1.5. 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.

9.5.2. Barrier-Free Design

9.5.2.1. General

(1) Except as provided in Sentence (2) and Article 3.8.1.1., every *building* shall be designed in conformance with Section 3.8.

r6 **(2)** The requirements of Section 3.8. need not be provided for *houses*, triplexes and boarding or rooming houses with fewer than eight boarders or roomers.

9.5.2.2. Protection on Floor Areas With a Barrier-Free Path of Travel

(1) Where a *barrier-free* path of travel required in Article 9.5.2.1. is provided to any *storey* above the *first storey*, the requirements in Article 3.3.1.7. shall apply.

9.5.2.3. Stud Wall Reinforcement

r4 **(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)(f), and
(c) for a bathtub, a grab bar described in Clause 3.8.3.13.(4)(c).
(See Appendix A.)

9.5.3. Ceiling Heights

9.5.3.1. Ceiling Heights of Rooms or Spaces

(1) The ceiling heights of rooms or spaces in *residential occupancies* and *live/work units* shall conform to Table 9.5.3.1.

(2) Areas in rooms or spaces over which ceiling height is not less than the minimum specified in Table 9.5.3.1. shall be contiguous with the entry or entries to those rooms or spaces.

(2) The maximum area of individual panes of glass for doors shall conform to Table 9.6.1.3.

Table 9.6.1.3.
Maximum Glass Area for Doors(2)
Forming Part of Sentence 9.6.1.3.(2)

Glass Thickness, mm	Maximum Glass Area, m^2						
	Type of Glass						
	Annealed	Annealed Multiple-Glazed Factory-Sealed Units	Laminated	Wired	Heat Strengthened	Fully Tempered	Fully Tempered Multiple-Glazed Factory-Sealed Units
3	0.50	0.70	(1)	(1)	1.00	1.00	2.00
4	1.00	1.50	(1)	(1)	1.50	4.00	4.00
5	1.50	1.50	(1)	(1)	1.50	No limit	No limit
6	1.50	1.50	1.20	1.00	1.50	No limit	No limit
Column 1	2	3	4	5	6	7	8

Notes to Table 9.6.1.3.:
(1) Not generally available.
(2) See Appendix A.

9.6.1.4. Types of Glass and Protection of Glass

r_6 **(1)** Glass sidelights greater than 500 mm wide that could be mistaken for doors, glass in storm doors and glass in sliding doors within or at every entrance to a *house* or an individual *dwelling unit* and in public areas shall be,
(a) safety glass of the tempered or laminated type conforming to CAN/CGSB-12.1-M, "Tempered or Laminated Safety Glass", or
(b) wired glass conforming to CAN/CGSB-12.11-M, "Wired Safety Glass".

r_6 **(2)** Except as provided in Sentence (4), glass in entrance doors to *houses* or individual *dwelling units* and in public areas, other than the entrance doors described in Sentence (1), shall be safety glass or wired glass of the type described in Sentence (1) where the glass area exceeds 0.5 m^2 and extends to less than 900 mm from the bottom of the door.

(3) Except as provided in Sentence (4), transparent panels that could be mistaken as a *means of egress* shall be protected by barriers or railings.

(4) Sliding glass *partitions* that separate a *public corridor* from an adjacent *occupancy* and that are open during normal working hours need not conform to Sentences (2), (3) and (5), except that such *partitions* shall be suitably marked to indicate their existence and position.

(5) Except as provided in Sentence (4), every glass or transparent door accessible to the public shall be equipped with hardware, bars or other permanent fixtures designed so that the existence and position of such doors is readily apparent.

(6) Glass, other than safety glass, shall not be used for a shower or bathtub enclosure.

Section 9.7. Windows, Doors and Skylights

9.7.1. General

9.7.1.1. Application

(1) This Section applies to,
(a) windows, doors and skylights separating *conditioned space* from unconditioned space or the exterior, and
(b) main entrance doors.

(2) For the purpose of this Section, the term "skylight" refers to unit skylights, roof windows and tubular daylighting devices.

(3) For the purpose of this Section, the term "doors" includes glazing in doors and sidelights for doors.

9.7.2. Required Windows, Doors and Skylights

9.7.2.1. Entrance Doors

(1) A door shall be provided at each entrance to a *dwelling unit*.

(2) Main entrance doors to *dwelling units* shall be provided with,
(a) a door viewer or transparent glazing in the door, or
(b) a sidelight.

r5 9.7.2.2. Other Requirements for Windows, Doors and Skylights

(1) Minimum sizes of doorways and doors within a *barrier-free* path of travel shall conform to Section 9.5.

(2) The protection of window and door openings against persons falling through the window or door opening shall conform to Article 9.8.8.1.

(3) Properties of windows and doors within *exits* shall conform to Section 9.9.

(4) Windows and doors installed to provide the required *means of egress* from bedrooms shall conform to Subsection 9.9.10.

(5) The location and protection of windows, doors and skylights in order to control the spread of fire shall conform to Subsection 9.10.12.

(6) Doors between *dwelling units* and attached garages shall conform to Article 9.10.13.15.

(7) The surface *flame-spread rating* for doors and skylights shall conform to Article 9.10.17.1.

(8) Windows and doors installed to provide the required access to a *building* for firefighting purposes shall conform to Subsection 9.10.20.

(9) Windows and skylights installed to provide required non-heating season ventilation shall conform to Article 9.32.2.1.

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/m²K	min. I	max. U-value, W/m²K	min. I
Windows and Doors	2.0	68	1.7	77
Skylights	3.0	(2)	2.7	(2)
Column 1	2	3	4	5

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, "NAFS - 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 A440.2-09, Fenestration Energy Performance".
(2) There is no appropriate test procedure available for testing the condensation resistance of sloped glazing.
r6 (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.

9.7.4. Manufactured Windows, Doors and Skylights

9.7.4.1. Application

(1) This Subsection applies to windows, doors and skylights that are within the scope of AAMA/WDMA/CSA 101/I.S.2/A440, "NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights".

9.7.4.2. General

(1) Manufactured and pre-assembled windows, doors and skylights and their installation shall conform to,
(a) AAMA/WDMA/CSA 101/I.S.2/A440, "NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights",
(b) CSA A440S1, "Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440, NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights",
(c) this Subsection, and
(d) the applicable requirements in Subsection 9.7.6.
(See Appendix A.)

9.7.4.3. Performance Requirements

(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, NAFS - 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 under Sentence (1) when tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, "NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights".

(3) The minimum level of performance required for windows, doors and skylights shall be that of the Performance Class R.

(4) Exterior wood doors shall conform to CAN/CSA-O132.2 Series, "Wood Flush Doors" and shall have legibly indicated on them,
(a) the name of the manufacturer,
(b) the standard to which they were produced, and
(c) that they are of an exterior type.

9.7.5. Site-Built Windows, Doors and Skylights

9.7.5.1. Application and Compliance

(1) Materials, design, construction and installation of windows, doors and skylights that separate *conditioned space* from unconditioned space or the exterior but that are not within the scope of AAMA/WDMA/CSA 101/I.S.2/A440, "NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights" shall,
(a) conform to,
  (i) this Subsection or Subsection 9.7.4., and
  (ii) the applicable requirements in Subsection 9.7.6., or
(b) conform to Part 5.

(2) Glass for site-built windows, doors, sidelights for doors, and skylights shall comply with Section 9.6.

9.7.5.2. Resistance to Forced Entry for Doors

(1) Except for exterior doors to garages and to other ancillary spaces, this Article applies to,
(a) swinging entrance doors to *dwelling units*,
(b) swinging doors between *dwelling units* and attached garages or other ancillary spaces, and
(c) swinging doors that provide access directly or indirectly from a *storage garage* to a *dwelling unit*.
(See Appendix A.)

(2) Doors, frames and hardware that conform to a security level of at least Grade 10 as described in the Annex to ASTM F476, "Security of Swinging Door Assemblies", are not required to conform to Sentences (3) to (7).
(See Appendix A.)

(3) Except as provided in Sentence (2), wood doors described in Sentence (1) shall,
(a) be solid core or stile-and-rail type,
(b) be not less than 45 mm thick, and
(c) if of the stile-and-rail panel type, have a panel thickness of not less than 19 mm, with a total panel area not more than half of the door area.

(4) Except as provided in Sentence (2), doors described in Sentence (1) shall be provided with,
(a) a deadbolt lock with a cylinder having no fewer than five pins, and
(b) a bolt throw not less than 25 mm long, protected with a solid or hardened free-turning ring or bevelled cylinder housing.

(5) Except as provided in Sentence (2), an inactive leaf in double doors used in locations specified in Sentence (1) shall be provided with heavy-duty bolts top and bottom having an engagement of not less than 15 mm.

(6) Except as provided in Sentence (2), hinges for doors described in Sentence (1) shall be fastened,
(a) to wood doors with wood screws not less than 25 mm long and to wood frames with wood screws such that at least two screws per hinge penetrate not less than 30 mm into solid wood, or
(b) to metal doors and metal frames with machine screws not smaller than No. 10 and not less than 10 mm long.
(See Appendix A.)

(7) Except as provided in Sentence (2), strikeplates for deadbolts described in Sentence (4) shall be fastened,
(a) to wood frames with wood screws that penetrate not less than 30 mm into solid wood, or
(b) to metal frames with machine screws not smaller than No. 8 and not less than 10 mm long.

(8) Except for storm doors or screen doors, doors described in Sentence (1) that swing outward shall be provided with hinges or pins so that the doors cannot be removed when they are in the closed position. (See Appendix A.)

(9) Solid blocking shall be provided on both sides at the lock height between the jambs for doors described in Sentence (1) and the structural framing so that the jambs will resist spreading by force.

9.7.5.3. Resistance to Forced Entry for Windows

(1) In *dwelling units*, windows, any part of which is located within 2 m of adjacent ground level, shall conform to the requirements for resistance to forced entry as described in Clause 5.3.5 of AAMA/WDMA/CSA 101/I.S.2/A440, "NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights". (See Appendix A.)

9.7.6. Installation

9.7.6.1. Installation of Windows, Doors and Skylights

(1) The installation of windows, doors and skylights shall conform to CAN/CSA-A440.4, "Window, Door and Skylight Installation", except that,
(a) shims used to support windows, doors and skylights are permitted to be of treated plywood, and
(b) protection from precipitation for walls incorporating windows or doors and for roofs incorporating skylights, and the interfaces of these walls with windows or doors and of roofs with skylights, shall conform to Section 9.27.

(2) The installation of manufactured and pre-assembled windows, doors and skylights and the field assembly of manufactured window and door combination units shall conform to the manufacturer's instructions.

(3) Windows, doors and skylights shall be sealed to air barriers and *vapour barriers*.

9.7.6.2. Sealants, Trim and Flashing

(1) The sealing compound used to seal the glass component of an insulating glazing unit to the sash component shall be compatible with the sealing compound used to edge seal the glass component.

(2) Flashing used to protect openings shall conform to Articles 9.27.3.7. and 9.27.3.8.

(3) Sealants shall be applied between window frames or trim and the exterior cladding or masonry in conformance with Subsection 9.27.4.

(4) All unfinished portions of the frame and other components of aluminum windows, doors or skylights in contact with the edges of masonry, concrete, stucco or plaster shall be protected with an alkali-resistant coating.

Section 9.8. Stairs, Ramps, Handrails and Guards

9.8.1. Application

9.8.1.1. General

(1) This Section applies to the design and construction of interior and exterior stairs, steps, ramps, handrails and *guards*.

9.8.1.2. Stairs, Ramps, Landings, Handrails and Guards in Garages

r6 **(1)** Except as provided in Sentence 9.8.6.2.(3), stairs, ramps, landings, handrails and *guards* in a garage that serves a *house* or an individual *dwelling unit* shall conform to the requirements for stairs, ramps, landings, handrails and *guards* within a *dwelling unit*.

9.8.1.3. Exit Stairs, Ramps and Landings

(1) Where a stair, ramp or landing forms part of an *exit*, the appropriate requirements in Sections 9.9. and 9.10. shall also apply.

9.8.1.4. Escalators and Moving Walks

(1) Escalators and moving walks shall conform to the appropriate requirements in Part 3.

9.8.2. Stair Dimensions

9.8.2.1. Stair Width

(1) Except as provided in Sentence (2), 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.

r6 **(2)** At least one stair between each floor level within a *dwelling unit*, and exterior stairs and required *exit* stairs serving a *house* or an individual *dwelling unit*, shall have a width of not less than 860 mm.

(3) Required *exit* stairs and public stairs serving *buildings* of other than *residential occupancy* shall have a width of not less than the greater of,
(a) 900 mm, or
(b) 8 mm per person based on the *occupant load* limits specified in Table 3.1.17.1.

9.8.2.2. Height Over Stairs

(1) The clear height over stairs shall be,
(a) measured vertically, over the clear width of the stair, from a straight line tangent to the tread and landing nosings to the lowest point above, and
r6 (b) not less than,
  (i) 1 950 mm for stairs serving a *house* or an individual *dwelling unit*, and
  (ii) 2 050 mm for stairs not serving a *house* or an individual *dwelling unit*.

9.8.3. Stair Configurations

9.8.3.1. Straight and Curved Runs in Stairs

(1) Except as provided in Sentence (2), stairs shall consist of,
(a) straight-runs, or
(b) curved-runs.

(2) Stairs within *dwelling units* shall consist of,
(a) straight-runs,
(b) curved-runs,
(c) straight-runs with winders, or
(d) straight-runs with curved-runs.

9.8.3.2. Minimum Number of Risers

(1) Except for stairs within a *dwelling unit*, at least three risers shall be provided in interior flights.

9.8.3.3. Maximum Height of Stairs

(1) The vertical height between any landings shall not exceed 3.7 m.

9.8.4. Step Dimensions (See Appendix A.)

9.8.4.1. Dimensions for Risers

(1) The rise, which is measured as the vertical nosing-to-nosing distance, shall conform to Table 9.8.4.1.

Table 9.8.4.1.
Rise, Run and Tread Depth for Rectangular Treads
Forming Part of Sentences 9.8.4.1.(1) and 9.8.4.2.(1)

Stair Type	All Steps		Rectangular Treads			
	Rise, mm		Run, mm		Tread Depth, mm	
	max.	min.	max.	min.	max.	min.
Service and *mezzanines* in *live/work units*(1)	no limit	125	355	no limit	355	no limit
Private(2)	200	125	355	210	355	235
Public(3)	180	125	no limit	280	no limit	280
Column 1	2	3	4	5	6	7

Notes to Table 9.8.4.1.:
(1) Service stairs are stairs that serve areas used only as *service rooms* or *service spaces* and stairs that serve *mezzanines* not exceeding 20 m^2 within *live/work units*.
r6 (2) Private stairs are:
(a) interior stairs within a *house* or an individual *dwelling unit*,
(b) exterior stairs serving a *house* or an individual *dwelling unit*, and
(c) exterior stairs serving a garage that serves a *house* or an individual *dwelling unit*.
(3) Public stairs are all stairs not described as service stairs or private stairs.

9.8.4.2. Dimensions for Rectangular Runs and Treads

(1) The run, which is measured as the horizontal nosing-to-nosing distance, and the tread depth of rectangular treads shall conform to Table 9.8.4.1.

(2) The depth of a rectangular tread shall be not less than its run and not more than its run plus 25 mm.

9.8.4.3. Dimensions for Angled Treads

(1) Angled treads in required *exit* stairs shall conform to the requirements in Article 3.4.6.9.

(2) Except as provided in Article 9.8.4.5., angled treads in other than required *exit* stairs shall have an average run, which is measured as the horizontal nosing-to-nosing distance, of not less than 200 mm and a minimum run of 150 mm.

(3) The depth of an angled tread shall be not less than its run, measured as the horizontal nosing-to-nosing distance, at any point and not more than its run at any point plus 25 mm.

9.8.4.4. Uniformity and Tolerances for Risers and Treads

(1) Except as provided in Sentence (2), risers shall be of uniform height in any one flight with a maximum tolerance of,
(a) 5 mm between adjacent treads or landings, and
(b) 10 mm between the tallest and shortest risers in a flight.

(2) Except for required *exit* stairs, where the top or bottom riser in a stair adjoins a sloping finished walking surface such as a garage floor, driveway or sidewalk, the height of the riser across the stair shall vary by not more than 1 in 12.

(3) Treads shall have uniform run with a maximum tolerance of,
(a) 5 mm between adjacent treads, and
(b) 10 mm between the deepest and shallowest treads in a flight.

(4) Where angled treads or winders are incorporated into a stair, the treads in all sets of angled treads or winders within a flight shall turn in the same direction.

(5) The slope of treads shall not exceed 1 in 50.

9.8.4.5. Winders (See Appendix A.)

(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.

9.8.4.6. Leading Edges of Treads

(1) Leading edges of treads that are bevelled or rounded shall,
(a) not reduce the required tread depth by more than 15 mm, and
(b) not, in any case, exceed 25 mm horizontally.
(See Appendix A.)

9.8.4.7. Interior Stairs Extending Through the Roof

(1) Interior stairways extending through the roof of a *building* shall be protected from ice and snow.

9.8.5. Ramps

9.8.5.1. Application

(1) This Subsection applies to pedestrian ramps except ramps in a *barrier-free* path of travel.

(2) Ramps in a *barrier-free* path of travel shall conform to the requirements in Article 3.8.3.4.

9.8.5.2. Ramp Width

(1) Except as provided in Sentence (2), *exit* ramps and public ramps serving *buildings* of *residential occupancy* shall have a clear width of not less than 900 mm.

r_6 **(2)** A ramp serving a *house* or an individual *dwelling unit* shall have a width of not less than 860 mm.

(3) *Exit* ramps and public ramps serving *buildings* of other than *residential occupancy* shall have a clear width of not less than the greater of,
(a) 900 mm, or
(b) 8 mm per person based on the *occupant load* limits specified in Table 3.1.17.1.

9.8.5.3. Height Over Ramps

r_6 **(1)** The clear height over ramps shall be not less than,
(a) 1 950 mm for ramps serving a *house* or an individual *dwelling unit*, and
(b) 2 050 mm for ramps not serving a *house* or an individual *dwelling unit*.

9.8.5.4. Slope

(1) The slope of ramps shall be not more than,
(a) 1 in 10 for exterior ramps,
(b) 1 in 10 for interior ramps serving *residential occupancies*,
(c) 1 in 6 for *mercantile* or *industrial occupancies*, and
(d) 1 in 8 for all other *occupancies*.

9.8.5.5. Maximum Rise

(1) Where the slope of the ramp is greater than 1 in 12, the maximum rise between floors or landings shall be 1 500 mm.

9.8.6. Landings

9.8.6.1. Application

(1) This Subsection applies to landings, except landings for ramps in a *barrier-free* path of travel.

(2) Landings for ramps in a *barrier-free* path of travel shall conform to the requirements in Article 3.8.3.4.

(3) Finished floors, and ground surfaces with a slope not exceeding 1 in 50, at the top and bottom of stairs or ramps shall be considered as landings.

9.8.6.2. Required Landings

r6 **(1)** Except as provided in Sentences (2), (3) and (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) Where a door at the top of a stair in a *dwelling unit* swings away from the stair, no landing is required between the doorway and the stair.

r6 **(3)** A landing may be omitted at the top of an exterior stair serving a garage or a secondary entrance to a *house* or an individual *dwelling unit*, including an entrance from an attached garage, provided,
(a) the stair does not contain more than three risers,
(b) except as provided in Clause (c), the door is a sliding door or swings away from the stair, and
(c) where a storm or screen door is provided, it may swing over the stair if it is equipped with hardware to hold it open.

r6 **(3.1)** Sentence (3) does not apply to an exterior stair serving a secondary entrance to a *house* that is also a main entrance to a *dwelling unit* in the *house*.

r6 **(4)** A landing may be omitted at the bottom of an exterior stair or ramp provided there is no obstruction, such as a gate or door, within the lesser of the width of the stair or ramp, or,
(a) 900 mm for stairs or ramps serving a *house* or an individual *dwelling unit*, and
(b) 1 100 mm for stairs or ramps not serving a *house* or an individual *dwelling unit*.

9.8.6.3. Dimensions of Landings

(1) Except as provided in Sentences (3) to (6), the width and length of landings shall comply with Table 9.8.6.3. (See Appendix A.)

r6

Table 9.8.6.3.
Dimensions of Landings
Forming Part of Sentence 9.8.6.3.(1)

Application	Landing Configuration	Minimum Width, mm	Length, mm
Stairs and ramps serving a *house* or an individual *dwelling unit*	In straight-run stair or ramp, or landing turning through less than 30°, within a *dwelling unit*	Width of stair or ramp	Not less than 860
	In straight-run exterior stair or ramp, or exterior landing turning through less than 30°	Width of stair or ramp	Not less than 900
	Landing turning through an angle of 30° or more, but less than 90°	Width of stair or ramp measured at right angle to path of travel	(a) Not less than 230 measured at the inside edge of the landing, and (b) Not less than 370 measured 230 from the inside edge of landing or handrail
	Landing turning through not less than 90°	Width of stair or ramp measured at right angle to path of travel	Not less than width of stair or ramp landing
Stairs and ramps not serving a *house* or an individual *dwelling unit*	In straight-run stair or ramp, or landing turning through less than 30°	Width of stair or clear width of ramp	Lesser of required width of stair or clear width of ramp, or 1 100
	Landing turning through 30° or more	Width of stair or clear width of ramp measured at right angle to path of travel	Not less than width of stair or clear width of ramp
Column 1	2	3	4

(2) Reserved

(3) Where stairs or ramps of different widths adjoin a single landing, the minimum width of the landing shall be,
(a) not less than the greater required stair or ramp width, where one or more of the stair or ramp widths do not exceed their respective required widths, or
(b) not less than the lesser actual stair or ramp width, where all of the widths of the stairs or ramps exceed their respective required widths.

(4) Where a door swings toward a stair, the full arc of the swing shall be over the landing.

(5) The slope of landings shall not exceed 1 in 50.

(6) Where a doorway or stairway opens onto the side of a ramp, the landing shall extend for a distance of not less than 300 mm on either side of the doorway or stairway, except on a side abutting an end wall.

9.8.6.4. Height Over Landings

r6 **(1)** The clear height over landings shall be not less than,
(a) 1 950 mm for landings serving a *house* or an individual *dwelling unit*, and
(b) 2 050 mm for landings not serving a *house* or an individual *dwelling unit*.

9.8.7. Handrails

9.8.7.1. Required Handrails

(1) Except as provided in Sentences (2) to (4), a handrail shall be installed on stairs and ramps in conformance with Table 9.8.7.1.

r3

Table 9.8.7.1.
Handrails for Stairs and Ramps
Forming Part of Sentence 9.8.7.1.(1)

Location of Stair or Ramp	Handrails Serving Stairs			Handrails Serving Ramps	
	Stairs < 1 100 mm Wide		Stairs ≥ 1 100 mm Wide	Ramps < 1 100 mm Wide	Ramps ≥ 1 100 mm Wide
	Straight	Curved	All	Straight or Curved	All
	Number of Sides Required to have a Handrail				
Within a *dwelling unit*	1	1	1	1	2
All other locations	1	2	2	2	2
Column 1	2	3	4	5	6

(2) Where a stair or a 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.

r6 **(3)** A handrail is not required for stairs and ramps serving a *house* or an individual *dwelling unit*, where,
(a) interior stairs have not more than two risers,
(b) exterior stairs have not more than three risers, or
(c) ramps rise not more than 400 mm.

r6 **(4)** Only one handrail is required on exterior stairs having more than three risers, provided such stairs serve a *house* or an individual *dwelling unit*.

9.8.7.2. Continuity of Handrails (See Appendix A.)

(1) Except as provided in Sentence (2), at least one required handrail shall be continuous throughout the length of the stair or ramp, including landings, except where interrupted by,
(a) doorways, or
(b) newel posts at changes in direction.

r6 **(2)** For stairs or ramps serving a *house* or an individual *dwelling unit*, at least one required handrail shall be continuous throughout the length of the stair or ramp, except where interrupted by,
(a) doorways,
(b) landings, or
(c) newel posts at changes in direction.

9.8.7.3. Termination of Handrails

(1) Handrails shall be terminated in a manner that will not obstruct pedestrian travel or create a hazard. (See Appendix A.)

r6 **(2)** Except for stairs and ramps serving a *house* or an individual *dwelling unit*, at least one handrail at the sides of a stair or ramp shall extend horizontally not less than 300 mm beyond the top and bottom of each stair or ramp. (See Appendix A.)

9.8.7.4. Height of Handrails (See Appendix A.)

(1) The height of handrails on stairs and ramps shall be measured vertically from the top of the handrail to,
(a) a straight line drawn tangent to the tread nosings of the stair served by the handrail, or
(b) the surface of the ramp, floor or landing served by the handrail.

(2) Except as provided in Sentences (3) and (4), the height of handrails on stairs and ramps shall be,
(a) not less than 865 mm, and
(b) not more than 965 mm.

(3) Where *guards* are required, handrails required on landings shall be not more than 1 070 mm in height.

(4) Handrails installed in addition to required handrails need not comply with Sentence (2).

9.8.7.5. Ergonomic Design

(1) A clearance of not less than 50 mm shall be provided between a handrail and any surface behind it.

(2) All handrails shall be constructed so as to be continually graspable along their entire length with no obstruction on or above them to break a handhold, except where the handrail is interrupted by newels at changes in direction. (See Appendix A.)

9.8.7.6. Projections into Stairs and Ramps

(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.

9.8.7.7. Design and Attachment of Handrails (See Appendix A.)

(1) Handrails and any *building* element that could be used as a handrail shall be designed and attached in such a manner as to resist,
(a) a concentrated load at any point of not less than 0.9 kN, and
r6 (b) for handrails other than those serving a *house* or an individual *dwelling unit*, a uniformly distributed load of 0.7 kN/m.

r6 **(2)** Where a handrail serving a *house* or an individual *dwelling unit* is attached to wood studs or blocking, the attachment shall be deemed to comply with Sentence (1), where,
(a) the attachment points are spaced not more than 1.2 m apart,
(b) the first attachment point at either end is located not more than 300 mm from the end of the handrail, and
(c) the fasteners consist of no fewer than two wood screws at each point, penetrating not less than 32 mm into solid wood.

9.8.8. Guards

9.8.8.1. Required Guards (See Appendix A.)

(1) Except as provided in Sentences (2) and (3), every surface to which access is provided for other than maintenance purposes, including but not limited to flights of steps and ramps, exterior landings, porches, balconies, *mezzanines*, galleries and raised walkways, shall be protected by a *guard* on each side that is not protected by a wall for the length, where,
(a) there is a difference in elevation of more than 600 mm between the walking surface and the adjacent surface, or
(b) the adjacent surface within 1.2 m from the walking surface has a slope of more than 1 in 2.

(2) *Guards* are not required,
(a) at loading docks,
(b) at floor pits in *repair garages*, or
(c) where access is provided for maintenance purposes only.

(3) When an interior stair has more than two risers or an interior ramp rises more than 400 mm, the sides of the stair or ramp and the landing or floor level around the stairwell or ramp shall be protected by a *guard* on each side that is not protected by a wall.

(4) Doors in *buildings* of *residential occupancy*, where the finished floor on one side of the door is more than 600 mm above the floor or other surface or ground level on the other side of the door, shall be protected by,
(a) a *guard* in accordance with this Subsection, or
(b) a mechanism capable of controlling the free swinging or sliding of the door so as to limit any clear unobstructed opening to not more than 100 mm.

(5) Except as provided in Sentence (6), openable windows in *buildings* of *residential occupancy* shall be protected by,
(a) a *guard* in accordance with this Subsection, or
r5 (b) a mechanism capable of controlling the free swinging or sliding of the openable part of the window so as to limit any clear unobstructed opening to a size that will prevent the passage of a sphere having a diameter more than 100 mm.
(See Appendix A.)

(6) Windows need not be protected in accordance with Sentence (5), where,
(a) the window serves a *dwelling unit* that is not located above another *suite*,
r5 (b) the only opening having greater dimensions than those allowed by Clause (5)(b) is a horizontal opening at the top of the window,
(c) the top surface of the window sill is located more than 480 mm above the finished floor on one side of the window, or
(d) the window is located in a room or space with the finished floor described in Clause (c) located less than 1 800 mm above the floor or ground on the other side of the window.

(7) Except as provided in Sentence (8), 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.

(8) 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.

(9) Glazing installed in public areas that extends to less than 1 000 mm 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.

9.8.8.2. Loads on Guards (See Appendix A.)

(1) Except as provided in Sentence (5), *guards* shall be designed to resist the specified loads prescribed in Table 9.8.8.2.

Table 9.8.8.2.
Specified Loads for Guards
Forming Part of Sentence 9.8.8.2.(1)

Location of *Guard*	Minimum Specified Loads		
	Horizontal Load Applied Inward or Outward at any Point at the Minimum Required Height of the *Guard*	Horizontal Load Applied Inward or Outward on Elements Within the *Guard*, Including Solid Panels and Pickets	Evenly Distributed Vertical Load Applied at the Top of the *Guard*
Guards within *dwelling units* and exterior *guards* serving not more than 2 *dwelling units*	0.5 kN/m or concentrated load of 1.0 kN applied at any point(1)	0.5 kN applied over a maximum width of 300 mm and a height of 300 mm(2)	1.5 kN/m
Guards serving access walkways to equipment platforms, contiguous stairs and similar areas	Concentrated load of 1.0 kN applied at any point	Concentrated load of 0.5 kN applied at any point on individual elements	1.5 kN/m
All other *guards*	0.75 kN/m or concentrated load of 1.0 kN applied at any point(1)	Concentrated load of 0.5 kN applied at any point on individual elements	1.5 kN/m
Column 1	2	3	4

Notes to Table 9.8.8.2.:
(1) The load that creates the most critical condition shall apply.
(2) See Sentence (2).

(2) Where the width and spacing of balusters in *guards* within *dwelling units* and in exterior *guards* serving not more than two *dwelling units* is such that three balusters can be engaged by a load imposed over a 300 mm width, the load shall be imposed so as to engage three balusters.

(3) None of the specified loads prescribed in Table 9.8.8.2. need be considered to act simultaneously.

(4) For *guards* within *dwelling units* and for exterior *guards* serving not more than 2 *dwelling units*, Table 9.8.8.2. need not apply where the *guard* construction has been demonstrated to provide effective performance.

(5) *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).

9.8.8.3. Height of Guards (See Appendix A.)

(1) Except as provided in Sentences (2) to (6), all *guards* shall be not less than 1 070 mm high.

(2) All *guards* within *dwelling units* shall be not less than 900 mm high.

r6 **(3)** Exterior *guards* serving a *house* or an individual *dwelling unit* shall be not less than 900 mm high where the walking surface served by the *guard* is not more than 1 800 mm above the finished ground level.

(4) *Guards* for flights of steps, except in required *exit* stairs, shall be not less than 900 mm high.

(5) Except as provided in Sentence (6), the height of *guards* shall be not less than,
(a) 920 mm for required *exit* stairs, and
(b) 1 070 mm around landings.

(6) The height of *guards* for exterior stairs and landings more than 10 m above adjacent ground level shall be not less than 1 500 mm.

(7) The height of *guards* for stairs and landings shall be measured vertically from the top of the *guard* to,
(a) a straight line drawn tangent to the tread nosings of the stair, or
(b) the surface of the landing.

9.8.8.4. Guards for Floors and Ramps in Garages

(1) Except for floors of garages referred to in Section 9.35., where garage floors or ramps are 600 mm or more above the adjacent ground or floor level, every opening through a garage floor and the perimeter of floors and ramps that have no exterior walls shall be provided with,
(a) a continuous curb not less than 150 mm in height, and
(b) a *guard* not less than 1 070 mm above the floor level.

(2) Vehicle guardrails shall be designed for a concentrated horizontal load of 22 kN applied outward at any point 500 mm above the floor surface.

9.8.8.5. Openings in Guards

(1) Except as provided in Sentence (2), openings through any *guard* that is required by Article 9.8.8.1. shall be of a size that will prevent the passage of a spherical object having a diameter of 100 mm unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard. (See Appendix A.)

(2) Openings through any *guard* that is required by Article 9.8.8.1. and that is installed in a *building* of *industrial occupancy* shall be of a size that will prevent the passage of a spherical object having a diameter of 200 mm, unless it can be shown that the location and size of openings that exceed this limit do not represent a hazard. (See Appendix A.)

(3) Unless it can be shown that the location and size of openings that do not comply with the following limits do not represent a hazard, openings through any *guard* that is not required by Article 9.8.8.1. and that serves a *building* of other than *industrial occupancy*, shall be of a size that,
(a) will prevent the passage of a spherical object having a diameter of 100 mm, or
(b) will permit the passage of a spherical object having a diameter of 200 mm.
(See Appendix A.)

9.8.8.6. Guards Designed Not to Facilitate Climbing

(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. (See Appendix A.)

9.8.8.7. Glass in Guards

(1) Glass in *guards* shall be,
(a) safety glass of the laminated or tempered type conforming to CAN/CGSB-12.1-M, “Tempered or Laminated Safety Glass”, or
(b) wired glass conforming to CAN/CGSB-12.11-M, “Wired Safety Glass”.

9.8.9. Construction

9.8.9.1. Loads on Stairs and Ramps

(1) Except as required in Articles 9.8.9.4. and 9.8.9.5., stairs and ramps shall be designed for strength and rigidity under uniform loading criteria to support specified loads of,

r6 (a) 1.9 kPa for stairs and ramps serving a *house* or an individual *dwelling unit*, and

(b) 4.8 kPa for other stairs and ramps.

9.8.9.2. Exterior Concrete Stairs

(1) Exterior concrete stairs with more than two risers and two treads shall be,

(a) supported on unit masonry or concrete walls or piers not less than 150 mm in cross-section, or

(b) cantilevered from the main *foundation* wall.

(2) Stairs described in Sentence (1), when cantilevered from the *foundation* wall, shall be constructed and installed in conformance with Subsection 9.8.10.

(3) The depth below ground level for *foundations* for exterior steps shall conform to the requirements in Section 9.12.

9.8.9.3. Exterior Wood Steps

(1) Exterior wood steps shall not be in direct contact with the ground unless suitably treated with a wood preservative.

9.8.9.4. Wooden Stair Stringers

(1) Wooden stair stringers shall,

(a) have a minimum effective depth of 90 mm, measured perpendicularly to the bottom of the stringer at the point of minimum cross-section, and an overall depth of not less than 235 mm,

(b) be supported and secured top and bottom,

(c) be not less than 25 mm actual thickness if supported along their length and 38 mm actual thickness if unsupported along their length, and

r6 (d) except as permitted in Sentence (2), be spaced not more than 900 mm o.c. for stairs serving a *house* or an individual *dwelling unit*, and 600 mm o.c. in other stairs.

r6 **(2)** For stairs serving a *house* or an individual *dwelling unit*, where risers support the front portion of the tread, the space between stringers shall be not more than 1 200 mm.

9.8.9.5. Treads

(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.

(2) Stair treads of plywood or OSB, that are not continuously supported by the riser shall have their face grain or direction of face orientation at right angles to the stringers.

9.8.9.6. Finish for Treads, Landings and Ramps

r4 **(1)** Except as required by Sentence (5), the finish for treads, landings and ramps shall be,

(a) wear-resistant,

(b) slip-resistant, and

(c) smooth, even and free from open defects.

r6 **(2)** The finish for treads, landings and ramps within a *house* or an individual *dwelling unit*, including those from an attached garage serving a *house* or an individual *dwelling unit*, shall be deemed to comply with Sentence (1) where these treads, landings or ramps are finished with,
(a) hardwood,
(b) vertical grain softwood,
(c) resilient flooring,
(d) low-pile carpet,
(e) mat finish ceramic tile,
(f) concrete, or
(g) for stairs to unfinished *basements* and to garages, plywood.

r6 **(3)** Stairs and ramps, except those serving a *house*, 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.

r6 **(4)** Except for stairs serving a *house*, 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.

r4 **(5)** Treads and landings of interior and exterior stairs and ramps, other than those within *dwelling units*, shall have a slip-resistant finish or be provided with slip-resistant strips that extend not more than 1 mm above the surface.

9.8.10. Cantilevered Precast Concrete Steps

9.8.10.1. Design

(1) Exterior concrete steps and their anchorage system that are cantilevered from a *foundation* wall shall be designed and installed to support the loads to which they may be subjected.

9.8.10.2. Anchorage

(1) Cantilevered concrete steps referred to in Article 9.8.10.1. shall be anchored to concrete *foundation* walls at least 200 mm thick.

9.8.10.3. Prevention of Damage Due to Frost

(1) Suitable precautions shall be taken during backfilling and grading operations to ensure that subsequent freezing of the *soil* will not cause uplift forces on the underside of cantilevered concrete steps to the extent that the steps or the walls to which they are attached will be damaged.

Section 9.9. Means of Egress

9.9.1. General

9.9.1.1. Application

(1) Stairways, handrails and *guards* in a *means of egress* shall conform to the requirements in Section 9.8. as well as to the requirements in this Section.

9.9.1.2. Fire Protection

(1) In addition to the fire protection requirements provided in Subsection 9.9.4., *flame-spread ratings*, *fire-resistance ratings* and *fire-protection ratings* for *means of egress* shall conform to Section 9.10.

9.9.1.3. Occupant Load

(1) The *occupant load* of a *floor area* or part of a *floor area*, or of a *building* or part of a *building* not having 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.

9.9.2. Types and Purpose of Exits

9.9.2.1. Types of Exits

(1) Except as otherwise provided in this Section, an *exit* from any *floor area* shall be one of the following used singly or in combination:
(a) an exterior doorway,
(b) an exterior passageway,
(c) an exterior ramp,
(d) an exterior stairway,
(e) a fire escape (as described in Subsection 3.4.7.),
(f) a *horizontal exit*,
(g) an interior passageway,
(h) an interior ramp, or
(i) an interior stairway.

(2) Fire escapes are permitted to be used as *exits* on existing *buildings* provided they are designed and installed in conformance with Subsection 3.4.7.

(3) Fire escapes shall not be installed on any new *building*.

(4) Where a *horizontal exit* is used, it shall conform to Sentence 3.4.1.6.(1) and Article 3.4.6.10.

9.9.2.2. Purpose of Exits

(1) An *exit* shall be designed for no purpose other than for exiting, except that an *exit* may also serve as an access to a *floor area*.

9.9.2.3. Elevators, Slide Escapes and Windows as Means of Egress

(1) Elevators, slide escapes or windows shall not be considered as part of a required *means of egress*.

(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.

9.9.2.4. Principal Entrances

r6 **(1)** Except for doors serving a *house* or an individual *dwelling unit*, at least one door at every principal entrance to a *building* providing access from the exterior at ground level shall be designed in accordance with the requirements for *exits*.

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.

9.9.3. Dimensions of Means of Egress

9.9.3.1. Application

r6 **(1)** This Subsection applies to every *means of egress* except,
(a) *exits* that serve a *house* or an individual *dwelling unit*, and
(b) *access to exits* within a *house* or an individual *dwelling unit*.

9.9.3.2. Exit Width

(1) Except for doors and corridors, the width of every *exit* facility shall be not less than 900 mm.

9.9.3.3. Width of Corridors

(1) The width of every *public corridor*, corridor used by the public, and *exit* corridor shall be not less than 1 100 mm.

9.9.3.4. Clear Height

(1) Except for stairways, doorways and *storage garages*, the minimum clear height in *exits* and *access to exits* shall be 2 100 mm.

(2) The clear height in *exits* and *access to exits* in a *storage garage* shall be not less than 2 000 mm.

9.9.4. Fire Protection of Exits

9.9.4.1. Application

r6 **(1)** Except as provided in Articles 9.9.4.4. and 9.9.4.6., this Subsection applies to the fire protection of all *exits* except *exits* serving an individual *dwelling unit*.

9.9.4.2. Fire Separation for Exits

(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.

(3) A *fire separation* common to two *exits* shall be smoke-tight and not be pierced by doorways, duct work, piping or any other opening that may affect the continuity of the separation.

(4) A *fire separation* that separates an *exit* from the remainder of the *building* shall have no openings except those for electrical wiring, *noncombustible* conduit and *noncombustible* piping that serve only the *exit*, and for standpipes, sprinkler piping, *exit* doorways and wired glass and glass block permitted in Article 9.9.4.3.

(5) The requirements in Sentence (1) do not apply to an exterior *exit* passageway provided the passageway has at least 50 percent of its exterior sides open to the outdoors and is served by an *exit* stair at each end of the passageway.

9.9.4.3. Wired Glass or Glass Block

(1) This Article applies to wired glass in doors, and wired glass or glass block in sidelights, where these are installed in *fire separations* between *exit* enclosures and *floor areas*.

(2) Except as provided in Sentence (3), the combined area of glazing in doors and sidelights shall not exceed 0.8 m².

(3) Where an *exit* enclosure connects with a *floor area* through an enclosed vestibule or corridor separated from the *floor area* by *fire separations* having not less than a 45 min *fire-resistance rating*, the glazed areas described in Sentence (1) need not be limited as required in Sentence (2).

9.9.4.4. Openings Near Unenclosed Exit Stairs and Ramps

(1) Where an unenclosed exterior *exit* stair or ramp provides the only *means of egress* from a *suite*, and is exposed to fire from openings in the exterior walls of another *fire compartment*, the openings in the exterior walls of the *building* 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. when the openings in the exterior walls of the *building* are within 3 m horizontally and less than 10 m below or less than 5 m above the *exit* stair or ramp.

9.9.4.5. Openings in Exterior Walls of Exits

(1) Either openings in the exterior walls of an *exit* or openings in adjacent exterior walls of the *building* the *exit* serves shall be protected with wired glass in fixed steel frames or glass block installed in accordance with Articles 9.10.13.5. and 9.10.13.7., where,

(a) the *exit* enclosure has exterior walls that intersect the exterior walls of the *building* at an angle of less than 135° measured on the outside of the *building*, and

(b) the openings in the exterior walls of the *building* are within 3 m horizontally and less than 2 m above the openings in the exterior walls of the *exit*.

(See Appendix A.)

9.9.4.6. Openings Near Exit Doors

r_6 **(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.

9.9.4.7. Stairways in Group D or E Buildings

(1) Notwithstanding the requirements of Sentences 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 that *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 m² 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.

r5 **(2)** Reserved.

9.9.5. Obstructions and Hazards in Means of Egress

9.9.5.1. Application

r6 **(1)** This Subsection applies to obstructions and hazards in every *means of egress* except those within or serving an individual *dwelling unit*.

9.9.5.2. Occupancies in Corridors

(1) Where a corridor contains an *occupancy*, the *occupancy* shall not reduce the unobstructed width of the corridor to less than the required width of the corridor.

9.9.5.3. Obstructions in Public Corridors

(1) Except as permitted in Sentence (2), obstructions located within 1 980 mm of the floor shall not project horizontally more than 100 mm into *exit* passageways, corridors used by the public or *public corridors* in a manner that would create a hazard for persons with no or low vision travelling adjacent to walls.

(2) The horizontal projection of an obstruction in Sentence (1) is permitted to exceed 100 mm where the obstruction extends to less than 680 mm above the floor.

9.9.5.4. Obstructions in Exits

(1) Except as permitted in Subsection 9.9.6. and Article 9.8.7.6., no fixture, turnstile or construction shall project within the required width of an *exit*.

9.9.5.5. Obstructions in Means of Egress

(1) No obstructions such as posts or turnstiles shall be placed so as to restrict the width of a required *means of egress* from a *floor area* or part of a *floor area* to less than 750 mm unless an alternate unobstructed *means of egress* is provided adjacent to and plainly visible from the restricted egress.

(2) Except as provided in Sentence (3), no obstructions, such as counter gates, that do not meet the requirements for *exit* doors, shall be placed in a required *means of egress* from a *floor area* or part of a *floor area* unless an alternate unobstructed *means of egress* is provided adjacent to and plainly visible from the restricted egress.

(3) Obstructions, such as counter gates, that do not satisfy Sentence (2), are permitted to be placed in a required *means of egress* from a part of a *floor area* in *mercantile occupancies* and *business and personal services occupancies*, provided that the part of the *floor area* served by the obstructed *means of egress* is not generally accessible to the public.

9.9.5.6. Mirrors or Draperies

(1) No mirror shall be placed in or adjacent to any *exit* so as to cause confusion regarding the direction of *exit*, and no mirror or draperies shall be placed on or over *exit* doors.

9.9.5.7. Fuel-Fired Appliances

(1) Fuel-fired *appliances* shall not be installed in an *exit* or corridor serving as an *access to exit*.

9.9.5.8. Service Rooms

(1) *Service rooms* containing equipment subject to possible explosion, such as *boilers* designed to operate at a pressure in excess of 100 kPa, and certain types of refrigerating and transformer equipment, shall not be located under required *exits*.

9.9.5.9. Ancillary Rooms

(1) Ancillary rooms such as storage rooms, washrooms, toilet rooms, laundry rooms and *service rooms* shall not open directly into an *exit*.

9.9.6. Doors in a Means of Egress

9.9.6.1. Obstructions by Doors

(1) Except as provided in Sentence (4), swinging doors in their swing shall conform to Sentences (2) and (3),
(a) at *exit* 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*.

(2) When fully open, doors described in Sentence (1) shall not decrease the required *exit* width by more than,
(a) 100 mm in *exit* corridors, and
(b) 50 mm for other *exit* facilities.

(3) The swing of doors described in Sentence (1) shall not reduce the width of the path of travel to less than,
(a) the required *exit* width in *exit* corridors and passageways, and
(b) 750 mm on *exit* stairs or landings.

r6 **(4)** Doors serving a *house* or an individual *dwelling unit* need not comply with Sentences (2) and (3).

9.9.6.2. Clear Opening Height at Doorways

(1) Except as provided in Sentences (2) and (3), the clear opening height of doorways shall be not less than 2 030 mm high at,
(a) *exit* doors,

(b) doors that open into or are located within a *public corridor*, and
(c) doors that open into or are located within another facility that provides *access to exit* from a *suite*.

(2) The clear opening height under door closers and other devices in doorways described in Sentence (1) shall be not less than 1 980 mm.

r6 **(3)** Doorways serving a *house* or an individual *dwelling unit* need not comply with Sentences (1) and (2).

9.9.6.3. Clear Opening Width at Doorways

(1) Except as provided in Sentence (4), the clear opening width of doorways shall comply with Sentence (2) at,
(a) *exit* doors, and
(b) doors that open into or are located,
  (i) within a *public corridor*, or
  (ii) within another facility that provides *access to exit* from a *suite*.

(2) Doorways described in Sentence (1) shall be not less than,
(a) 800 mm wide where there is only one door leaf,
(b) 800 mm wide where multiple-leaf doors are installed with only one active leaf with a latching mechanism described in Article 9.9.6.7., and
(c) 1 210 mm wide where multiple-leaf doors are installed with two active leaves.

(3) In doorways described in Sentence (1) that have multiple-leaf doors installed,
(a) no active leaf shall be less than 810 mm wide where only one leaf is active, and
(b) no single leaf shall be less than 610 mm wide where two leaves are active.

r6 **(4)** Doorways serving a *house* or an individual *dwelling unit* need not comply with Sentence (2).

9.9.6.4. Door Action

(1) Except as provided in Sentences (4) and (5), required *exit* doors and doors in required *means of egress*, except doors in *means of egress* within *dwelling units*, shall swing on the vertical axis.

(2) Except as provided in Sentence (5), breakaway sliding doors, installed as required *exit* doors or required doors in *means of egress*, shall be identified as swinging doors by means of a label or decal affixed to the door.

(3) Revolving doors shall comply with Article 3.4.6.15.

(4) Movable *partitions* used to separate a *public corridor* from an adjacent *business and personal services occupancy* or a *mercantile occupancy* need not conform to Sentence (1), provided the *partitions* are not located in the only *means of egress*.

(5) *Exit* doors need not conform to Sentence (1) or (2), where,
(a) the doors serve accessory *buildings* where life safety is not adversely affected, or
r6 (b) the doors serve *storage garages* or other accessory *buildings* serving a *house* or an individual *dwelling unit*.

9.9.6.5. Direction of Door Swing

r6 **(1)** Except as permitted by Sentence (2) and except for doors serving a *house* or an individual *dwelling unit*, *exit* doors that are required to swing shall swing in the direction of *exit* travel.

(2) 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.

(3) Doors that open onto a corridor or other facility that provides *access to exit* from a room or *suite* having an *occupant load* of more than 60 persons shall swing on the vertical axis in the direction of *exit* travel.

(4) Doors that divide a corridor that is not wholly contained within a *suite* shall swing in the direction of *exit* travel.

(5) Where a pair of doors is installed in a corridor that provides *access to exit* in both directions, the doors shall,
(a) swing in opposite directions, with the door on the right hand side swinging in the direction of *exit* travel, or
(b) swing in both directions.

9.9.6.6. Proximity of Doors to Stairs

r_6 **(1)** Except as provided in Sentence (2), the distance between a stair riser and the leading edge of a door in its swing, except for doors serving a *house* or an individual *dwelling unit*, shall be not less than 300 mm.

r_6 **(2)** Where there is a danger of blockage from ice or snow, an *exit* door, including a door serving a *house* or an individual *dwelling unit*, may open onto not more than one step provided the riser of such step does not exceed 150 mm.

9.9.6.7. Door Latching, Locking and Opening Mechanisms

r_6 **(1)** Principal entrance doors, *exit* doors and doors to *suites*, including exterior doors serving a *house* or an individual *dwelling unit*, and other doors in an *access to exit* shall,
(a) be openable from the inside or in travelling to an *exit* without requiring keys, special devices or specialized knowledge of the door opening mechanism, or
(b) in the case of *exit* doors, be controlled by electromagnetic locking mechanisms in accordance with Sentence 3.4.6.16.(4).

r_6 **(2)** Except for doors serving a *house* or an individual *dwelling unit* and except for doors to accessory *buildings* and to garages serving a *house* or an individual *dwelling unit*, door release hardware on doors in a *means of egress* shall be operable with one hand and the door shall be openable with not more than one releasing operation.

(3) Door release hardware on doors in a *means of egress* shall be installed not more than 1 200 mm above the finished floor.

(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.

9.9.6.8. Effort Required to Open

r_6 **(1)** Except as required by Sentence 3.8.3.3.(7), every *exit* door, except doors serving a *house* or an individual *dwelling unit*, 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.

9.9.7. Access to Exits

9.9.7.1. Egress from Roof Area, Podiums, Terraces, Platforms and Contained Open Spaces

r_3 **(1)** An *access to exit* shall be provided from every roof intended for occupancy and from every podium, terrace, platform or contained open space.

(2) Where a roof is intended for an *occupant load* of more than 60 persons, at least two separate *means of egress* shall be provided from the roof to stairs designed in conformance with the requirements for *exit* stairs and located remote from each other.

(3) Where a podium, terrace, platform or contained open space is provided, egress requirements shall conform to the appropriate requirements for rooms or *suites* in Article 9.9.7.4.

9.9.7.2. Means of Egress from Suites

(1) Except as required by Sentence 9.9.9.3.(1), each *suite* in a *floor area* occupied by more than one *suite* shall have,
(a) an exterior *exit* doorway,
(b) a doorway to a *public corridor*, or
(c) a doorway to an exterior passageway.

(2) Except as provided in Sentences 9.9.7.3.(1) and 9.9.8.2.(2), from the point where a doorway described in Clause (1)(b) or (c) enters the *public corridor* or exterior passageway, it shall be possible to go in opposite directions to each of two separate *exits*.

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 cm².

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
Column 1	2	3

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 m² in a Group D, E, F2 and F3 *occupancy*, or 150 m² 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.

9.9.9. Egress from Dwelling Units

9.9.9.1. Travel Limit to Exits or Egress Doors

(1) Except as provided in Sentences (2) and (3), every *dwelling unit* containing more than 1 *storey* shall have *exits* or egress doors located so that it shall not be necessary to travel up or down more than 1 *storey* to reach a level served by,
(a) an egress door to a *public corridor*, enclosed *exit* stair or exterior passageway, or
(b) an *exit* doorway not more than 1 500 mm above adjacent ground level.

(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 is permitted to exceed 1 *storey* where that floor level is served by an openable window or door,
(a) providing an unobstructed opening of not less than 1 000 mm in height and 550 mm in width, and
(b) located so that the sill is not more than,
  (i) 1 000 mm above the floor, and
  (ii) 7 m above adjacent ground level.

(3) The travel limit from a floor level in a *dwelling unit* to an *exit* or egress door is permitted to exceed 1 *storey* where that floor level has direct access to a balcony.

9.9.9.2. Two Separate Exits

(1) Except as provided in Sentence 9.9.7.3.(1), where an egress door from a *dwelling unit* opens onto a *public corridor* or exterior passageway it shall be possible from the location where the egress door opens onto the corridor or exterior passageway to go in opposite directions to two separate *exits* unless the *dwelling unit* has a second and separate *means of egress*.

9.9.9.3. Shared Egress Facilities

(1) A *dwelling unit* shall be provided with a second and separate *means of egress* where an egress door from the *dwelling unit* opens onto,
(a) an *exit* stairway serving more than one *suite*,
(b) a *public corridor*,
  (i) serving more than one *suite*, and
  (ii) served by a single *exit*,
(c) an exterior passageway,
  (i) serving more than one *suite*,
  (ii) served by a single *exit* stairway or ramp, and
  (iii) more than 1.5 m above adjacent ground level, or
(d) a balcony,
  (i) serving more than one *suite*,
  (ii) served by a single *exit* stairway or ramp, and
  (iii) more than 1.5 m above adjacent ground level.

9.9.10. Egress from Bedrooms

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 m² with no dimension less than 380 mm, and

(c) maintains the required opening described in Clause (b) without the need for additional support.
(See Appendix A.)

(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 Appendix A.)

(3) When sliding windows are used, the minimum dimension described in Sentence (1) shall apply to the openable portion of the window.

(4) 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.

(5) 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 Appendix A.)

(6) Where the sash of a window referred to in Sentence (5) 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.

(7) Where a protective enclosure is installed over the window well referred to in Sentence (5), such enclosure shall be openable from the inside without the use of keys, tools or special knowledge of the opening mechanism.

9.9.11. Signs

9.9.11.1. Application

r6 **(1)** This Subsection applies to all *exits* except those serving a *house* or an individual *dwelling unit*.

9.9.11.2. Visibility of Exits

(1) *Exits* shall be located so as to be clearly visible or their locations shall be clearly indicated.

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*,
r5 (b) except as provided in Sentence (3), 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 the dimensions indicated in ISO 7010, "Graphical Symbols – Safety Colours and Safety Signs – Safety Signs Used in Workplaces and Public Areas", 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.

(5) Reserved

(6) Openings through floors that are not protected by shafts or *closures* shall be protected in conformance with Subsection 3.2.8.

(7) Chutes and shafts shall conform to Subsection 3.6.3. except where they are contained entirely within a *dwelling unit*.

(8) Sprinkler systems shall be designed, constructed and installed in conformance with Sentence 3.2.5.7.(1), Articles 3.2.5.13. to 3.2.5.16. and Article 3.2.5.18. (See Appendix A.)

(9) Standpipe and hose systems shall be designed, constructed and installed in conformance with Article 3.2.5.18. and Subsection 3.2.9.

(10) Fire pumps shall be installed in conformance with Articles 3.2.5.18. and 3.2.5.19.

9.10.1.4. Items Under Part 6 Jurisdiction

(1) In kitchens containing commercial cooking equipment used in processes producing grease-laden vapours, the equipment shall be designed and installed in conformance with Part 6. (See Appendix A.)

(2) Where fuel-fired *appliances* are installed on a roof, such *appliances* shall be installed in conformance with Part 6.

9.10.2. Occupancy Classification

9.10.2.1. Occupancy Classification

(1) Every *building* or part of it shall be classified according to its *major occupancy* as belonging to one of the groups or divisions described in Table 9.10.2.1.

r6

Table 9.10.2.1.
Occupancy Classifications
Forming Part of Sentence 9.10.2.1.(1)

Group	Division	Description of *Major Occupancies*
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 *houses* or individual *dwelling units*)
Column 1	2	3

9.10.2.2. Reserved

9.10.2.3. Major Occupancies Above Other Major Occupancies

(1) Except as permitted in Article 9.10.2.4., in any *building* containing more than 1 *major occupancy* in which one *major occupancy* is located entirely above another, the requirements of Article 9.10.8.1. for each portion of the *building* containing a *major occupancy* shall be applied to that portion as if the entire *building* was of that *major occupancy*.

9.10.2.4. Buildings Containing More Than One Major Occupancy

(1) In a *building* containing more than 1 *major occupancy*, where the aggregate area of all *major occupancies* in a particular group or division does not exceed 10% of the *floor area* on the *storey* on which they are located, they need not be considered as *major occupancies* for the purposes of Articles 9.10.2.3. and 9.10.8.1. provided they are not classified as Group F, Division 2 *occupancies*.

9.10.3. Ratings

9.10.3.1. Fire-Resistance and Fire-Protection Ratings

(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 the test methods described in Part 3, or in accordance with MMAH Supplementary Standard SB-2, "Fire Performance Ratings", or MMAH Supplementary Standard SB-3, "Fire and Sound Resistance of Building Assemblies". (See Appendix A.)

9.10.3.2. Flame-Spread Rating

(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".

(2) Unless the *flame-spread rating* is referred to in this Part as a "surface *flame-spread rating*", it shall apply to any surface of the element being considered that would be exposed by cutting through it as well as to the exposed surface of the element.

9.10.3.3. Fire Exposure

(1) Floor, roof and ceiling assemblies shall be rated for exposure to fire on the underside.

(2) Exterior walls shall be rated for exposure to fire from inside the *building*, except that such walls need not comply with the temperature rise limitations required by the standard tests referred to in Article 9.10.3.1. if such walls have a *limiting distance* of not less than 1.2 m, and due allowance is made for the effects of heat radiation in accordance with the requirements in Part 3.

(3) *Firewalls* and interior vertical *fire separations* required to have *fire-resistance ratings* shall be rated for exposure to fire on each side.

9.10.3.4. Suspended Membrane Ceiling

(1) Where a ceiling construction has a suspended membrane ceiling with lay-in panels or tiles that contribute to the required *fire-resistance rating*, hold down clips or other means shall be provided to prevent the lifting of such panels or tiles in the event of a fire.

9.10.4. Building Size Determination

9.10.4.1. Mezzanines Not Considered as Storeys

(1) *Mezzanines* shall not be considered as *storeys* for the purpose of determining *building height* where the aggregate area of *mezzanine* floors does not exceed 10% of,

(a) the *suite* in which it is located, where there is more than one *suite* in the *storey*, or
(b) the *storey* in which it is located, in all other cases.

(2) *Mezzanines* shall not be considered as *storeys* for the purpose of determining *building height* where they occupy an aggregate area not exceeding 40% of the area of the room or the *storey* in which they are located provided the space above the *mezzanine* floor has no visual obstructions more than 1 070 mm above such floors.

9.10.4.2. More Than One Level of Mezzanine

(1) Where more than 1 level of *mezzanine* is provided in a *storey*, each level additional to the first shall be considered as a *storey*.

9.10.4.3. Basement Storage Garages

(1) Where a *basement* is used primarily as a *storage garage*, the *basement* is permitted to be considered as a separate *building* for the purposes of this Section provided the floor above the *basement* and the exterior walls of the *basement* above the adjoining ground level are constructed as *fire separations* of masonry or concrete having a *fire-resistance rating* of not less than 2 h.

e3 9.10.4.4. Rooftop Enclosures

(1) Rooftop enclosures provided for elevator machinery, stairways and *service rooms*, used for no purpose other than for service to the *building*, shall not be considered as a *storey* in calculating the *building height*.

9.10.5. Permitted Openings in Wall and Ceiling Assemblies

9.10.5.1. Permitted Openings in Wall and Ceiling Membranes

(1) Except as permitted in Sentences (2) and (4), a membrane forming part of an assembly required to have a *fire-resistance rating* shall not be pierced by openings into the assembly unless the assembly has been tested and rated for such openings.

(2) A wall or ceiling membrane forming part of an assembly required to have a *fire-resistance rating* is permitted to be pierced by openings for electrical and similar service outlet boxes provided such outlet boxes are tightly fitted.

(3) 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*.

(4) 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 Building Assemblies", 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 the requirements in MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

9.10.6. Construction Types

9.10.6.1. Combustible Elements in Noncombustible Construction

(1) Where a *building* or part of a *building* is required to be of *noncombustible construction*, *combustible* elements shall be limited in conformance with the requirements in Subsection 3.1.5.

9.10.6.2. Heavy Timber Construction

(1) *Heavy timber construction* shall be considered to have a 45 min *fire-resistance rating* when it is constructed in accordance with the requirements for *heavy timber construction* in Article 3.1.4.7.

9.10.7. Steel Members

9.10.7.1. Protection of Structural Steel Members

(1) Except as provided in Article 3.2.2.3., structural steel members used in construction required to have a *fire-resistance rating* shall be protected to provide the required *fire-resistance rating*.

r1 9.10.8. Fire-Resistance, Combustibility and Sprinklers in Relation to Occupancy, Height and Supported Elements

9.10.8.1. Fire-Resistance Ratings for Floors and Roofs

(1) Except as otherwise provided in this Subsection, the *fire-resistance ratings* of floors and roofs shall conform to Table 9.10.8.1.

Table 9.10.8.1.
Fire Resistance Ratings for Structural Members and Assemblies
Forming Part of Sentence 9.10.8.1.(1)

Major Occupancy	Maximum *Building Height*, *Storeys*	Minimum *Fire-Resistance Rating* by *Building* Element, min		
		Floors Except Floors over Crawl Spaces	*Mezzanine* Floors	Roofs
Residential (Group C)	3	45	45	—
All other *occupancies*	2	45	—	—
	3	45	45	45
Column 1	2	3	4	5

9.10.8.2. Fire-Resistance Ratings in Sprinklered Buildings

(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 3.2.4.10.(3), and
(b) the operation of the sprinkler system will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.8.(4).

9.10.8.3. Fire-Resistance Ratings for Walls, Columns and Arches

(1) Except as otherwise provided in this Subsection, all *loadbearing* walls, columns and arches in the *storey* immediately below a floor or roof assembly shall have a *fire-resistance rating* of not less than that required for the supported floor or roof assembly.

r6 9.10.8.4. Reserved

9.10.8.5. Service Rooms

(1) Construction supporting a *service room* need not conform to Article 9.10.8.3.

9.10.8.6. Mezzanines

(1) *Mezzanines* required to be counted as *storeys* in Articles 9.10.4.1. and 9.10.4.2. shall be constructed in conformance with the requirements for "Floors Except Floors over Crawl Spaces" in Table 9.10.8.1.

9.10.8.7. Roofs Supporting an Occupancy

(1) Where a portion of a roof supports an *occupancy*, that portion shall be constructed as a *fire separation* having a *fire-resistance rating* conforming to the rating for "Floors Except Floors over Crawl Spaces" in Table 9.10.8.1.

9.10.8.8. Floors of Exterior Passageways

(1) Except as provided in Sentences (2) and (3), the floor assembly of every exterior passageway used as part of a *means of egress* shall have a *fire-resistance rating* of not less than 45 min or be of *noncombustible construction*.

(2) No *fire-resistance rating* is required for floors of exterior passageways serving *buildings* of Group D, E or F *major occupancy* that are not more than 2 *storeys* in *building height*.

r6 **(3)** No *fire-resistance rating* is required for floors of exterior passageways serving,
(a) a *house* or an individual *dwelling unit* in a *house*, or
(b) an individual *dwelling unit* in a *building* other than a *house* where no *suite* is located above or below the *dwelling unit*.

9.10.8.9. Crawl Spaces

(1) Where a crawl space exceeds 1 800 mm in height or is used for any *occupancy* or as a *plenum* in *combustible construction* or for the passage of *flue pipes*, it shall be considered as a *basement* in applying the requirements in Article 9.10.8.1.

r6 9.10.8.10. Non-Application to Houses

(1) Table 9.10.8.1. does not apply to *houses*.

9.10.8.11. Part 3 as an Alternative

(1) The *fire-resistance ratings* of floors, roofs, *loadbearing* walls, columns and arches need not conform to this Subsection if such assemblies conform in all respects to the appropriate requirements in Section 3.2.

9.10.9. Fire Separations Between Rooms and Spaces Within Buildings

9.10.9.1. Application

(1) This Subsection applies to *fire separations* required between rooms and spaces in *buildings* except between rooms and spaces within a *dwelling unit*.

9.10.9.2. Continuous Barrier

(1) Except as permitted in Article 9.10.9.3., a wall or floor assembly required to be a *fire separation* shall be constructed as a continuous barrier against the spread of fire.

(2) The continuity of a *fire separation* shall be maintained where it abuts another *fire separation*, a floor, a ceiling, a roof or an exterior wall assembly.

9.10.9.3. Openings to be Protected With Closures

(1) Except as permitted in Articles 9.10.9.5. to 9.10.9.7., openings in required *fire separations* shall be protected with *closures* conforming to Subsection 9.10.13.

9.10.9.4. Floor Assemblies

(1) Except as permitted in Sentences (2) to (4), all floor assemblies shall be constructed as *fire separations*.

(2) Floor assemblies contained within *dwelling units* need not be constructed as *fire separations*.

(3) Floor assemblies for which no *fire-resistance rating* is required by Subsection 9.10.8. and floors of *mezzanines* not required to be counted as *storeys* in Articles 9.10.4.1. and 9.10.4.2. need not be constructed as *fire separations*.

(4) Where a crawl space is not required by Article 9.10.8.9. to be constructed as a *basement*, the floor above it need not be constructed as a *fire separation*.

9.10.9.5. Interconnected Floor Spaces

(1) Except as permitted in Article 9.9.4.7., *interconnected floor spaces* shall conform to the requirements of Subsection 3.2.8.

9.10.9.6. Penetration of Fire Separations

(1) Piping, tubing, ducts, *chimneys*, wiring, conduit, electrical outlet boxes and other similar service equipment that penetrate a required *fire separation* shall be tightly fitted or fire stopped to maintain the integrity of the separation. (See Appendix A.)

(2) Penetrations of a *firewall* shall be sealed at the penetration by a *fire stop* that, when subjected to the fire test method in CAN/ULC-S115, "Fire Tests of Firestop Systems", has an FT rating not less than the *fire-resistance rating* for the *fire separation*.

(3) Except as provided in Sentences (4) to (12) and Article 9.10.9.7., pipes, ducts, electrical outlet boxes, totally enclosed raceways or other similar service equipment that partly or wholly penetrate an assembly required to have a *fire-resistance rating* shall be *noncombustible* unless the assembly has been tested incorporating such equipment.

(4) Electrical wires or other similar wiring enclosed in *noncombustible* totally enclosed raceways are permitted to partly or wholly penetrate an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (3).

(5) Single conductor metal-sheathed cables with *combustible* jacketing that are more than 25 mm in overall diameter are permitted to penetrate a *fire separation* required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (3), provided the cables are not grouped and are spaced a minimum of 300 mm apart.

(6) Electrical wires or cables, single or grouped, with *combustible* insulation or jacketing that is not totally enclosed in raceways of *noncombustible* material, are permitted to partly or wholly penetrate an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (3), provided the overall diameter of the wiring is not more than 25 mm.

(7) *Combustible* totally enclosed raceways that are embedded in a concrete floor slab are permitted in an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (3), where the concrete provides at least 50 mm of cover between the raceway and the bottom of the slab.

(8) *Combustible* outlet boxes are permitted in an assembly required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (3), provided the opening through the membrane into the box does not exceed 160 cm².

(9) *Combustible* water distribution piping is permitted to partly or wholly penetrate a *fire separation* that is required to have a *fire-resistance rating* without being incorporated in the assembly at the time of testing as required in Sentence (3), provided the piping is protected with a *fire stop* in conformance with Sentence 3.1.9.4.(4).

(10) *Combustible* sprinkler piping is permitted to penetrate a *fire separation* provided the *fire compartments* on each side of the *fire separation* are *sprinklered*.

(11) Sprinklers are permitted to penetrate a *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* without having to meet the *fire stop* requirements of Sentence (1), provided the annular space created by the penetration of a fire sprinkler is covered by a metal escutcheon plate in accordance with NFPA 13, "Installation of Sprinklers".

(12) *Combustible* piping for central vacuum systems is permitted to penetrate a *fire separation* provided the installation conforms to the requirements that apply to *combustible* piping in Sentences 9.10.9.7.(2) to (6).

(13) *Fire dampers* are permitted to penetrate a *fire separation* or a membrane forming part of an assembly required to have a *fire-resistance rating* without having to meet the *fire stop* requirements of Sentence (1), provided the *fire damper* is,
(a) installed in conformance with NFPA 80, "Fire Doors and Other Opening Protectives," or
(b) designed specifically with a *fire stop*.

9.10.9.7. Combustible Piping

(1) Except as permitted in Sentences (2) to (6), *combustible* piping shall not be used where any part of a piping system partly or wholly penetrates a *fire separation* required to have a *fire-resistance rating* or penetrates a membrane that contributes to the required *fire-resistance rating* of an assembly.

r_3 **(2)** *Combustible* piping not located in a vertical shaft is permitted to penetrate a *fire separation* required to have a *fire-resistance rating* or a membrane that forms part of an assembly required to have a *fire-resistance rating*, provided the piping is sealed at the penetration by a *fire stop* system that has an F rating not less than the *fire-resistance rating* required for the *fire separation*.

(3) The rating referred to in Sentence (2) shall be based on CAN/ULC-S115, "Fire Tests of Firestop Systems", with a pressure differential of 50 Pa between the exposed and unexposed sides, with the higher pressure on the exposed side.

(4) *Combustible* drain piping is permitted to penetrate a horizontal *fire separation* or a membrane that contributes to the required *fire-resistance rating* of a horizontal *fire separation*, provided it leads directly from a *noncombustible* water closet through a concrete floor slab.

(5) *Combustible* piping is permitted,
(a) on one side of a vertical *fire separation* provided it is not located in a vertical shaft, and

(b) to penetrate a vertical or horizontal *fire separation* when the *fire compartment* on each side of the *fire separation* is *sprinklered*.

r6 **(6)** In a *house* containing two *dwelling units*, *combustible* piping is permitted on one side of a horizontal *fire separation*.

9.10.9.8. Collapse of Combustible Construction

(1) *Combustible construction* that abuts on or is supported by a *noncombustible fire separation* shall be constructed so that its collapse under fire conditions will not cause collapse of the *fire separation*.

9.10.9.9. Reduction in Thickness of Fire Separation by Beams and Joists

(1) Where pockets for the support of beams or joists are formed in a masonry or concrete *fire separation*, the remaining total thickness of solid 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*.

9.10.9.10. Concealed Spaces Above Fire Separations

(1) Except as provided in Sentence (2), a *horizontal service space* or other concealed space located above a required vertical *fire separation* shall be divided at the *fire separation* by an equivalent *fire separation* within the space.

(2) Where a *horizontal service space* or other concealed space is located above a required vertical *fire separation* other than a vertical shaft, such space need not be divided as required in Sentence (1) provided the construction between such space and the space below is constructed as a *fire separation* having a *fire-resistance rating* not less than that required for the vertical *fire separation*, except that where the vertical *fire separation* is not required to have a *fire-resistance rating* greater than 45 min, the *fire-resistance rating* of the ceiling is permitted to be reduced to 30 min.

9.10.9.11. Separation of Residential Occupancies

(1) Except as provided in Sentences (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 2 *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* or *live/work 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*.

9.10.9.12. Residential Suites, Live/Work Units and Industrial Buildings

(1) Except as provided in Sentence (2), not more than 1 *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*.

9.10.9.13. Separation of Suites

(1) Except as required in Article 9.10.9.14. and as permitted by Sentence (2), each *suite* in other than *business and personal services occupancies* shall be separated from adjoining *suites* by a *fire separation* having a *fire-resistance rating* of not less than 45 min.

(2) In *sprinklered buildings*, *suites* of *business and personal services occupancy* and *mercantile occupancy* that are served by *public corridors* conforming with Sentence 3.3.1.4.(4) are not required to be separated from each other by *fire separations*.

9.10.9.14. 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 shall be separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* of not less than 30 min where the sleeping rooms form part of the proprietor's residence and do not contain cooking facilities.

r_6 **(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.

r_6 **(4)** Except as provided in Sentence (5), *dwelling units* in a *house* shall be separated from each other and common areas by a *fire separation* having a *fire-resistance rating* of not less than 45 min.

r_6 **(5)** The *fire-resistance rating* of the *fire separation* required in Sentence (4) is permitted to be waived where the *house* is *sprinklered*.

9.10.9.15. Separation of Public Corridors

(1) Except as provided in Sentences (2) and (3), *public corridors* shall be separated from the remainder of the *building* by a *fire separation* having not less than a 45 min *fire-resistance rating*.

(2) In other than *residential occupancies*, no *fire-resistance rating* is required for *fire separations* between a *public corridor* and the remainder of the *building* if,
(a) the *floor area* is *sprinklered*,
(b) the sprinkler system is electrically supervised in conformance with Sentence 3.2.4.10.(3), and
(c) the operation of the sprinkler system will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.8.(4).

(3) In other than *residential occupancies*, no *fire separation* is required between a *public corridor* and the remainder of the *building* if,
(a) the *floor area* is *sprinklered*,
(b) the sprinkler system is electrically supervised in conformance with Sentence 3.2.4.10.(3),
(c) the operation of the sprinkler system will cause a signal to be transmitted to the fire department in conformance with Sentence 3.2.4.8.(4), and
(d) the corridor exceeds 5 m in width.

9.10.9.16. Separation of Storage Garages

(1) Except as provided in Sentences (2) and (3), a *storage garage* shall be separated from other *occupancies* by a *fire separation* having not less than a 1.5 h *fire-resistance rating*.

(2) Except as permitted in Sentence (3), *storage garages* containing 5 motor vehicles or fewer shall be separated from other *occupancies* by a *fire separation* of not less than 1 h.

r6 **(3)** Where a *storage garage* serves only the *house* or the individual *dwelling unit* it is attached to or built into, it shall be considered as part of that *house* or *dwelling unit* and the *fire separation* required in Sentence (2) need not be provided between the garage and the *house* or *dwelling unit*.

(4) Where a *storage garage* is attached to or built into a *building* of *residential occupancy*,
(a) an *air barrier system* conforming to Subsection 9.25.3. shall be installed between the garage and the remainder of the *building* to provide an effective barrier to gas and exhaust fumes, and
(b) every door between the garage and the remainder of the *building* shall conform to Article 9.10.13.15.
(See Appendix A.)

(5) Where membrane materials are used to provide the required airtightness in the *air barrier system*, all joints shall be sealed and structurally supported.

9.10.9.17. Separation of Repair Garages

(1) Except as provided in Sentences (2) and (3), a *repair garage* shall be separated from other *occupancies* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

(2) Ancillary spaces directly serving a *repair garage*, including waiting rooms, reception rooms, tool and parts storage areas and supervisory office space, need not be separated from the *repair garage* but shall be separated from other *occupancies* as required in Sentence (1).

(3) The *fire separation* referred to in Sentence (1) shall have a *fire-resistance rating* of not less than 1 h, where,
(a) the *building* is not more than one *storey* in *building height*,
(b) the *building* is operated as a single *suite*, and
(c) the only *occupancy* other than the *repair garage* is a *mercantile occupancy*.

(**4)** Where a *building* containing a *repair garage* also contains a *dwelling unit*, an *air barrier system* conforming to Subsection 9.25.3. shall be installed between the *dwelling unit* and the *suite* containing the garage to provide an effective air barrier to gas and exhaust fumes.

(5) Where membrane materials are used to provide the required airtightness in the *air barrier system*, all joints shall be sealed and structurally supported.

9.10.9.18. Exhaust Ducts Serving More Than One Fire Compartment

(1) Where 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.

(2) Individual *fire compartments* referred to in Sentence (1) shall not have fans that exhaust directly into the duct in the *vertical service space*.

9.10.9.19. Central Vacuum Systems

(1) Except as permitted by Sentence 9.10.18.7.(1), a central vacuum system shall serve not more than one *suite*.

9.10.10. Service Rooms

9.10.10.1. Application

(1) This Subsection applies to *service rooms* in all *buildings* except rooms located within a *dwelling unit*.

9.10.10.2. Service Room Floors

(1) The *fire-resistance rating* requirements in this Subsection do not apply to the floor assembly immediately below a *service room*.

9.10.10.3. Separation of Service Rooms

(1) Except as provided in Sentence (2) and Articles 9.10.10.5. and 9.10.10.6., *service rooms* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 1 h when the *floor area* containing the *service room* is not *sprinklered*.

(2) Where a room contains a limited quantity of service equipment and the service equipment does not constitute a fire hazard, the requirements in Sentence (1) shall not apply.

9.10.10.4. Appliances and Equipment to be Located in a Service Room

(1) Except as provided in Sentences (2) and (3) and Article 9.10.10.5., fuel-fired *appliances* shall be located in a *service room* separated from the remainder of the *building* by a *fire separation* having not less than a 1 h *fire-resistance rating*.

r6 **(2)** Except as required in the *appliance* installation standards referenced in Sentences 6.2.1.4.(1) and 9.33.1.2.(1), fuel-fired *space-heating appliances*, space-cooling *appliances* and *service water heaters* need not be separated from the remainder of the *building* as required in Sentence (1) where the equipment serves,
(a) not more than one room or *suite*,
(b) a *house*, or
(c) a *building*, other than a *house*, with a *building* area of not more than 400 m² and a *building height* of not more than 2 *storeys*.

(3) Sentence (1) does not apply to fireplaces and cooking *appliances*.

9.10.10.5. Incinerators

(1) *Service rooms* containing incinerators shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

(2) The design, construction, installation and alteration of each indoor incinerator shall conform to NFPA 82, "Incinerators, Waste and Linen Handling Systems and Equipment".

(3) Every incinerator shall be connected to a *chimney flue* conforming to the requirements in Section 9.21. and serving no other *appliance*.

(4) An incinerator shall not be located in a room with other fuel-fired *appliances*.

9.10.10.6. Storage Rooms

(1) Rooms for the temporary storage of *combustible* refuse in all *occupancies* or for public storage in *residential occupancies* shall be separated from the remainder of the *building* by a *fire separation* having not less than a 1 h *fire-resistance rating*, except that a 45 min *fire separation* is permitted where the *fire-resistance rating* of the floor assembly is not required to exceed 45 min, or where such rooms are *sprinklered*.

9.10.10.7. Emergency Power Installations

(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.

9.10.11. Firewalls

9.10.11.1. Required Firewalls

(1) Except as provided in Articles 9.10.11.2. and 9.10.11.4., a *party wall* on a property line shall be constructed as a *firewall*.

9.10.11.2. Firewalls Not Required

r6 **(1)** A *party wall* on a property line 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* if,
(a) the property line is between *houses*, or
(b) the property line is between *dwelling units* in a *building* of *residential occupancy*, other than a *house*, in which there is no *dwelling unit* above another *dwelling unit*.

(2) The wall described in Sentence (1) shall provide continuous protection from the top of the footings to the underside of the roof deck.

(3) Any space between the top of the wall described in Sentence (1) and the roof deck shall be tightly filled with mineral wool or *noncombustible* material.

9.10.11.3. Construction of Firewalls

(1) Where *firewalls* are used, the requirements in Part 3 shall apply.

9.10.11.4. Firewalls in Detached Garages

r6 **(1)** Where a garage is detached from the *house* or the individual *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.

9.10.12. Prevention of Fire Spread at Exterior Walls and Between Storeys

9.10.12.1. Termination of Floors or Mezzanines

(1) Except as provided in Sentence (2) and in Articles 9.10.1.3. and 9.10.9.5., the portions of a *floor area* or *mezzanine* that do not terminate at an exterior wall, a *firewall* or a vertical shaft, shall terminate at a vertical *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly that terminates at the separation.

(2) A *mezzanine* need not terminate at a vertical *fire separation* where the *mezzanine* is not required to be considered as a *storey* in Articles 9.10.4.1. and 9.10.4.2.

9.10.12.2. Location of Skylights

(1) Where a wall in a *building* is exposed to a fire hazard from an adjoining roof of a separate unsprinklered *fire compartment* in the same *building*, the roof shall contain no skylights within a horizontal distance of 5 m of the windows in the exposed wall.

9.10.13.6. Steel Door Frames

r5 **(1)** Steel door frames forming part of a *closure* in a *fire separation*, including anchorage requirements, shall conform to CAN/ULC-S105, "Fire Door Frames Meeting the Performance Required by CAN/ULC-S104".

9.10.13.7. Glass Block as a Closure

(1) Glass block that has not been tested in accordance with Article 9.10.3.1. is permitted as a *closure* in a *fire separation* required to have a *fire-resistance rating* of not more than 1 h.

9.10.13.8. Maximum Size of Opening

(1) The size of an opening in an interior *fire separation*, even where protected with a *closure*, shall not exceed 11 m², with no dimension greater than 3.7 m, if a *fire compartment* on either side of the *fire separation* is not *sprinklered*.

(2) The size of an opening in an interior *fire separation*, even where protected with a *closure*, shall not exceed 22 m², with no dimension greater than 6 m, when the *fire compartments* on both sides of the *fire separation* are *sprinklered*.

9.10.13.9. Door Latch

(1) Every swing type door in a *fire separation* shall be equipped with a latch.

9.10.13.10. Self-Closing Device

(1) Except as described in Sentence (2), every door in a *fire separation* shall have a self-closing device.

(2) Self-closing devices are not required between *public corridors* and *suites* in *business and personal services occupancies*, except in,
(a) dead-end corridors, or
(b) a corridor that serves a *hotel*.

9.10.13.11. Hold-Open Devices

(1) Where hold-open devices are used on doors in required *fire separations*, they shall be installed in accordance with Article 3.1.8.12.

9.10.13.12. Service Room Doors

(1) Swing-type doors shall open into *service rooms* containing fuel-fired equipment where such doors lead to *public corridors* or rooms used for assembly but shall swing outward from such rooms in all other cases.

9.10.13.13. Fire Dampers

(1) Except as permitted in Sentences (2) to (5) and Sentence 9.10.5.1.(4), a duct that penetrates an assembly required to be a *fire separation* with a *fire-resistance rating* shall be equipped with a *fire damper* in conformance with Articles 3.1.8.4. and 3.1.8.9.

(2) A *fire damper* is not required where a *noncombustible* branch duct pierces a required *fire separation* provided the duct,
(a) has a melting point not below 760°C,
(b) has a cross-sectional area less than 130 cm², and

(c) supplies only *air-conditioning* units or combined *air-conditioning* and heating units discharging air at not more than 1.2 m above the floor.

(3) A *fire damper* is not required where a *noncombustible* branch duct pierces a required *fire separation* around an *exhaust duct* riser in which the air flow is upward provided,
(a) the melting point of the branch duct is not below 760°C,
(b) the branch duct is carried up inside the riser at least 500 mm, and
(c) the *exhaust duct* is under negative pressure as described in Article 9.10.9.18.

(4) *Noncombustible* ducts that penetrate a *fire separation* separating a *vertical service space* from the remainder of the *building* need not be equipped with a *fire damper* at the *fire separation* provided,
(a) the ducts have a melting point above 760°C, and
(b) each individual duct exhausts directly to the outside at the top of the *vertical service space*.

(5) A duct serving commercial cooking equipment and piercing a required *fire separation* need not be equipped with a *fire damper* at the *fire separation*.

9.10.13.14. Fire Stop Flaps

(1) *Fire stop flaps* in ceiling membranes required in Sentence 9.10.5.1.(4) shall be constructed in conformance with MMAH Supplementary Standard SB-2, "Fire Performance Ratings".

r6 9.10.13.15. Doors Between Garages and Houses or Dwelling Units

(1) A door between an attached or built-in garage and the *house* or the individual *dwelling unit* it serves shall be tight-fitting and weatherstripped to provide an effective barrier against the passage of gases and exhaust fumes and shall be fitted with a self-closing device.

(2) A doorway between an attached or built-in garage and the *house* or the individual *dwelling unit* it serves shall not be located in a room intended for sleeping.

9.10.13.16. Door Stops

(1) Where a door is installed so that it may damage the integrity of a *fire separation* if its swing is unrestricted, door stops shall be installed to prevent such damage.

9.10.14. Spatial Separation Between Buildings

9.10.14.1. Application

(1) Except as permitted in Subsection 9.10.15., this Subsection applies to all *buildings*.

9.10.14.2. Area and Location of Exposing Building Face

(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, or
  (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.

(2) For the purpose of using Table 9.10.14.4. to determine the maximum aggregate area of *unprotected openings* permitted in an irregularly-shaped or skewed exterior wall, the location of the *exposing building face* shall be taken as a

vertical plane located so that there are no *unprotected openings* between the vertical plane and the line to which *limiting distance* is measured.

(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.

9.10.14.3. 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 9.10.14.4.(2), (5) and (6) and Sentence 9.10.14.5.(6), shall be doubled for a *building* that is not *sprinklered*.

9.10.14.4. Openings in Exposing Building Face

(1) Except as provided in Sentences (3) to (7) 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*.

(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) The maximum aggregate area of *unprotected openings* shall be not more than twice the area determined according to Sentence (1) where the *unprotected openings* are glazed with,

(a) wired glass in steel frames as described in Article 9.10.13.5., or
(b) glass blocks, as described in Article 9.10.13.7.

(4) Where the *building* is *sprinklered*, the maximum aggregate area of *unprotected openings* shall be not more than twice the area determined according to Sentence (1) provided all rooms, including closets and bathrooms, that are adjacent to the *exposing building face* and that have *unprotected openings* are *sprinklered*, notwithstanding any exemptions in the sprinkler standards referenced in Article 3.2.5.13.

(5) The maximum aggregate area of *unprotected openings* in an *exposing building face* of a *storage garage* need not comply with Sentence (1) where,
(a) all *storeys* are constructed as *open-air storeys*, and
(b) the *storage garage* has a *limiting distance* of not less than 3 m.

(6) The maximum aggregate area of *unprotected openings* in an *exposing building face* of a *storey* that faces a *street* and is the same level as the *street* need not comply with Sentence (1) where the *limiting distance* is not less than 9 m.

r6 **(7)** The limits on the area of *unprotected openings* need not apply to the *exposing building face* of a detached garage or accessory *building* facing a *house*, where,
(a) the detached garage or accessory *building* serves the *house* or an individual *dwelling unit* in the *house*,
(b) the detached garage or accessory *building* is located on the same property as the *house*, and
(c) the *house* is the only *major occupancy* on the property.

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	—	—	—	—	—	—
	15	0	8	10	17	25	37	67	100	—	—	—	—	—	—
	20	0	8	10	15	21	30	53	100	—	—	—	—	—	—
	25	0	8	9	13	19	26	45	100	—	—	—	—	—	—
	30	0	7	9	12	17	23	39	88	100	—	—	—	—	—
	40	0	7	8	11	15	20	32	69	100	—	—	—	—	—
	50	0	7	8	10	14	18	28	57	100	—	—	—	—	—
	100	0	7	8	9	11	13	18	34	56	84	100	—	—	—
	Over 100	0	7	7	8	9	10	12	19	28	40	55	92	100	—
Mercantile and *medium-hazard industrial*	10	0	4	6	10	17	25	48	100	—	—	—	—	—	—
	15	0	4	5	8	13	18	34	82	100	—	—	—	—	—
	20	0	4	5	7	11	15	27	63	100	—	—	—	—	—
	25	0	4	5	7	9	13	22	51	94	100	—	—	—	—
	30	0	4	4	6	9	12	20	44	80	100	—	—	—	—
	40	0	4	4	6	8	10	16	34	61	97	100	—	—	—
	50	0	4	4	5	7	9	14	29	50	79	100	—	—	—
	100	0	4	4	4	5	6	9	17	28	42	60	100	—	—
	Over 100	0	4	4	4	4	5	6	10	14	20	27	46	70	100
Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

9.10.14.5. Construction of Exposing Building Face and Walls Above Exposing Building Face

(1) Except as provided in Sentences (2) to (7), 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.

Table 9.10.14.5.
Minimum Construction Requirements for Exposing Building Faces
Forming Part of Sentences 9.10.14.5.(1) to (3)

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 - 10	1 h	*Noncombustible*	*Noncombustible*
	>10 but ≤25	1 h	*Combustible* or *noncombustible*	*Noncombustible*
	>25 but <100	45 min	*Combustible* or *noncombustible*	*Combustible* or *noncombustible*
Mercantile and *medium-hazard industrial*	0 - 10	2 h	*Noncombustible*	*Noncombustible*
	>10 but ≤25	2 h	*Combustible* or *noncombustible*	*Noncombustible*
	>25 but <100	1 h	*Combustible* or *noncombustible*	*Combustible* or *noncombustible*
Column 1	2	3	*4*	*5*

(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.

r_6 **(3)** Except as provided in Sentence (4), where a garage or accessory *building* serves a *house* or an individual *dwelling unit* in a *house* and is detached from the *house* and any other *building*, the *exposing building face*,
(a) need not conform to the minimum required *fire-resistance rating* 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 required in Table 9.10.14.5. regardless of the *limiting distance*.

r_6 **(4)** The requirements for *fire-resistance rating*, type of construction and type of cladding need not apply to the *exposing building faces* of a *house* and a detached garage or accessory *building* that face each other, where,
(a) the detached garage or accessory *building* serves the *house* or an individual *dwelling unit* in the *house*,
(b) the detached garage or accessory *building* is located on the same property as the *house*, and
(c) the *house* is the only *major occupancy* on the property.

r6 **(5)** Except for *houses*, *combustible* projections on the exterior of a wall that are more than 1 000 mm above ground level, such as balconies, platforms, *canopies*, eave projections and stairs, 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) Heavy timber and steel columns need not conform to the requirements of Sentence (1) provided the *limiting distance* is not less than 3 m.

(7) Non-*loadbearing* wall components need not have a minimum *fire-resistance rating* where,
(a) the *building* is 1 *storey* in *building height*,
(b) the *building* is of *noncombustible construction*,
(c) the *building* is classified as *low hazard industrial occupancy* and is used only for low *fire load occupancies* such as power generating plants or plants for the manufacture or storage of *noncombustible* materials, and
(d) the *exposing building face* 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*.

9.10.15. Spatial Separation Between Houses

9.10.15.1. Application

r6 **(1)** This Subsection applies to *houses* that are not designed in accordance with Subsection 9.10.14. (See Appendix A.)

9.10.15.2. Area and Location of Exposing Building Face

r6 **(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 *house*, 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 *house* 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 maximum area of glazed openings, the area of any number of individual vertical portions of the wall measured from the finished ground level to the uppermost ceiling.

(2) For the purpose of using Table 9.10.15.4. to determine the maximum permitted area of glazed openings in an irregularly-shaped or skewed exterior wall, the location of the *exposing building face* shall be taken as a vertical plane located so that there are no glazed openings between the vertical plane and the line to which the *limiting distance* is measured.

(3) In determining the required cladding-sheathing assembly and *fire-resistance rating* for an irregularly-shaped or skewed exterior wall, the location of the *exposing building face* shall be taken as a vertical plane located so that no portion of the actual *exposing building face* is between the vertical plane and the line to which the *limiting distance* is measured.

(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.

9.10.15.3. 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*.

9.10.15.4. Glazed Openings in Exposing Building Face

(1) Except as provided in Sentences (3) to (5), the maximum 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. as if the glazed openings were *unprotected openings*, 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 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	—	—	—	—	—	—
15	0	8	10	17	25	37	67	100	—	—	—	—	—	—
20	0	8	10	15	21	30	53	100	—	—	—	—	—	—
25	0	8	9	13	19	26	45	100	—	—	—	—	—	—
30	0	7	9	12	17	23	39	88	100	—	—	—	—	—
40	0	7	8	11	15	20	32	69	100	—	—	—	—	—
50	0	7	8	10	14	18	28	57	100	—	—	—	—	—
100	0	7	8	9	11	13	18	34	56	84	100	—	—	—
Over 100	0	7	7	8	9	10	12	19	28	40	55	92	100	—
Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

(2) Where the limits on the area of glazed openings are determined for individual portions of the exterior wall, as described in Subclause 9.10.15.2.(1)(b)(iii), the maximum aggregate area of glazed openings for any portion shall not exceed the values in the row of Table 9.10.15.4. for the total area of the entire *exposing building face* based on the *limiting distance* of the individual portion. (See Appendix A.)

r6 **(3)** The limits on the area of glazed openings shall not apply to the *exposing building face* of a *house* facing a detached garage or accessory *building*, where,
(a) the detached garage or accessory *building* serves the *house* or an individual *dwelling unit* in the *house*,
(b) the detached garage or accessory *building* is located on the same property as the *house*, and
(c) the *house* is the only *major occupancy* on the property.

(4) Except as provided in Sentence (5), 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.

(5) An opening in an *exposing building face* not more than 130 cm^2 shall not be considered an *unprotected opening*.

9.10.15.5. Construction of Exposing Building Face of Houses

(1) Except as provided in Sentences (2) to (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*.

(2) 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.

(3) Where the *limiting distance* is less than 0.6 m, cladding on the *exposing building face* and on exterior walls located above the *exposing building face* that enclose an *attic or roof spaces* need not be *noncombustible*, provided the cladding,
(a) conforms to Subsection 9.27.12.,
(b) is installed without furring members over not less than 12.7 mm thick gypsum sheathing or over masonry,
(c) has a *flame-spread rating* not more than 25 when tested in accordance with Sentence 3.1.12.1.(2), and
(d) is not more than 2 mm in thickness exclusive of fasteners, joints and local reinforcements.

r6 **(4)** The requirements for *fire-resistance rating*, type of construction and type of cladding need not apply to the *exposing building faces* of a *house* and a detached garage or accessory *building* that face each other, where,
(a) the detached garage or accessory *building* serves the *house* or an individual *dwelling unit* in the *house*,
(b) the detached garage or accessory *building* is located on the same property as the *house*, and
(c) the *house* is the only *major occupancy* on the property.

r6 **(5)** Except for *houses*, *combustible* projections on the exterior of a wall that are more than 1 000 mm above ground level, such as balconies, platforms, *canopies*, eave projections and stairs, 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) Heavy timber and steel columns need not conform to the requirements of Sentence (1) provided the *limiting distance* is not less than 3 m.

(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.

9.10.18.5. Smoke Detectors in Recirculating Air Handling Systems

(1) Except for a recirculating air system serving not more than one *dwelling unit*, where a fire alarm system is required to be installed, every recirculating air handling system shall be designed to prevent the circulation of smoke upon a signal from a duct-type *smoke detector* where such system supplies more than one *suite* on the same floor or serves more than 1 *storey*.

9.10.18.6. Portions of Buildings Considered as Separate Buildings

(1) Except as provided in Sentence (2), where a vertical *fire separation* having a *fire-resistance rating* of at least 1 h separates a portion of a *building* from the remainder of the *building* and there are no openings through the *fire separation* other than those for piping, tubing, wiring and conduit, the requirements for fire alarm and detection systems is permitted to be applied to each portion so separated as if it were a separate *building*.

(2) The permission in Sentence (1) to consider separated portions of a *building* as separate *buildings* does not apply to *service rooms* and storage rooms.

9.10.18.7. Central Vacuum Systems

(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 activation of the fire alarm system.

9.10.18.8. Open-Air Storage Garages

(1) Except as required in Article 9.10.18.1., a fire alarm system is not required in a *storage garage* conforming to Article 3.2.2.83. provided there are no other *occupancies* in the *building*.

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 life safety and fire protection systems are installed to comply with the provisions of this Code or the Fire Code made under the *Fire Protection and Prevention Act, 1997*, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship of the systems.

(2) Sentence (1) does not apply to a *building* that contains only *dwelling units* and has no *dwelling unit* above another *dwelling unit*.

9.10.19. Smoke Alarms

e3 9.10.19.1. Required Smoke Alarms (See Appendix A.)

(1) *Smoke alarms* conforming to CAN/ULC-S531, “Smoke Alarms”, shall be installed in each *dwelling unit* and in each sleeping room not within a *dwelling unit*.

r5 **(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".

r5 **(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 *dwelling unit*.

r5 **(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.

r5 **(5)** *Smoke alarms* required in Sentence (1) shall be installed on or near the ceiling.

9.10.19.2. Sound Patterns of Smoke Alarms

(1) The sound patterns of *smoke alarms* shall,
(a) meet the temporal patterns of *alarm signals*, or
(b) be a combination of temporal pattern and voice relay.

e3 9.10.19.3. Location of Smoke Alarms (See Appendix A.)

(1) 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 Appendix A.)

r6 **(2)** Within a *house* 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.

r6 **(3)** A *smoke alarm* required in Sentences (1) and (2) shall be installed in conformance with CAN/ULC-S553, "Installation of Smoke Alarms".

r6 **(4)** A *smoke alarm* required in Sentences (1) and (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".

r6 **(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* or an individual *dwelling unit*.

r6 **(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.

r6 **(7)** *Smoke alarms* required in Sentences (1) and (2) shall be installed on or near the ceiling..

9.10.19.4. Power Supply

r6 **(1)** Except as provided in Sentences (2) and (3), *smoke alarms* required in Sentences 9.10.19.1.(1) and 9.10.19.3.(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 not less than 7 days in the normal condition, followed by 4 min of alarm.

(2) Where the *building* is not supplied with electrical power, *smoke alarms* are permitted to be battery operated.

(3) *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 within the individual *suites*,
(b) except as provided by Sentence (4), are installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems", and
(c) form part of the fire alarm system.

(4) *Smoke detectors* permitted to be installed in lieu of *smoke alarms* as provided in Sentence (3) are permitted to sound localized alarms within individual *suites*, and need not sound an alarm throughout the rest of the *building*.

9.10.19.5. Interconnection of Smoke Alarms

(1) Where more than one *smoke alarm* is required in a *dwelling unit*, the *smoke alarms* shall be wired so that the activation of one alarm will cause all alarms within the *dwelling unit* to sound.

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9.10.19.6. Silencing of Smoke Alarms

r6 **(1)** Except as permitted in Sentence (2), a manually operated device shall be incorporated within the circuitry of a *smoke alarm* installed in a *house* or an individual *dwelling unit* so that the signal emitted by the *smoke alarm* can be silenced for a period of not more than 10 min, after which the *smoke alarm* will reset and sound again if the level of smoke in the vicinity is sufficient to reactuate it.

(2) *Suites* of *residential occupancy* equipped with *smoke detectors* installed to CAN/ULC-S524, "Installation of Fire Alarm Systems", which are part of the fire alarm system in lieu of *smoke alarms* as permitted in Sentence 9.10.19.4.(3), need not incorporate the manually operated device required in Sentence (1).

9.10.19.7. Instructions for Maintenance and Care

(1) Where instructions are necessary to describe the maintenance and care required for *smoke alarms* to ensure continuing satisfactory performance, they shall be posted in a location where they will be readily available to the occupants for reference.

9.10.20. Firefighting

9.10.20.1. Windows or Access Panels Required

(1) Except as provided in Sentence (3), a window or access panel providing an opening not less than 1 100 mm high and 550 mm wide and having a sill height of not more than 900 mm above the floor shall be provided on the second and third *storeys* of every *building* in at least one wall facing on a *street* if such *storeys* are not *sprinklered*.

(2) Access panels required in Sentence (1) shall be readily openable from both inside and outside or be glazed with plain glass.

r6 **(3)** Access panels required in Sentence (1) need not be provided in *houses.*

9.10.20.2. Access to Basements

r6 **(1)** Except in *basements* of *houses*, each unsprinklered *basement* exceeding 25 m in length or width shall be provided with direct access to the outdoors to at least one *street*.

(2) Access required in Sentence (1) is permitted to be provided by a door, window or other means that provides an opening not less than 1 100 mm high and 550 mm wide, the sill height of which shall not be more than 900 mm above the floor.

(3) Access required in Sentence (1) is also permitted to be provided by an interior stair accessible from the outdoors.

9.10.20.3. Fire Department Access to Buildings

(1) Access for fire department equipment shall be provided to each *building* by means of a *street*, private roadway or yard. (See Appendix A.)

(2) Where access to a *building* as required in Sentence (1) is provided by means of a roadway or yard, the design and location of such roadway or yard shall take into account connection with public thoroughfares, weight of firefighting equipment, width of roadway, radius of curves, overhead clearance, location of fire hydrants, location of fire department connections and vehicular parking.

r3 9.10.20.4. Portable Fire Extinguishers

(1) Portable fire 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*.

9.10.20.5. Freeze Protection for Fire Protection Systems

(1) Equipment forming part of a fire protection system that may be adversely affected by freezing temperatures and that is located in an unheated area shall be protected from freezing.

9.10.21. Fire Protection for Construction Camps

9.10.21.1. Requirements for Construction Camps

(1) Except as provided in Articles 9.10.21.2. to 9.10.21.9., *camps for housing of workers* shall conform to Subsections 9.10.1. to 9.10.20.

9.10.21.2. Separation of Sleeping Rooms

(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*.

9.10.21.3. Floor Assemblies Between the First and Second Storey

(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*.

9.10.21.4. Walkways Connecting Buildings

(1) *Walkways* of *combustible construction* connecting *buildings* shall be separated from each connected *building* by a *fire separation* having not less than a 45 min *fire-resistance rating*.

9.10.21.5. Spatial Separations

(1) *Buildings* in a *camp for housing of workers* shall be separated from each other by a distance of not less than 10 m unless otherwise permitted in Subsection 9.10.14.

9.10.21.6. Flame-Spread Ratings

(1) Except in *dwelling units* and except as provided in Sentence (2), the surface *flame-spread rating* of wall and ceiling surfaces in corridors and *walkways*, exclusive of doors, shall not exceed 25 over not less than 90 percent of the exposed surface area and not more than 150 over the remaining surface area.

(2) Except within *dwelling units*, corridors that provide *access to exit* from sleeping rooms and that have a *fire-resistance rating* of not less than 45 min shall have a *flame-spread rating* conforming to the appropriate requirements in Subsection 9.10.17.

9.10.21.7. Smoke Detectors

(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 have a *smoke detector* connected to the *building* alarm system.

9.13.2.7. Dampproofing of Floors-on-Ground

(1) Where floors are dampproofed, the dampproofing shall be installed below the floor, except that where a separate floor is provided over a slab, the dampproofing is permitted to be applied to the top of the slab. (See Appendix A.)

(2) Where installed below the floor, dampproofing membranes shall consist of polyethylene not less than 0.15 mm thick, or Type S roll roofing. (See Appendix A.)

(3) Joints in dampproofing membranes described in Sentence (2) shall be lapped not less than 100 mm.

(4) Where installed above the slab, dampproofing shall consist of,
(a) no fewer than 2 mopped-on coats of bitumen,
(b) not less than 0.05 mm polyethylene, or
(c) other material providing equivalent performance.

9.13.2.8. Dampproofing of Preserved Wood Foundation Walls

(1) Preserved wood *foundation* walls shall be dampproofed as described in CAN/CSA-S406, "Construction of Preserved Wood Foundations".

9.13.3. Waterproofing

9.13.3.1. Required Waterproofing

(1) Where hydrostatic pressure occurs, waterproofing is required for exterior surfaces of,
(a) floors-on-ground, and
(b) below ground walls, where the exterior finished ground level is at a higher elevation than the ground level inside the *foundation* walls.

(2) Roofs of underground structures shall be waterproofed to prevent the entry of water into the structure.

9.13.3.2. Material Standards

(1) Except as otherwise specified in this Section, materials used for exterior waterproofing shall conform to,
(a) CAN/CGSB-37.2-M, "Emulsified Asphalt, Mineral-Colloid Type, Unfilled, for Dampproofing and Waterproofing and for Roof Coatings",
(b) CAN/CGSB-37.16-M, "Filled, Cutback Asphalt for Dampproofing and Waterproofing",
(c) CAN/CSA-A123.4, "Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems", or
(d) CGSB 37-GP-56M, "Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing".

9.13.3.3. Standards for Application

(1) The method of application of all bituminous waterproofing materials shall conform to CAN/CGSB-37.3-M, "Application of Emulsified Asphalts for Dampproofing or Waterproofing".

9.13.3.4. Preparation of Surface

(1) Unit masonry walls that are to be waterproofed shall be parged on exterior surfaces below ground level with not less than 6 mm of mortar conforming to Section 9.20.

(2) Concrete walls that are to be waterproofed shall have all holes and recesses resulting from removal of form ties sealed with mortar or waterproofing material.

(3) The surface of insulating concrete form walls that are to be waterproofed shall be repaired and free of projections and depressions that could be detrimental to the performance of the membrane to be applied.

9.13.3.5. Application of Waterproofing Membranes

(1) Concrete or unit masonry walls to be waterproofed shall be covered with no fewer than 2 layers of bitumen-saturated membrane, with each layer cemented in place with bitumen and coated overall with a heavy coating of bitumen.

9.13.3.6. Floor Waterproofing System

(1) *Basement* floors-on-ground to be waterproofed shall have a system of membrane waterproofing provided between 2 layers of concrete, each of which shall be not less than 75 mm thick, with the floor membrane mopped to the wall membrane to form a complete seal.

9.13.4. Soil Gas Control (See Appendix A.)

9.13.4.1. Soil Gas Control

(1) Where methane or radon gases are known to be a problem, construction shall comply with the requirements for *soil* gas control in MMAH Supplementary Standard SB-9, "Requirements for Soil Gas Control".

9.13.4.2. Required Soil Gas Control

(1) Except as provided in Sentence (2), 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*.

(2) Construction to resist leakage of *soil* gas into the *building* is not required for,
(a) garages and unenclosed portions of *buildings*,
(b) *buildings* constructed in areas where it can be demonstrated that *soil* gas does not constitute a hazard, or
r_6 (c) *houses* that are constructed to provide for subfloor depressurization in accordance with MMAH Supplementary Standard SB-9, "Requirements for Soil Gas Control".

(3) Where *soil* gas control is required, a *soil* gas barrier shall be installed at walls and roofs in contact with the ground according to MMAH Supplementary Standard SB-9, "Requirements for Soil Gas Control".

(4) Where *soil* gas control is required, it shall consist of one of the following at floors in contact with the ground:
(a) a *soil* gas barrier installed according to MMAH Supplementary Standard SB-9, "Requirements for Soil Gas Control", or
r_6 (b) for *houses,* a subfloor depressurization system installed according to MMAH Supplementary Standard SB-9, "Requirements for Soil Gas Control".

9.13.4.3. Material Standards

(1) Materials used to provide a barrier to *soil* gas ingress through floors-on-ground shall conform to CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet, for Use in Building Construction".

9.14.4.4. Wet Site Conditions

(1) Where because of wet site conditions *soil* becomes mixed with the granular drainage material, sufficient additional granular material shall be provided so that the top 125 mm is kept free of *soil*.

9.14.5. Drainage Disposal

9.14.5.1. Drainage Disposal

(1) *Foundation* drains shall drain to a sewer, drainage ditch or dry well.

9.14.5.2. Sump Pits

(1) Where gravity drainage is not practical, a covered sump with an automatic pump shall be installed to discharge the water into a sewer, drainage ditch or dry well.

(2) Covers for sump pits shall be,
(a) designed to resist removal by children, and
(b) sealed in accordance with Sentence 9.25.3.3.(16).

9.14.5.3. Dry Wells

(1) Dry wells are permitted to be used only when located in areas where the natural *groundwater* level is below the bottom of the dry well.

(2) Dry wells shall be not less than 5 m from the *building foundation* and located so that drainage is away from the *building*.

9.14.6. Surface Drainage

9.14.6.1. Surface Drainage

(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.

9.14.6.2. Drainage away from Wells or Leaching Beds

(1) Surface drainage shall be directed away from the location of a water supply well or *leaching bed*.

9.14.6.3. Window Wells

(1) Every window well shall be drained to the footing level or other suitable location.

9.14.6.4. Catch Basin

(1) Where runoff water from a driveway is likely to accumulate or enter a garage, a catch basin shall be installed to provide adequate drainage.

9.14.6.5. Downspouts

(1) Downspouts shall conform to Article 9.26.18.2.

Section 9.15. Footings and Foundations

9.15.1. Application

9.15.1.1. General (See Appendix A and A-9.4.4.6.)

(1) Except as provided in Articles 9.15.1.2. and 9.15.1.3., this Section applies to,
(a) concrete or unit masonry *foundation* walls and concrete footings not subject to surcharge,
  (i) on stable *soils* with an *allowable bearing pressure* of 75 kPa or greater, and
  (ii) for *buildings* of wood frame or masonry construction,
(b) wood frame *foundation* walls and wood or concrete footings not subject to surcharge,
  (i) on stable *soils* with an *allowable bearing pressure* of 75 kPa or greater, and
  (ii) for *buildings* of wood frame construction, and
(c) flat insulating concrete form *foundation* walls and concrete footings not subject to surcharge,
  (i) on stable *soils* with an *allowable bearing pressure* of 75 kPa or greater, and
r6 (ii) for *houses* of light frame or flat insulating concrete form construction that are not more than 2 *storeys* in *building height*, with a maximum floor to floor height of 3 m.
(See Appendix A.)

(2) *Foundations* for applications other than as described in Sentence (1) shall be designed in accordance with Section 9.4.

(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.

9.15.1.2. Permafrost

(1) *Buildings* erected on permafrost shall have *foundations* designed by a *designer* competent in this field in accordance with the appropriate requirements of Part 4.

9.15.1.3. Foundations for Deformation Resistant Buildings

e1 **(1)** Where the superstructure of a detached *building* conforms to the requirements of the deformation resistance test in CSA Z240.2.1, "Structural Requirements for Manufactured Homes", the *foundation* shall be constructed in conformance with,
(a) this Section, or
(b) CSA Z240.10.1, "Site Preparation, Foundation, and Anchorage of Manufactured Homes".

9.15.2. General

9.15.2.1. Concrete

(1) Concrete shall conform to Section 9.3.

9.18.1.3. Heated and Unheated Crawl Spaces

(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.

(2) Heating of heated crawl spaces shall conform to Section 9.33.

(3) Insulation, an *air barrier system* and a *vapour barrier* shall be installed in the walls of heated crawl spaces in accordance with Section 9.25.

9.18.2. Access

9.18.2.1. Access Openings

r6 **(1)** An access opening of not less than 500 mm by 700 mm shall be provided to each crawl space where the crawl space serves a *house* or an individual *dwelling unit* in a *house*, and not less than 550 mm by 900 mm for other crawl spaces.

(2) Access openings shall be fitted with a door or hatch, except when the crawl space is heated and the access opening into the crawl space is from the adjacent heated space.

9.18.3. Ventilation

9.18.3.1. Ventilation of Unheated Crawl Spaces

(1) Unheated crawl spaces shall be ventilated by natural or mechanical means.

(2) Where an unheated crawl space is ventilated by natural means, ventilation shall be provided to the outside air by not less than 0.1 m² of unobstructed vent area for every 50 m² of *floor area*.

(3) Vents shall be,
(a) uniformly distributed on opposite sides of the *building*, and
(b) designed to prevent the entry of snow, rain and insects.

9.18.3.2. Ventilation of Heated Crawl Spaces

(1) Heated crawl spaces shall be ventilated in accordance with Section 9.32.

9.18.4. Clearance

9.18.4.1. Access Way to Services

(1) Where equipment requiring service such as plumbing cleanouts, traps and burners is located in crawl spaces, an access way with a height and width of not less than 600 mm shall be provided from the access door to the equipment and for a distance of 900 mm on the side or sides of the equipment to be serviced.

9.18.5. Drainage

9.18.5.1. Drainage

(1) Except where it can be shown to be unnecessary, the ingress of water into a crawl space shall be controlled by grading or drainage.

(2) Drainage of *foundation* walls shall conform to Article 9.14.2.1.

(3) Drainage of the ground cover or floor-on-ground in the crawl space shall conform to Subsection 9.16.3.

(4) Drains shall conform to Section 9.14.

9.18.6. Ground Cover

9.18.6.1. Ground Cover in Unheated Crawl Spaces

(1) Where a crawl space is unheated, a ground cover shall be provided consisting of not less than,
(a) 50 mm of asphalt paving material,
(b) 100 mm of 15 MPa Portland cement concrete,
(c) Type S roll roofing, or
(d) 0.10 mm polyethylene.

(2) Joints in sheet-type ground cover required in Sentence (1) shall be lapped not less than 100 mm and weighted down.

9.18.6.2. Ground Cover in Heated Crawl Spaces

(1) Where a crawl space is heated, a ground cover consisting of not less than 0.15 mm polyethylene sheet conforming to CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet, for Use in Building Construction", shall be installed as part of an *air barrier system* in accordance with Subsection 9.25.3.

(2) The ground cover required in Sentence (1) shall,
(a) have its joints lapped not less than 300 mm, and sealed and weighted down, or
(b) be covered with a concrete skim coat not less than 50 mm thick.

(3) The perimeter of the ground cover required in Sentence (1) shall be sealed to the *foundation* wall.

9.18.7. Fire Protection

9.18.7.1. Crawl Spaces as Warm Air Plenums

(1) Only crawl spaces under 1-*storey* portions of *dwelling units* shall be used as warm air *plenums*.

(2) Enclosing material in crawl spaces described in Sentence (1), including insulation, shall have a surface *flame-spread rating* not greater than 150.

(3) *Combustible* ground cover used as enclosing material in Sentence (2) shall be covered with *noncombustible* material. (See Appendix A.)

r3 **(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.

Section 9.19. Roof Spaces

9.19.1. Venting

9.19.1.1. Required Venting

(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 Appendix A.)

9.19.1.2. Vent Requirements

(1) Except as provided in Sentence (2), the unobstructed vent area shall be not less than 1/300 of the insulated ceiling area.

(2) Where the roof slope is less than 1 in 6 or in roofs that are constructed with roof joists, the unobstructed vent area shall be not less than 1/150 of the insulated ceiling area.

(3) Required vents are permitted to be roof type, eave type, gable-end type or any combination of them, and shall be distributed,
(a) uniformly on opposite sides of the *building*,
(b) with not less than 25% of the required openings located at the top of the space, and
(c) with not less than 25% of the required openings located at the bottom of the space.

(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.

(5) Vents shall comply with CAN3-A93-M, "Natural Airflow Ventilators for Buildings".

9.19.1.3. Clearances

(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.

(3) Ceiling insulation shall be installed in a manner that will not restrict a free flow of air through roof vents or through any portion of the *attic or roof space*.

9.19.1.4. Mansard or Gambrel Roof

(1) The lower portion of a mansard or gambrel style roof need not be ventilated.

(2) The upper portion of roofs described in Sentence (1) shall be ventilated in conformance with the requirements in Articles 9.19.1.1. to 9.19.1.3.

9.19.2. Access

9.19.2.1. Access

(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*.

r6 **(2)** Except where an *attic or roof space* contains a fuel-fired *appliance*, the hatch required in Sentence (1) shall be not less than 550 mm by 900 mm except that, where the hatch serves a *house* or an individual *dwelling unit* in a *house*, the hatch may be reduced to,
(a) 0.32 m^2 in area with no dimension less than 545 mm, or
(b) 500 mm by 700 mm.
(See Appendix A.)

(3) Hatchways to *attic or roof spaces* shall be fitted with doors or covers.

Section 9.20. Masonry and Insulating Concrete Form Walls Not in Contact With the Ground

9.20.1. Application

9.20.1.1. General

(1) Except as provided in Article 9.20.1.2., this Section applies to,
(a) unreinforced masonry and masonry veneer walls not in contact with the ground, where,
(i) the height of the walls constructed on the *foundation* walls does not exceed 11 m, and
(ii) the roof or floor assembly above the *first storey* is not of concrete construction, and
(b) flat insulating concrete form walls not in contact with the ground that,
(i) have a maximum floor to floor height of 3 m,
r6 (ii) are erected in *houses* not more than 2 *storeys* in *building height*, and
(iii) are erected in locations where the seismic spectral response acceleration, $S_a(0.2)$, is not greater than 0.4.
(See Appendix Note A-9.15.1.1(1)(c))

(2) For walls other than those described in Sentence (1), or where the masonry walls or insulating concrete form walls not in contact with the ground are designed for specified loads on the basis of ultimate and serviceability limit states, Subsection 4.3.2. shall apply.

9.20.1.2. Earthquake Reinforcement (See Appendix A.)

(1) In locations where the seismic spectral response 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 as required in Subsection 9.20.15.

(2) In locations where the seismic spectral response 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 as required in Subsection 9.20.15.

(3) Where the *building* is in a location where the spectral response acceleration, $S_a(0.2)$, is greater than 0.55, *service water heaters* shall be secured to the structure to resist overturning and displacement. (See Appendix A.)

9.31.6.3. Corrosion-Resistant Coating

(1) Where storage tanks for *service water heaters* are steel, they shall be coated with zinc, vitreous enamel (glass lined), hydraulic cement or other corrosion-resistant material.

9.31.6.4. Fuel-Burning Heaters

(1) Fuel-burning *service water heaters* shall be connected to a *chimney flue* conforming to Section 9.21.

9.31.6.5. Heating Coils

(1) Heating coils of *service water heaters* shall not be installed in a *flue* or in the combustion chamber of a *boiler* or furnace heating a *building*.

Section 9.32. Ventilation

9.32.1. General

9.32.1.1. Application

r6 **(1)** This Section applies to the ventilation of rooms and spaces in *residential occupancies* by natural ventilation and to self-contained mechanical ventilation systems serving a *house* or an individual *dwelling unit*.

r6 **(2)** Mechanical ventilation systems, other than self-contained systems serving a *house* or an individual *dwelling unit*, shall conform to Part 6.

(3) Ventilation of rooms and spaces in other than *residential occupancies* shall conform to Part 6.

(4) A *storage garage* for more than five cars shall be ventilated in accordance with Part 6.

(5) A clothes dryer *exhaust duct* system shall conform to Part 6.

9.32.1.2. Mechanical Ventilation for Dwelling Units

(1) Every *dwelling unit* that is supplied with electrical power shall be provided with a mechanical ventilation system in accordance with Subsection 9.32.3.

9.32.1.3. Ventilation of Rooms and Spaces

r6 **(1)** Except as permitted in Sentence (2), rooms or spaces in a *residential occupancy* shall be ventilated by natural means in accordance with Subsection 9.32.2.

(2) The natural ventilation of rooms or spaces required in Sentence (1) may be provided by mechanical means.

(3) Where a room or space is not provided with natural ventilation as described in Sentence (1), mechanical ventilation shall be provided to exhaust inside air from or to introduce outside air to that room or space at the rate of one-half air change per hour if the room or space is mechanically cooled in summer, and one air change per hour if it is not.

9.32.2. Natural Ventilation

9.32.2.1. Natural Ventilation Area

r6 **(1)** The unobstructed openable ventilation area to the outdoors for rooms and spaces in a *residential occupancy* ventilated by natural means shall conform to Table 9.32.2.1.

(2) Where a vestibule opens directly off a living or dining room within a *dwelling unit*, ventilation to the outdoors for such rooms may be through the vestibule.

Table 9.32.2.1.
Natural Ventilation
Forming Part of Sentence 9.32.2.1.(1)

Location		Minimum Unobstructed Area
Within a *dwelling unit*	Bathrooms or water closet rooms	0.09 m²
	Unfinished *basement* space	0.2 percent of the floor area
	Dining rooms, living rooms, bedrooms, kitchens, combined rooms, dens, recreation rooms and all other finished rooms	0.28 m² per room or combination of rooms
Other than within a *dwelling unit*	Bathrooms or water closet rooms	0.09 m² per water closet
	Sleeping areas	0.14 m² per occupant
	Laundry rooms, kitchens, recreation rooms	4 percent of the floor area
	Corridors, storage rooms and other similar public rooms or spaces	2 percent of the floor area
	Unfinished *basement* space not used on a shared basis	0.2 percent of the floor area
Column 1	2	3

9.32.2.2. Protection from Weather and Insects

(1) Openings for natural ventilation other than windows shall be constructed to provide protection from the weather and insects.

(2) Screening shall be of rust-proof material.

9.32.3. Mechanical Ventilation (See Appendix A.)

9.32.3.1. General

(1) For the purposes of this Subsection a non-solid fuel-fired *appliance* shall be classified as,
(a) direct vented whereby the combustion air is supplied directly from the outdoors to the combustion chamber via a sealed passageway, and the products of combustion are exhausted directly outdoors through an independent sealed vent,
(b) mechanically vented induced draft whereby combustion air is supplied from within the *building* envelope and the products of combustion are positively conveyed to the outdoors by means of a dedicated sealed vent, or
(c) natural draft whereby combustion air is supplied from within the *building* envelope and the products of combustion are conveyed to the outdoors through a *chimney* or Type B vent.

r6 **(2)** For the purposes of this Subsection, a *dwelling unit* shall be categorized as,
(a) Type I when,
  (i) all fuel-fired combustion *appliances* serving the *dwelling unit* are direct vented or, except for fireplaces, are mechanically vented induced draft, and
  (ii) the *dwelling unit* is not served by a solid fuel-fired combustion *appliance*,

(b) Type II when a solid fuel-fired combustion *appliance* serves a Type I *dwelling unit*,
(c) Type III when a mechanically vented induced draft non-solid fuel-fired fireplace or a natural draft *appliance* is present, or
(d) Type IV when *electric space heating* is present.

9.32.3.2. Required Mechanical Ventilation

(1) The mechanical ventilation system required in Article 9.32.1.2. shall comply with,
(a) Part 6, or
(b) this Subsection for a mechanical ventilation system in a Type I, Type II or Type IV *dwelling unit*.

9.32.3.3. Total Ventilation Capacity

(1) The minimum total ventilation capacity of the ventilation system required in Clause 9.32.3.2.(1)(b) shall be the sum of the individual room capacities given in Table 9.32.3.3.

Table 9.32.3.3.
Ventilation Capacity
Forming Part of Sentence 9.32.3.3.(1)

Room	Capacity, L/s
Master bedroom(1)	10
Other bedrooms	5
Living room(2)	5
Dining room(2)	5
Kitchen	5
Family room(2)	5
Recreation room	5
Basement(3)	10
Other habitable rooms(4)	5
Bathroom or water closet room	5
Laundry room	5
Utility room	5
Column 1	2

Notes to Table 9.32.3.3.:
(1) At least one bedroom in each *dwelling unit* shall be designated as the master bedroom.
(2) Ventilation capacities assigned to any combined living/dining or family/dining space shall be determined as if the spaces were individual rooms.
(3) Where a *basement* incorporates rooms of the types designated in this Table, the assigned ventilation capacities for each room shall be as specified for those types of rooms. *Basement* areas used for other purposes that exceed ⅔ of the total *basement* floor area shall be assigned a fan capacity of 10 L/s. Those that are less than ⅔ of the total floor area shall be assigned 5 L/s.
(4) Other habitable rooms shall be assigned a ventilation capacity of 5 L/s. This does not include spaces intended solely for access, egress, storage or service equipment.

9.32.3.4. Principal Exhaust

(1) A principal exhaust fan shall be installed and shall be rated to provide not less than the capacity given in Table 9.32.3.4.A.

Table 9.32.3.4.A.
Principal Exhaust Fan Capacity
Forming Part of Sentence 9.32.3.4.(1)

Number of Bedrooms in *Dwelling Unit*	Capacity, L/s
1	15
2	22.5
3	30
4	37.5
5	45
More than 5	System must comply with Sentence 6.2.1.1.(1)
Column 1	2

(2) Except as permitted in Sentence (3), the principal exhaust fan shall be controlled by a manual switch.

(3) A principal exhaust fan required under this Article may be controlled by a dehumidistat or other automatic control device where the manual switch required in Sentence (2) is capable of activating the fan regardless of the setting of the automatic control.

(4) The switches required in Sentences (2) and (3) shall be centrally located in the *dwelling unit* and shall be identified with the words **VENTILATION FAN**.

(5) The principal exhaust required in this Article may be provided by means of a heat recovery ventilator installed in accordance with Article 9.32.3.11.

(6) Where the installed capacity of the principal exhaust fan exceeds the minimum capacity required in Sentence (1) by more than 50%, the control required in Sentence (2) shall include provision to allow reduction of the flow to within ±10% of the minimum capacity specified in Sentence (1).

(7) Where an exhaust air intake for the principal exhaust fan is connected directly to the duct system of a forced air heating system or other central air circulating system, it shall,
(a) be connected to the return air side of the system, and
(b) be connected not less than 1 000 mm upstream from any outdoor air supply duct.

(8) Where an exhaust air intake for the principal exhaust fan is located in the kitchen, it shall be located in the ceiling or on the wall within 300 mm of the ceiling.

(9) Single or multiple *exhaust ducts* serving the principal exhaust fan required by Sentence (1) shall be sized according to Part 6 except that they may be sized according to Table 9.32.3.4.B. where,
(a) the longest total duct length, from intake grille to outdoor hood, does not exceed 12 m, and
(b) the number of elbows does not exceed 4,

but, in any case, they shall not be smaller than recommended by the manufacturer of the fan.

(10) In applying Table 9.32.3.4.B.,
(a) where there is more than one exhaust air inlet duct connected directly to the fan, the diameter of the inlet ducts may be decreased by 25 mm, and
(b) where the *exhaust duct* is connected to the duct system of a forced air heating system, the duct diameter shall be increased by 25 mm.

Table 9.32.3.4.B.
Principal Exhaust Duct Size
Forming Part of Sentences 9.32.3.4.(9) and (10)

Number of Bedrooms in *Dwelling Unit*	Minimum *Exhaust Duct* Diameter			
	Ducts Connected to Inlet and Outlet of Principal Exhaust Fan		Ducts Connected to One Side Only of Principal Exhaust Fan	
	Smooth Duct, mm	Flexible Duct, mm	Smooth Duct, mm	Flexible Duct, mm
1	100	125	100	125
2	125	150	125	150
3	125	150	150	175
4	150	175	150	175
5	150	175	150	175
More than 5	Part 6 design	Part 6 design	Part 6 design	Part 6 design
Column 1	2	3	4	5

9.32.3.5. Supplemental Exhaust

(1) Additional supplemental exhaust capacity shall be installed as necessary so that the total capacity of all kitchen, bathroom, water closet room and other supplemental exhaust air intakes is not less than the total ventilation capacity, as required in Article 9.32.3.3., minus the principal exhaust fan capacity, as required in Article 9.32.3.4.

(2) An exhaust air intake shall be installed in each kitchen, bathroom and water closet room.

(3) Where the intake for a supplemental exhaust fan, other than a cooking *appliance* exhaust fan serving a *cooktop,* is installed in a kitchen, it shall be installed in the ceiling or on the wall within 300 mm of the ceiling.

(4) *Exhaust ducts* serving the required kitchen, bathroom, water closet room and other supplemental exhaust air intakes shall be sized according to Part 6 except that they may be sized according to Table 9.32.3.5. where,
(a) the total duct length does not exceed 9 m, and
(b) the number of elbows does not exceed 4,

but, in any case, they shall not be smaller than recommended by the manufacturer of the fans.

Table 9.32.3.5.
Kitchen, Bathroom and Water Closet Room Exhaust Duct Size
Forming Part of Sentence 9.32.3.5.(4)

Fan Capacity, L/s	Minimum *Exhaust Duct* Diameter(1)	
	Ducts Connected to Inlet and Outlet of Exhaust Fan, mm	Ducts Connected to One Side Only of Exhaust Fan, mm
25	125	125
50	150	150
Column 1	2	3

Notes to Table 9.32.3.5.:
(1) Where flexible duct is used, the duct diameter shall be increased by 25 mm.

(5) A supplemental exhaust fan required by this Article shall be controlled by a manual switch located in the room served by the exhaust fan.

(6) Where the supplemental exhaust is provided by an exhaust fan serving multiple exhaust air intakes required in rooms described in Sentence (2), the exhaust fan shall be controlled by a manual switch located in each room served by that exhaust fan and wired in parallel.

(7) Where the supplemental exhaust is provided by a principal exhaust fan serving multiple exhaust air intakes required in rooms described in Sentence (2), the principal exhaust fan shall be controlled by a manual switch located in each room served by that exhaust fan and wired in parallel with the manual switch required in Sentence 9.32.3.4.(4).

(8) Where a supplemental fan required by this Article is controlled by a dehumidistat or other automatic control device in addition to the manual switch required by Sentences (5) to (7), the manual switch shall be capable of activating the fan regardless of the setting of the automatic control.

(9) Supplemental exhaust required in this Article may be provided by means of a heat recovery ventilator installed in accordance with Article 9.32.3.11.

9.32.3.6. Ventilation Systems Coupled With Forced Air Heating Systems

r6 **(1)** This Article applies to a mechanical ventilation system serving a *house* or an individual *dwelling unit* that contains a forced air heating system which is used for delivery of ventilation air.

r6 **(2)** Where a mechanical ventilation system serves a Type I *dwelling unit*, a ventilation supply inlet is not required.

r6 **(3)** Where a mechanical ventilation system serves a Type II *dwelling unit*, the system shall include a heat recovery ventilator, coupled to the forced air heating system, installed in accordance with Article 9.32.3.11.

(4) The forced air heating system circulation fan shall be controlled by a manual switch located adjacent to the ventilation fan switch required in Sentence 9.32.3.4.(4).

(5) The switch required in Sentence (4) shall be identified by the words **CIRCULATION FAN**.

9.32.3.7. Ventilation Systems Not Coupled With Forced Air Heating Systems

(1) This Article applies to a mechanical ventilation system in a *dwelling unit* that,
(a) does not contain a forced air heating system, or
(b) contains a forced air heating system which is not used for circulation of the ventilation air.

(2) The mechanical ventilation system shall introduce air to and circulate air throughout the *dwelling unit* in compliance with this Article.

(3) The mechanical system in this Article shall include a heat recovery ventilator installed in accordance with Article 9.32.3.11.

(4) Outdoor air shall be distributed by a ductwork system from the heat recovery ventilator required in Sentence (3) to each bedroom, to any *storey* without a bedroom and, if there is no *storey* without a bedroom, to the principal living area.

r6 9.34.2.2. Lighting Outlets in Houses and Dwelling Units

r6 **(1)** Except as provided in Sentence (2), a lighting outlet with fixture controlled by a wall switch shall be provided in kitchens, bedrooms, living rooms, utility rooms, laundry rooms, dining rooms, bathrooms, water closet rooms, vestibules and hallways in a *house* or an individual *dwelling unit*.

(2) Where a receptacle controlled by a wall switch is provided in bedrooms or living rooms, such rooms need not conform to the requirements of Sentence (1).

9.34.2.3. Stairways

(1) Every stairway shall be lighted.

r6 **(2)** Except as provided in Sentence (3), 3-way wall switches located at the head and foot of every stairway shall be provided to control at least one lighting outlet with fixture for stairways with four or more risers in a *house* or an individual *dwelling unit*.

(3) The stairway lighting for *basements* that do not contain finished space or lead to an outside entrance or built-in garage and that serve not more than one *dwelling unit* is permitted to be controlled by a single switch located at the head of the stairs.

9.34.2.4. Basements

(1) A lighting outlet with fixture shall be provided for each 30 m² of floor area or fraction of it in unfinished *basements*.

(2) The outlet required in Sentence (1) nearest the stairs shall be controlled by a wall switch located at the head of the stairs.

9.34.2.5. Storage Rooms

(1) A lighting outlet with fixture shall be provided in storage rooms.

9.34.2.6. Garages and Carports

(1) A lighting outlet with fixture shall be provided for an attached, built-in or detached garage or carport.

(2) Except as provided in Sentence (3), lighting outlets required in Sentence (1) shall be controlled by a wall switch near the doorway.

(3) Where the lighting 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.

(4) Where a carport is lighted by a light at the entrance to a *dwelling unit*, additional carport lighting is not required.

9.34.2.7. Public and Service Areas

(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) When provided by incandescent lighting, illumination required in Sentence (1) shall conform to Table 9.34.2.7.

(3) When other types of lighting are used, illumination equivalent to that shown in Table 9.34.2.7. shall be provided.

r3 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/m² 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
Column 1	2	3

9.34.3. Emergency Lighting

9.34.3.1. Emergency Lighting

(1) Emergency lighting shall conform to Subsection 9.9.12.

Section 9.35. Garages and Carports

9.35.1. Scope

9.35.1.1. Application

r6 **(1)** This Section applies to garages and carports serving a *house* or an individual *dwelling unit*.

9.35.1.2. Construction Requirements

(1) The construction of a garage or carport shall conform to the requirements for other *buildings* in this Part except as provided in this Section.

9.35.2. General

9.35.2.1. Carport Considered to be Garage

(1) Where a roofed enclosure used for the storage or parking of motor vehicles has more than 60 percent of the total perimeter enclosed by walls, doors or windows, the enclosure shall be considered a garage.

9.35.2.2. Garage Floor

(1) Where an attached or built-in garage is provided, the garage floor shall be sloped to drain liquids to the outdoors.

9.35.3. Foundations

9.35.3.1. Foundation Required

(1) Except as permitted in this Subsection, *foundations* conforming to Sections 9.12. and 9.15. shall be provided for the support of carport and garage super-structures, including that portion beneath garage doors.

9.35.3.2. Protection from Damage Due to Soil Movement

r6 **(1)** In clay-type *soils* subject to significant movement with a change in *soil* moisture content, the *foundation* depth of carports or garages connected to a *house* or an individual *dwelling unit* directly or by a breezeway shall be approximately the same depth as the *foundation* of the main *building*.

(2) Where slab-on-ground construction is used, a construction joint shall be provided between the main *building* slab and the garage or breezeway or carport slab.

(3) Except as provided in Section 9.12., *foundations* for attached unheated garages or carports shall be below frost level.

9.35.3.3. Small Garages

(1) Detached garages of less than 55 m² floor area and not more than 1 *storey* in height may be supported on wood mud sills provided the garage is not of masonry or masonry veneer construction.

9.35.3.4. Column Piers

(1) Piers for the support of carport columns shall extend not less than 150 mm above ground level.

(2) Piers referred to in Sentence (1) shall project not less than 25 mm beyond the base of the column but in no case be less than 190 mm by 190 mm in size.

9.35.4. Walls and Columns

9.35.4.1. Interior Finish

(1) Interior finish need not be applied to garage and carport walls.

9.35.4.2. Columns

(1) Columns for garages and carports shall conform to Section 9.17., except that 89 mm by 89 mm wood columns may be used.

9.35.4.3. Anchorage

(1) Garage or carport walls and columns shall be anchored to the *foundation* to resist wind uplift in conformance with Subsection 9.23.6., except that where a garage is supported on the surface of the ground, ground anchors shall be provided to resist wind uplift.

Section 9.36. Cottages

9.36.1. Scope

9.36.1.1. 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.

9.36.2. General

9.36.2.1. Exclusions

(1) Except as provided in Subsection 9.10.15. and Articles 9.36.2.4. and 9.36.3.1., *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.

9.36.2.2. 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.

9.36.2.3. Waterproofing and Dampproofing

(1) Where *foundations* below ground level and concrete floors on ground are used, they shall comply with Section 9.13.

9.36.2.4. 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.

9.38.3.3. Foundations and Anchorage

(1) *Buildings* described in Article 9.38.1.1. shall be supported and anchored in conformance with the manufacturer's installation instructions.

9.38.3.4. Proximity to Above Ground Electrical Conductors

(1) *Buildings* described in Article 9.38.1.1. shall comply with Article 9.1.1.5.

Section 9.39. Reinforced Concrete Slabs (See Appendix A.)

9.39.1. Scope

9.39.1.1. 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.

(3) This Section does not apply to reinforced concrete slabs intended to support motor vehicles.

9.39.1.2. Concrete

(1) Concrete shall conform to Section 9.3.

9.39.1.3. Reinforcing Steel

r5 **(1)** Reinforcing steel shall conform to Grade 400 in CSA G30.18, “Carbon Steel Bars for Concrete Reinforcement”.

9.39.1.4. Slab Construction

(1) Concrete shall be cast against form work 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 9.40. Additional Requirements for Change of Use

9.40.1. Scope

9.40.1.1. Application

r1 **(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 a *major occupancy*,

(d) a *building* or part of a *building* is changed to a *post-disaster building*, or

r6 (e) reserved,

(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.

r1 **(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*.

9.40.2. Additional Construction

9.40.2.1. Change of Use and Compensating Construction

r6 **(1)** Where proposed *construction* will result in a change of use described in Clauses 9.40.1.1.(1)(a) to (d), 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).

9.40.2.2. 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

Change of Use (See Appendix A.)

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 1.1.2. of Division A.

10.1.1.2. Change in Major Occupancy

r_1 **(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 a *major occupancy*,
(d) a *building* or part of a *building* is changed to a *post-disaster building*,
r_6 (e) a *building* or part of a *building* is changed to a *retirement home*, or
(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.

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 Subsection 3.1.2.

10.2.1.2. Classification According to Construction and Occupancy

(1) 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).

10.2.1.3. Building Size and Construction

(1) The requirements of Articles 3.2.2.20. to 3.2.2.83. 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 6.2.2.1.(2), 6.2.3.9.(1) and 6.2.4.7.(1), Subsections 9.5.1. and 9.5.3. to 9.5.10., Sentences 9.6.1.4.(3), (4) and (7) to (9), Article 9.7.2.3., Sentences 9.8.8.1.(5) to (9) and 9.9.10.1.(1) to (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 a *building* is to support.

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.

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)

Early Warning / Evacuation Evaluation	*Compliance Alternative*(1)
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 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 3.3.1.12. 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.
Column 1	2

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.

r5 **(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 3.2.2.43A. or 3.2.2.50A.

(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 9.10.9.12.

(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.(1)
Additional Upgrading for Multiple Major Occupancies
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
Column 1	2	3	4

Notes to Table 10.3.2.2.B.:
(1) For *buildings* with multiple *major occupancies* only, where there is a change in *major occupancy*.

r_6 **(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*,
(ii) Clause 3.2.6.8.(1)(b) or (c), as applicable, requires that a voice communication system conforming to Article 3.2.4.23. 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.

r6 **(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*.

r4 11.3.3.2. Extensive Renovation (See Appendix A.)

(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.

r5 **(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), 3.8.3.15.(5) and 3.8.3.16.(4) where new interior walls or floor assemblies are installed. (See Appendix A.)

(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 3.2.2.44.(1)(a)(ii), and
(b) contains *dwelling units* having *means of egress* conforming to Sentence 3.3.4.4.(8).

r6 **(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*,
(b) a voice communication system conforming to Article 3.2.4.23. shall be provided in the *building*, if Clause 3.2.6.8.(1)(b) or (c), 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.

r3 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.

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.(2).

(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

r_1 **(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 a *major occupancy*,

(e) the change of a *building* or part of a *building* to a *post-disaster building*,

r_6 (f) the change of a *building* or part of a *building* to a *retirement home*, or

(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.

r_1 **(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 (g) 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 3.1.3.1. and 11.4.3.4.B.

r_5 **(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 3.2.2.43A. or 3.2.2.50A.

(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 3.2.2.44.(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.

r5 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 Appendix A.)

(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 Appendix A.)

11.4.3.3. Increase in Occupant Load (See Appendix A.)

(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 Sentence 6.2.2.1.(2), Subsection 3.7.4. and Article 9.31.1.1.

11.4.3.4. Change in Major Occupancy (See Appendix A.)

r_1 **(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 Subsection 3.2.6., Sections 3.7., 3.11., 3.12., Sentences 6.2.2.1.(2), 6.2.3.9.(1) and 6.2.4.7.(10), Subsections 9.5.1. and 9.5.3. to 9.5.10., 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.

r_5 **(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 3.2.2.43A. or 3.2.2.50A. is satisfied if the *building* is *sprinklered*.

(6) Where the *performance level* is reduced under Sentence 11.4.2.3.(6), the *storey* subject to the change shall be *sprinklered*.

r_6 **(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*,
(b) a voice communication system conforming to Article 3.2.4.23. 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.

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.

r_5 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*.

Section 11.5. Compliance Alternatives

11.5.1. Compliance Alternatives (See Appendix A.)

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)
Column 1	2	3	4	5

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.I.(1)
Hazard Index
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
r6	*Houses*	2	2	—
	Lodging Houses	3	—	—
	Live/work units	4	5	7
	Monasteries	3	4	6
	Public Heritage Buildings	3	—	—
	Rectories	2	—	—
r6	*Retirement Homes*	3	4	6
	Rooming Houses	3	—	—
	Schools, Residential	3	4	6
	Column 1	2	3	4

Notes to Table 11.2.1.1.I.:

r5 (1)

Building Size (Maximum)(2)(3)	
– 600 m² / 3 *storey*	Small
– 250 m² / 3 *storey* (*Public Heritage Building*)	Small
– 2 000 m² / 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

r5 (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*.
(4) Take lowest rating for *H.I.* from Table for *major occupancy* change.

r5

Table 11.2.1.1.J.(1)(4)6)
Hazard Index
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 (Surgical/Anaesthesia)	4	5	6
Dental Offices (General)	3	4	5
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
Column 1	2	3	4

Table 11.5.1.1.C.
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 3 REQUIREMENTS	PART 11 *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.; 3.1.5.6.	Existing acceptable.
C3	3.1.5.7. to 3.1.5.10.	Except for exposed foamed plastics, existing acceptable. To match existing, materials may be added from on or off site.
C4	3.1.5.14. to 3.1.5.17.; 3.1.5.21.; 3.1.5.23.	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 3.1.8.14.(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 3.1.8.14.(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 3.1.8.9.	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	3.1.8.10.(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*.
r6 C10.1	3.1.8.12.(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.
C11	3.1.8.13.	Existing functionally operable latching devices, excluding draw bolts, are acceptable.
C12	3.1.8.14.	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.
C13	3.1.8.15. to 3.1.8.17.	Existing acceptable.
Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

	NUMBER	PART 3 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
	C14	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.
r6	C15	3.2.2.17.(1)(b) and (c)	Except for *retirement homes*, existing sprinkler systems in 1 *storey buildings* need not comply.
	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 3.1.8.14.(2), or (ii) the *building* is *sprinklered.*
	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	3.2.4.9.(2)(e)	Does not apply to existing installations in *buildings*.
	C20	3.2.4.10.(5)(c)	Does not apply to existing installations in *buildings*.
r6	C21	3.2.4.22.	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 *occupancy* 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*.
	C26	3.2.5.7.	Existing water supply and hydrants are acceptable in *buildings* up to 6 *storeys* in *building height*.
	Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 3 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C27	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.
C28	3.2.9.	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.
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	3.3.1.10.; 3.3.1.11.	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	3.3.1.12.	Existing doors acceptable, provided not less than 600 mm wide.
C34	3.3.1.15.	Existing curved or spiral stairs acceptable.
C35	3.3.1.16.	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	3.3.1.17.	Does not apply to *heritage buildings*.
C37	3.3.1.18.	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) 3.3.4.2.(3)(b)(iv)	30 min *fire separation* acceptable. 45 min *fire separation* acceptable. 1.5 h *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.(3)	Need not comply where a gasketed door and self closer are provided in the existing *fire separation*.
Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

	NUMBER	PART 3 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
r_6	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	3.4.3.4.	Except for *heritage buildings*, existing acceptable, provided not less than 800 mm.
	C46	3.4.3.5.	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 *sprinklered*.
	C48	3.4.4.1.	*Fire separations* of *exits* permitted in *buildings*: – 30 min, up to 3 *storeys* in *building height*; – 45 min, in *hotels* up to 3 *storeys* in *building height*; – 45 min, up to 6 *storeys* in *building height*; – 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)	Existing acceptable.
	C55	3.4.6.4.(2) and (3)	Existing acceptable.
	C56	3.4.6.5.(2) and (11)	Existing acceptable.
	C57	3.4.6.6.(2) and (4)	Existing acceptable.
	C58	3.4.6.7.(1)	Existing acceptable.
	C59	3.4.6.8.	Existing acceptable.
r_6	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.
	Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

	NUMBER	PART 3 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
	C62	3.4.6.11.(1) and (2)	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 (3)	Existing functionally operable panic hardware acceptable.
r_6	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.
r_6	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.
	Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

	NUMBER	PART 3 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
r4	C81	3.8.1.2.	Existing accessible entrance acceptable. (See *C.A.* C85) 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.
r4	C83.1	3.8.3.2.(3)(b)	Existing curb ramp acceptable, provided width not less than 1 200 mm.
	C84	3.8.3.3.(1)	Existing doorway acceptable, provided not less than 810 mm wide.
r4	C84.1	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.
	C85	3.8.3.4.(1)(a)	Existing ramp acceptable, provided not less than 870 mm between handrails.
r4	C86	3.8.3.8.(5)	Existing grab bar is acceptable.
r4	C86.1	3.8.3.12.	Existing universal washroom acceptable.
r4	C87	3.8.3.13.(2)(f)	Existing grab bar is acceptable.
r4	C87.1	3.8.3.16.	Existing drinking fountain conforming to Clauses 3.8.3.16.(2)(a) and (b) acceptable.
r4	C87.2	3.11.3.1.(9)	Existing clear width acceptable, provided not less than 900 mm.
r4	C87.3	3.11.3.1.(14)	Existing painted line acceptable.
	Column 1	2	3

NUMBER	PART 4 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C88	4.1.8.	The requirements under this Subsection do not apply.
Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 8 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C99	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*.
C100	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.*
Column 1	2	3

NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C101	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.
r6 C102	9.5.3.1.	In a *house*, (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.
C103	9.5.11.1.	Doors may be lesser heights to suit ceiling heights.
C104	9.5.11.2.	Existing acceptable, provided not less than 600 mm.
C105	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.
C106	9.6.1.4.(3)	Existing acceptable, if marked to indicate their existence and position.
C107	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.
C108	9.7	Existing acceptable.
C109	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.
C110	9.8.4.3.	Existing curved or spiral stairs are acceptable.
Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C111	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.
C112	9.8.5.1.(2)	Existing ramps acceptable, where practical.
C113	9.8.7.	Existing handrails acceptable, unless considered unsafe by *chief building official*.
C114	9.8.8.	Existing *guards* acceptable, unless considered unsafe by *chief building official*.
C115	9.8.9.6.(4)	Existing acceptable.
C116	9.9.2.1.(1) to (3)	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*).
C117	9.9.2.1.(4)	Except for *hotels*, existing acceptable.
C118	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.
C119	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.
C120	9.9.3.4.	Existing clear height of not less than 1 950 mm is acceptable.
C121	9.9.4.2.	Except as permitted in *C.A.* C136, 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.* C122.
C122	9.9.4.2.(1) and (2)	30 min *fire separation* acceptable.
C123	9.9.5.4.	Existing acceptable.
C124	9.9.5.8.	Existing acceptable provided minimum 45 min *fire separation* and where explosion-resistant *construction* or venting is provided.
C125	9.9.5.9.	Existing acceptable, provided that the enclosure has a 45 min *fire-resistance rating*.
C126	9.9.6.1.	Except for *hotels*, existing acceptable.
C127	9.9.6.2.	Existing clear opening height of not less than 1 950 mm is acceptable.
C128	9.9.6.3.	Existing door widths are acceptable, provided *exit* widths conform to *C.A.* C118.
Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

	NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
	C129	9.9.6.5.	Existing door swings acceptable. Existing acceptable in *public heritage buildings*, where approved by *chief building official*.
	C130	9.9.6.6.(1)	Where *exit* doors open onto a landing, they shall not extend beyond the face of the first riser.
	C131	9.9.6.8.	Existing functionally operable passage or panic hardware acceptable.
	C132	9.9.7.4.(1)(a)	Maximum area of existing room or *suite* does not apply.
r6	C133	9.9.7.5.	Except as provided in *C.A.* C136, in a *house*, the Code requirement applies.
	C134	9.9.8.2.(1)	Existing travel distance acceptable where *floor area* is *sprinklered* and provided *fire separations* comply with Part 9.
	C135	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.* C147, and a second *means of egress* from the *dwelling units* complies with the Code requirements.
r6	C136	9.9.9.	In a *house*, *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,
	Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C136 (Cont'd)	9.9.9.	(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* and the *dwelling units* are equipped with *smoke alarms* installed in conformance with Subsection 9.10.19.
r6 C137	9.9.10.1.	In a *house*, existing acceptable, where there is direct access to the exterior.
r6 C138	9.9.11.	In a *house*, the requirements under this Subsection do not apply.
C139	9.9.11.3.	Existing illuminated legible signs are acceptable for *exit* signs, if approved by *chief building official*.
r6 C140	9.9.12.	In a *house*, the requirements under this Subsection apply only where the condition described in (b) of *C.A.* C136 exists.
C141	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.
C142	9.10.1.3.(8) to (10)	Existing installations acceptable subject to *C.A.*'s C26, C27 and C28.
C143	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".
C144	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.
C145	9.10.6.2.	Existing *heavy timber construction* acceptable where *construction* is within 90% of member sizes listed in Part 3.
Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

	NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
	C146	9.10.7.	Existing acceptable for *heritage buildings*, subject to approval of *chief building official*.
r_6	C147	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*, 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*, the *fire-resistance rating* of the *fire separation* is waived where the *building* is *sprinklered*.
	C148	9.10.9.7.; 9.10.9.9.	Existing acceptable in existing *fire separations*.
r_3	C149	9.10.9.10.(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.
	C150	9.10.9.11.(1)	Except for *hotels*, 30 min *fire separation* acceptable.
	C151	9.10.9.11.(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*.
r_6	C152	9.10.9.14.(1) and (3); 9.10.9.15.(1)	(a) Except as provided in (b) and (c), 30 min *fire separation* is acceptable. (b) In a *house*, 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*, the *fire-resistance rating* of the *fire separation* is waived where the *building* is *sprinklered*.
r_6	C153	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*, 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*, the *fire-resistance rating* of the vertical *fire separation* is waived where *service rooms* are *sprinklered*.
r_6	C154	9.10.11.2.(1)	In a *house*, a *party wall* with 1 h *fire-resistance rating* is acceptable.
	Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

	NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
	C155	9.10.13.1.	Existing functional *closures* are acceptable subject to *C.A.*'s C8 and C156.
r_6	C156	9.10.13.2.(1)	In a *house*, 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*.
	C157	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.
	C158	9.10.13.3.	Existing acceptable provided that wood door frames are secured with hinge screws going through frame into the stud.
	C159	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.
	C160	9.10.13.6.	Existing steel door frames acceptable.
	C161	9.10.13.7.	Existing glass block acceptable.
	C162	9.10.13.8.	Existing sizes acceptable.
	C163	9.10.13.9.	Existing operable latches acceptable.
	C164	9.10.13.10.(1)	Existing functionally operable self-closing devices acceptable.
	C165	9.10.13.11.	Existing operable self-releasing electromagnetic hold-open device acceptable, and except for *hotels*, fusible link hold-open devices acceptable.
	C166	9.10.13.12.	Existing swings acceptable.
	C167	9.10.13.13.(1)	Except as permitted in *C.A.* C168, 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.
r_6	C168	9.10.13.13.(1)	In a *house*, existing acceptable.
	C169	9.10.13.14.; 9.10.5.1.	Except as permitted in *C.A.* C170, 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.
r_6	C170	9.10.13.14.; 9.10.5.1.	In a *house*, existing acceptable.
	Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C171	9.10.14.2.(2) and (3); 9.10.14.4.(2); 9.10.15.2.(2) and (3); 9.10.15.4.(4)	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.(2) 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.(3) and 9.10.15.4.(4) apply only to the new *exposing building face.*
C172	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 3.1.8.14.(2), or (ii) the *building* is *sprinklered*.
C173	9.10.16.2.(1)	Where balloon framing is exposed during renovation, *fire blocks* shall be provided.
C174	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.
C175	9.10.19.4.	*Smoke alarms* may be battery operated.
C176	9.10.20.	Existing access acceptable.
C177	9.14.2.1.(2)	Existing acceptable.
C178	9.18.2.	Existing access acceptable.
C179	9.18.3.	Existing vents and ventilation acceptable.
C180	9.19.	Existing acceptable.
Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C181	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.
C182	9.20.3.	Archaic mortars may be used to match existing jointing.
C183	9.20.4.1.	Sound jointing techniques may be employed to match existing archaic joints.
C184	9.20.12.1.	Corbelling may be constructed to match existing or original details, provided that it is structurally adequate for the proposed use.
C185	9.21.	Existing acceptable, provided the products of combustion are safely vented and provided no fire hazard is created.
C186	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.
C187	9.23.	Existing acceptable.
C188	9.24.	Existing acceptable.
C189	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.
C190	9.26.	Existing acceptable, except when removing and replacing shingles, comply with the eave protection requirements of Subsection 9.26.5.
C191	9.27.	Existing acceptable.
C192	9.28.	All replacement or recreation of existing stucco may be compatible with the existing materials and application.
C193	9.29.4.	Existing acceptable. All replacement or recreation of existing plaster may be compatible with the existing materials and application.
r6 C194	9.32.	In a *house*, rooms or spaces to be ventilated by natural means in accordance with Subsection 9.32.2. or by providing adequate mechanical ventilation.
C195	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.
C196	9.33.1.2.	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.
C197	9.33.4.3.(1)	Carbon monoxide alarms may be battery operated or plugged into an electrical outlet.
Column 1	2	3

Table 11.5.1.1.C. (Cont'd)
Compliance Alternatives for Residential Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 9 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
C198	9.37.	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.
Column 1	2	3

NUMBER	PART 12 REQUIREMENTS	PART 11 *COMPLIANCE ALTERNATIVE*
r6 C199	12.2.1.1.(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 2.1.1.9. 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 2.1.1.5. of MMA Supplementary Standard SB-12, “Energy Efficiency for Housing”.
Column 1	2	3

Table 11.5.1.1.D/E.
Compliance Alternatives for Business/Mercantile Occupancies
Forming Part of Article 11.5.1.1.

NUMBER	PART 3 REQUIREMENTS	PART 11 *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.; 3.1.5.6.	Existing acceptable.
DE3	3.1.5.7. to 3.1.5.10.	Except for exposed foamed plastics, existing acceptable. To match existing, materials may be added from on or off site.
DE4	3.1.5.15. to 3.1.5.17.; 3.1.5.21.; 3.1.4.23.	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 3.1.8.14.(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 3.1.8.14.(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.; 3.1.8.9.	*Fire dampers* or *fire stop flaps* are not required to be installed in existing ducts at penetrations of existing *fire separations*.
DE10	3.1.8.10.(1)	For existing unlabelled doors in existing *buildings*, at least 45 mm solid core wood or metal clad are acceptable.
DE11	3.1.8.13.	Existing functionally operable latching devices, excluding draw bolts, are acceptable.
DE12	3.1.8.14.	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	3.1.8.15. to 3.1.8.17.	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	3.2.2.17.(1)(b) and (c)	Existing sprinkler systems in 1 *storey buildings* need not comply.
Column 1	2	3

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 1.1.2. 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. Energy Efficiency Design Before January 1, 2017

(1) This Article applies to *construction* for which a permit has been applied for before January 1, 2017.

r_6 **(2)** Except as provided in Sentences (3) and (4), the energy efficiency of all *buildings* shall conform to Division 1 and Division 2 or 4 of MMA Supplementary Standard SB-10, "Energy Efficiency Requirements".

r_3 **(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) meet the performance level that is equal to a rating of 80 or more when evaluated in accordance with NRCan, "EnerGuide for New Houses: Administrative and Technical Procedures", or
r_6 (b) conform to Chapters 1 and 2 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,
(c) a manufactured *building* described in Article 9.1.1.9., or
(d) a seasonal recreational *building* described in Section 9.36. or 9.38.

12.2.1.2. Energy Efficiency Design After December 31, 2016

(1) This Article applies to *construction* for which a permit has been applied for after December 31, 2016.

(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), or
r6 (b) conform to Division 1 and Division 3 or 5 of MMA Supplementary Standard SB-10, "Energy Efficiency Requirements".

r3 **(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), or
r6 (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,
(c) a manufactured *building* described in Article 9.1.1.9., or
(d) a seasonal recreational *building* described in Section 9.36. or 9.38.

12.2.2. Carbon Dioxide Equivalents

12.2.2.1. Carbon Dioxide Equivalents

r6 **(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,
r3 (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,
(d) a manufactured *building* described in Article 9.1.1.9., or
(e) a seasonal recreational *building* described in Section 9.36. or 9.38.

12.2.3. Peak Electric Demand

12.2.3.1. Peak Electric Demand

r6 **(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,
r3 (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,
(d) a manufactured *building* described in Article 9.1.1.9., or
(e) a seasonal recreational *building* described in Section 9.36. or 9.38.

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.(6).

(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

r3 **(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) CAN/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”.

r6 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) where a *house* contains two *dwelling units* and each *dwelling unit* is served by a separate heating system, the indoor air temperature in each *dwelling unit* shall be controlled by at least one programmable thermostatic control device located in the *dwelling unit*,
(b) where a *house* contains one *dwelling unit* or contains two *dwelling units* and both *dwelling units* are served by one heating system, the indoor air temperature in the *house* shall be controlled by at least one programmable thermostatic control device located in the *house*, and
(c) the indoor air temperature in an individual *dwelling unit* in a *building* other than a *house* 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.

r_6 12.3.1.5. Residential Furnaces

(1) A furnace serving a *house* or an individual *dwelling unit* shall be equipped with a brushless direct current motor. (See Appendix A.)

r_6 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.

Table 1.2.2.1.(4)
General Review
Forming Part of Sentence 1.2.2.1.(1)

	Building Classification by *Major Occupancy*(5)	*Building* Description	General Review by:
	Assembly occupancy only	Every *building*	*Architect* and *professional engineer*(1)
	Assembly occupancy and any other *major occupancy* except *industrial*	Every *building*	*Architect* and *professional engineer*(1)
r1	*Care, care and treatment* or *detention occupancy* only	Every *building*	*Architect* and *professional engineer*(1)
r1	*Care, care and treatment* or *detention occupancy* and any other *major occupancy* except *industrial*	Every *building*	*Architect* and *professional engineer*(1)
r6	*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 m² in *gross area* and that contains a *residential occupancy* other than a *dwelling unit* or *dwelling units*	*Architect*(2)
r6	*Residential occupancy* only, other than *retirement homes*	Every *building* that exceeds 600 m² in *gross area* and contains a *dwelling unit* above another *dwelling unit*	*Architect*(2)
		Every *building* that exceeds 600 m² in *building area*, contains 3 or more *dwelling units* and has no *dwelling unit* above another *dwelling unit*	*Architect*(2)
r6	*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 m² in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
r6	*Retirement home* only	Every *building*	*Architect* and *professional engineer*(1)
r6	*Retirement home* and any *major occupancy* except *industrial*	Every *building*	*Architect* and *professional engineer*(1)
	Business and personal services occupancy only	Every *building* that exceeds 600 m² in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
r1	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 m² in gross area or 3 storeys in building height	Architect and professional engineer(1)
	Mercantile occupancy only	Every *building* that exceeds 600 m² in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
r1	*Mercantile occupancy* and any other *major occupancy* except *assembly*, *care, care and treatment, detention* or *industrial occupancy*	Every *building* that exceeds 600 m² in *gross area* or 3 *storeys* in *building height*	*Architect* and *professional engineer*(1)
	Industrial occupancy only and where there are no subsidiary *occupancies*	Every *building* that exceeds 600 m² in *gross area* or 3 *storeys* in *building height*	*Architect* or *professional engineer*(3)
	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 m²	The non-industrial portion of every *building*	*Architect* and *professional engineer*(1)
		The industrial portion of every *building*	*Architect* or *professional engineer*(3)
	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 m²	Every *building* that exceeds 600 m² in *gross area* or 3 *storeys* in *building height*	*Architect* or *professional engineer*(3)
	Column 1	2	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.

r5 (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*.

r6 (5) For purposes of Table 1.2.2.1., a *retirement home* is deemed to be a separate *major occupancy*.

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,
r3 (a) for the *demolition* of a *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.

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 1.3.1.1. 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	Class of *Building*	Time Period
r_6	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 m² 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.	10 days
	2	(a) *Buildings* described in Clause 1.1.2.4.(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 m² in *building area*.	15 days
r_6	3	(a) *Buildings* described in Clause 1.1.2.2.(1)(a) or (b) 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 m² 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 3.2.8.11. of Division B applies.	30 days
		Column 1	2

1.3.1.4. Permits Under Section 10 of the Act

r1 **(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 a *major occupancy*,

(e) a *building* or part of a *building* is changed to a *post-disaster building*,

r6 (f) a *building* or part of a *building* is changed to a *retirement home*, or

(g) 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.

(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.

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)
Col. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Notes to Table 1.3.1.4.:

r5 (1) See Clause 1.3.1.4.(1)(a), Subclause 3.17.1.1.(1)(a)(i) of Division B and Clause 9.40.1.1.(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.

r5 (4) See Clause 1.3.1.4.(1)(b), Subclause 3.17.1.1.(1)(a)(ii) of Division B and Clauses 9.40.1.1.(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.

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) regulations made by a conservation authority under clause 28(1)(c) of the *Conservation Authorities Act* 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,
(b) section 5 of the *Environmental Assessment Act* with respect to the approval of the Minister or the Environmental Review Tribunal to proceed with an undertaking,
(c) subsection 24(3) of the *Niagara Escarpment Planning and Development Act,*
(d) subsection 27(3) of the *Ontario Heritage Act*,
(e) 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,
(f) section 33 of the *Ontario Heritage Act* with respect to the consent of the council of a *municipality* for the alteration of property,
(g) section 34 of the *Ontario Heritage Act* with respect to the consent of the council of a *municipality* for the *demolition* of a *building*,
(h) 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*,
(i) 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,
(j) by-laws made under section 40.1 of the *Ontario Heritage Act*,
(k) 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*.

(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.

1.3.2. 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).

r5 **(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) 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,

r5 (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,
r5 (g) measures have been taken to prevent access to parts of the *building* and site that are incomplete or still under construction,
r5 (h) floors, halls, lobbies and required *means of egress* are free of loose materials and other hazards,
r5 (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,
r5 (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*.

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
r6 (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
(d) where applicable, the *building* conforms to Article 9.1.1.7. of Division B.

r5 **(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.

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
r6 (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:
r5 (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*.

r5 1.3.3.5. Occupancy Permit — Buildings Within the Scope of Article 3.2.2.43A. or 3.2.2.50A.

(1) No person shall occupy or permit to be occupied a *building* within the scope of Article 3.2.2.43A. or 3.2.2.50A. 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*.

1.3.4. 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.

Section 1.5. Designated Persons and Powers

1.5.1. General

1.5.1.1. General

r6 **(1)** The *director* and employees in the Ministry of Municipal Affairs 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,

(a) *chief building officials*,
(b) *inspectors*,
(c) *registered code agencies*,
(d) persons engaging in the activities described in subsection 15.11(5) of the Act, and
(e) 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.

r6 **(3)** The employees in the Ministry of Municipal Affairs 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.

r6 **(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 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)

Board of Health or Conservation Authority	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 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 Porcupine Health Unit	All *municipalities* and territory without municipal organization located in the Porcupine 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
Board of Health of the Timiskaming Health Unit	All *municipalities* and territory without municipal organization located in the Timiskaming 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 Timiskaming 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.
Column 1	2

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.

Part 3

Qualifications

r2.1 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 Factory Certification of Buildings”,

(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) A person who was qualified on December 31, 2014 under Sentence 3.1.2.1.(1), as it read on that date, is deemed to have the qualification set out in Sentence (1) until the earlier of,
(a) the day the person is registered under Sentence 3.1.2.2.(1), and
(b) March 31, 2015.

3.1.2.2. Registration and Renewal of a Registration

(1) Subject to Article 3.1.5.7., the *director* may register an applicant, or renew a registration, if,
r_6 (a) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs 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.

(2) For the purposes of a registration or a renewal of a registration, a person who was qualified on December 31, 2014 under Sentence 3.1.2.1.(1), as it read on that date, is deemed to have the qualifications set out in Clause (1)(a).

(3) If a person is given notice of a knowledge maintenance examination either after December 31, 2014 under Sentence 3.1.5.6.(1) or, on or before December 31, 2014, under Sentence 3.1.5.1.(2), as it read on that date, and does not successfully complete the knowledge maintenance examination referred in the notice by the end of the eighteenth month following the month in which the *director* gives notice of the knowledge maintenance examination to the person, Sentence (2) ceases to apply to the person at the end of that period.

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) A person who was qualified on December 31, 2014 under Sentence 3.1.3.1.(1), as it read on that date, is deemed to have the qualification set out in Sentence (1) until the earlier of,
e_3 (a) the day the person is registered under Sentence 3.1.3.2.(1), and
(b) March 31, 2015.

3.1.3.2. Registration and Renewal of a Registration

(1) Subject to Article 3.1.5.7., the *director* may register an applicant, or renew a registration, if,
r_6 (a) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs relating to the person's knowledge of the Act and this Code and the powers and duties of *chief building officials*,
r_6 (b) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs 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.

(2) For the purposes of a registration or a renewal of a registration, a person who was qualified on December 31, 2014 under Sentence 3.1.3.1.(1), as it read on that date, is deemed to have the qualifications set out in Clauses (1)(a) and (b).

(3) If a person is given notice of a knowledge maintenance examination that relates to the subject matter of an examination program referred to in Clause (1)(a) or (b), as applicable, either after December 31, 2014 under Sentence 3.1.5.6.(1) or, on or before December 31, 2014, under Sentence 3.1.5.1.(2), as it read on that date, and does not successfully complete the knowledge maintenance examination referred in the notice by the end of the eighteenth month following the month in which the *director* gives notice of the knowledge maintenance examination to the person, Sentence (2) ceases to apply to the person at the end of that period with respect to the qualifications set out in Clause (1)(a) or (b), as applicable.

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) A person who was qualified on December 31, 2014 under Sentence 3.1.4.1.(1) in a category of qualification set out in Column 2 of Table 3.5.2.1., as they read on that date, is deemed to be registered in the class of registration that corresponds to that category of qualification until the earlier of,
(a) the day the person is registered in that class of registration under Sentence 3.1.4.2.(1), and
(b) March 31, 2015.

3.1.4.2. Registration and Renewal of a Registration

(1) Subject to Article 3.1.5.7., the *director* may register an applicant, or renew a registration, in each class of registration applied for, if,
r_6 (a) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs 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.

(2) For the purposes of a registration or a renewal of a registration in a class of registration, a person who was qualified on December 31, 2014 under Sentence 3.1.4.1.(1) in a category of qualification set out in Column 2 of Table 3.5.2.1., as they read on that date, is deemed to have the qualifications set out in Clause (1)(a) in that category of qualification.

(3) If a person is given notice of a knowledge maintenance examination that relates to the subject matter of an examination program in the category of qualification either after December 31, 2014 under Sentence 3.1.5.6.(1) or, on or before December 31, 2014, under Sentence 3.1.5.1.(2), as it read on that date, and does not successfully complete the knowledge maintenance examination referred in the notice by the end of the eighteenth month following the month in which the *director* gives notice of the knowledge maintenance examination to the person, Sentence (2) ceases to apply to the person at the end of that period.

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., provided the person is enrolled in an internship program approved by the *Minister*.

(2) 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) An intern *inspector* who is exempt under Sentence (1) shall not,
(a) issue orders under the Act except orders under subsection 12(2) or 13(1) of the Act, or
(b) undertake a site inspection of a *building* related to a notice in respect of,
  (i) substantial completion of footings and *foundations* prior to commencement of backfilling, or
r5 (ii) completion of *construction* and installation of components required to permit the issuance of an occupancy permit under Sentence 1.3.3.1.(3), 1.3.3.4.(4) or 1.3.3.5.(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.

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 at least 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,
r5 (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 and address 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,
(a) $105, for 2015, and
(b) the amount determined in accordance with Sentences (3) and (4) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(3) On and after January 1, 2016, the fee for a calendar year is the fee for the previous calendar year adjusted by the percentage change from year to year in the Consumer Price Index for Ontario (All-Items) as reported monthly by Statistics Canada under the authority of the *Statistics Act* (Canada), averaged over the 12-month period that ends on March 31 of the previous calendar year, rounded to the first decimal point.

(4) Despite Sentence (3), if the percentage change results in a negative amount, the fee for a calendar year shall remain at the same level as the previous calendar year.

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),
(b) in the case of a registered person who is given notice of a knowledge maintenance examination under Sentence 3.1.5.6.(1), the person shall successfully complete the knowledge maintenance examination referred to in the notice by the end of the eighteenth month following the month in which the *director* gives notice of the knowledge maintenance examination to the person, and
(c) 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. Knowledge Maintenance

r_6 **(1)** The *director* shall give notice of a knowledge maintenance examination administered or authorized by the Ministry of Municipal Affairs in respect of changes described in Sentence (2) that relate to the subject matter 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), as applicable, to every person who, on December 31, 2013, has the qualifications set out in Sentence 3.1.2.1.(1), 3.1.3.1.(1) or 3.1.4.1.(1), as applicable, of Division C of Ontario Regulation 350/06 (Building Code) made under the Act.

(2) The changes referred to in Sentence (1) are changes made to the Act and Ontario Regulation 350/06 from December 31, 2006 to December 31, 2013 and changes made at the time that regulation is replaced by this Code on January 1, 2014.

r5 **(3)** The *director* may give the notice referred to in Sentence (1) by sending it,
(a) by regular mail to the last address of the person that has been filed with the *director*, or
(b) by email to the last email address of the person that has been filed with the *director*.

3.1.5.7. 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 3.1.5.3. 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. General

3.2.2.1. Persons Engaged in the Business of Providing Design Activities to the Public

(1) Every person engaged in the business of providing *design activities* to the public must have the qualification set out in Sentence 3.2.4.1.(1).

3.2.2.2. Other Designers

$r_{2.1}$ **(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). (See Appendix A.)

3.2.3. Definition

3.2.3.1. Definition

$r_{2.1}$ **(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*,
  (ii) is 2 *storeys* or less in *building height*, and
  (iii) has a *building area* of less than 600 m^2,
r_6 (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 Factory Certification of Buildings",
r_3 (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.

r_6 **(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 3.2.4.9. and 3.2.4.10., the *director* may register an applicant, or renew a registration, in each class of registration applied for, if,
r_6 (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 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,

r6 (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 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.

r3 **(2)** Subject to Articles 3.2.4.9. and 3.2.4.10., a person who, on December 31, 2013, is registered in a class of registration under Sentence 3.2.4.2.(1) of Division C of Ontario Regulation 350/06 (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 in the class of registration under Sentence 3.2.4.2.(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.

r3 **(3)** For the purposes of a registration or a renewal of a registration, a person who, on December 31, 2013, has the qualifications set out in Clause 3.2.4.2.(1)(a) or (b), as applicable, of Division C of Ontario Regulation 350/06 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, but ceases to be deemed to have these qualifications if the person does not successfully complete a knowledge maintenance examination as required under Subclause 3.2.4.7.(1)(d)(i) or (ii), as applicable.

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 at least 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).

r2 **(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.

r2.1 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,
(a) $165, for 2015, and
(b) the amount determined in accordance with Sentences (5) and (6) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(3) The fee for the addition of a new class of registration is,
(a) $35, for 2015, and
(b) the amount determined in accordance with Sentences (5) and (6) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(4) The fee for renewal of a registration is,
(a) $125, for 2015, and
(b) the amount determined in accordance with Sentences (5) and (6) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(5) On and after January 1, 2016, the fee for a calendar year is the fee for the previous calendar year adjusted by the percentage change from year to year in the Consumer Price Index for Ontario (All-Items) as reported monthly by Statistics Canada under the authority of the *Statistics Act* (Canada), averaged over the 12-month period that ends on March 31 of the previous calendar year, rounded to the first decimal point.

(6) Despite Sentence (5), if the percentage change results in a negative amount, the fee for a calendar year shall remain at the same level as the previous calendar year.

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,

r_2 (d) by the end of the eighteenth month following the month in which the *director* gives notice of a knowledge maintenance examination to the registered person under Sentence 3.2.4.8.(1), the registered person shall ensure that the following persons have successfully completed the knowledge maintenance examination referred to in the notice:
  (i) the registered person and the persons described in Clause (b) who are deemed under Sentence 3.2.4.2.(3) to have the qualifications set out in Clause 3.2.4.2.(1)(a) in the class of registration to which the notice relates, and
  (ii) persons described in Clause (c) who are deemed under Sentence 3.2.4.2.(3) to have the qualifications set out in Clause 3.2.4.2.(1)(b) in respect of the class of registration to which the notice relates and who will review and take responsibility for *design activities* provided to the public by the registered person in the class of registration,

(e) 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,

(f) the registered person shall, during the term of the registration, be covered by the insurance required under Subsection 3.6.2.,

(g) 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),

(h) 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 (g), that is contained in or accompanies an application for registration or renewal of a registration,

(i) 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

(j) 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. Knowledge Maintenance

r_6 **(1)** The *director* shall give notice of a knowledge maintenance examination administered or authorized by the Ministry of Municipal Affairs in respect of changes described in Sentence (2) that relate to the subject matter of an examination program referred to in Clause 3.2.4.2.(1)(a) or (b) to every person who is registered under Sentence 3.2.4.2.(1) in a class of registration to which the knowledge maintenance examination relates.

r_3 **(2)** The changes referred to in Sentence (1) are changes made to the Act and Ontario Regulation 350/06 (Building Code) from December 31, 2006 to December 31, 2013 and changes made at the time that regulation is replaced by this Code on January 1, 2014.

r_5 **(3)** The *director* may give the notice referred to in Sentence (1) by sending it,
(a) by regular mail to the last address of the person that has been filed with the *director*, or
(b) by email to the last email address of the person that has been filed with the *director*.

3.2.4.9. 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.

3.2.4.10. 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*.

r2.1 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 qualifications 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 qualifications required under Sentence (1) will review and take responsibility,
r6 (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*,
r6 (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.

(4) A person who was qualified on December 31, 2014 under Sentence 3.2.5.1.(1) in a category of qualification set out in Column 2 of Table 3.5.2.1., as they read on that date, is deemed to be registered in the class of registration that corresponds to that category of qualification until the earlier of,
(a) the day the person is registered in that class of registration under Sentence 3.2.5.2.(1), and
(b) March 31, 2015.

r2.1 3.2.5.2. Registration and Renewal of a Registration

(1) Subject to Article 3.2.5.8., the *director* may register an applicant, or renew a registration, in each class of registration applied for, if,
r6 (a) the applicant or registered person has successfully completed the examination program administered or authorized by the Ministry of Municipal Affairs 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) For the purposes of a registration or a renewal of a registration in a class of registration, a person who was qualified on December 31, 2014 under Clauses 3.2.5.1.(1)(a) and (b) in a category of qualification set out in Column 2 of Table 3.5.2.1., as they read on that date, is deemed to have the qualifications set out in Clause (1)(a) in that category of qualification.

(3) If a person is given notice of a knowledge maintenance examination that relates to the subject matter of an examination program in the category of qualification either after December 31, 2014 under Sentence 3.2.5.7.(1) or, on or before December 31, 2014, under Sentence 3.2.5.2.(2), as it read on that date, and does not successfully complete the knowledge maintenance examination referred in the notice by the end of the eighteenth month following the month in which the *director* gives notice of the knowledge maintenance examination to the person, Sentence (2) ceases to apply to the person at the end of that period.

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 at least 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,

r5 (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,

(a) $105, for 2015, and

(b) the amount determined in accordance with Sentences (3) and (4) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(3) On and after January 1, 2016, the fee for a calendar year is the fee for the previous calendar year adjusted by the percentage change from year to year in the Consumer Price Index for Ontario (All-Items) as reported monthly by Statistics Canada under the authority of the *Statistics Act* (Canada), averaged over the 12-month period that ends on March 31 of the previous calendar year, rounded to the first decimal point.

(4) Despite Sentence (3), if the percentage change results in a negative amount, the fee for a calendar year shall remain at the same level as the previous calendar year.

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) in the case of a registered person who is given notice of a knowledge maintenance examination under Sentence 3.2.5.7.(1), the person shall successfully complete the knowledge maintenance examination referred to in the notice by the end of the eighteenth month following the month in which the *director* gives notice of the knowledge maintenance examination to the person,

(c) 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),

(d) 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. Knowledge Maintenance

r6 **(1)** The *director* shall give notice of a knowledge maintenance examination administered or authorized by the Ministry of Municipal Affairs in respect of changes described in Sentence (2) that relate to the subject matter of an examination program referred to in Clause 3.2.5.2.(1)(a) to every person who, on December 31, 2013, has the qualifications set out in Clauses 3.2.5.1.(1)(a) and (b) of Division C of Ontario Regulation 350/06 (Building Code) made under the Act.

(2) The changes referred to in Sentence (1) are changes made to the Act and Ontario Regulation 350/06 from December 31, 2006 to December 31, 2013 and changes made at the time that regulation is replaced by this Code on January 1, 2014.

r5 **(3)** The *director* may give the notice referred to in Sentence (1) by sending it,
(a) by regular mail to the last address of the person that has been filed with the *director*, or
(b) by email to the last email address of the person that has been filed with the *director*.

3.2.5.8. 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 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*.

3.3.3.2. Registration and Renewal of a Registration

(1) Subject to Article 3.3.3.9., the *director* may register an applicant, or renew a registered person's registration, if,

r6 (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 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.

r3 **(2)** Subject to Article 3.3.3.9., a person who, on December 31, 2013, is registered under Sentence 3.3.3.2.(1) of Division C of Ontario Regulation 350/06 (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.

r3 **(3)** For the purposes of a registration or a renewal of a registration, a person who, on December 31, 2013, has the qualifications set out in Clause 3.3.3.2.(1)(a) of Division C of Ontario Regulation 350/06 is deemed to have the qualifications set out in Clause 3.3.3.2.(1)(a) of this Code, but ceases to be deemed to have these qualifications if the person does not successfully complete a knowledge maintenance examination as required under Clause 3.3.3.7.(1)(b).

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 at least 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).

r2.1 3.3.3.4. Term

(1) A registration expires one year after the date of its issuance.

(2) Despite Sentence (1), a registration expires three years after the date of its issuance, if the application for registration or renewal of a registration is made before January 1, 2015.

r2.1 ## 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,
(a) $105, for 2015, and
(b) the amount determined in accordance with Sentences (3) and (4) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(3) On and after January 1, 2016, the fee for a calendar year is the fee for the previous calendar year adjusted by the percentage change from year to year in the Consumer Price Index for Ontario (All-Items) as reported monthly by Statistics Canada under the authority of the *Statistics Act* (Canada), averaged over the 12-month period that ends on March 31 of the previous calendar year, rounded to the first decimal point.

(4) Despite Sentence (3), if the percentage change results in a negative amount, the fee for a calendar year shall remain at the same level as the previous calendar year.

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),
r2 (b) by the end of the eighteenth month following the month in which the *director* gives notice of a knowledge maintenance examination to the registered person under Sentence 3.3.3.8.(1), the registered person shall ensure that persons who are deemed under Sentence 3.3.3.2.(3) to have the qualifications set out in Clause 3.3.3.2.(1)(a) and who will supervise the *construction* on site, installation, repair, servicing, cleaning or emptying of *sewage systems* carried out by the registered person have successfully completed the knowledge maintenance examination referred to in the notice,
(c) 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),
(d) 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 (c), that is contained in or accompanies an application for registration or renewal of a registration,
(e) 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
(f) 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. Knowledge Maintenance

r_6 **(1)** The *director* shall give notice of a knowledge maintenance examination administered or authorized by the Ministry of Municipal Affairs in respect of changes described in Sentence (2) that relate to the subject matter of an examination program referred to in Clause 3.3.3.2.(1)(a) to every person who is registered under Sentence 3.3.3.2.(1).

r_3 **(2)** The changes referred to in Sentence (1) are changes made to the Act and Ontario Regulation 350/06 (Building Code) from December 31, 2006 to December 31, 2013 and changes made at the time that regulation is replaced by this Code on January 1, 2014.

r_5 **(3)** The *director* may give the notice referred to in Sentence (1) by sending it,
(a) by regular mail to the last address of the person that has been filed with the *director*, or
(b) by email to the last email address of the person that has been filed with the *director*.

3.3.3.9. 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 3.4.3.9. and 3.4.3.10., the *director* may register an applicant, or renew a registered person's registration, in each class of registration applied for, if,

r_6 (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 relating to the person's knowledge of the Act and this Code and the powers and duties of a *registered code agency*,

r_6 (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 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,

r_6 (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 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.

r3 **(2)** Subject to Articles 3.4.3.9. and 3.4.3.10., a person who, on December 31, 2013, is registered in a class of registration under Sentence 3.4.3.2.(1) of Division C of Ontario Regulation 350/06 (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,
r3 (a) a person who, on December 31, 2013, has the qualifications set out in Clause 3.4.3.2.(1)(a) of Division C of Ontario Regulation 350/06 is deemed to have the qualifications set out in Clause 3.4.3.2.(1)(a) of this Code, but ceases to be deemed to have these qualifications if the person does not successfully complete a knowledge maintenance examination as required under Clause 3.4.3.7.(1)(c),
r3 (b) a person who, on December 31, 2013, has the qualifications set out in Clause 3.4.3.2.(1)(b) of Division C of Ontario Regulation 350/06 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, but ceases to be deemed to have these qualifications if the person does not successfully complete a knowledge maintenance examination as required under Clause 3.4.3.7.(1)(c), and
r3 (c) a person who, on December 31, 2013, has the qualifications set out in Clause 3.4.3.2.(1)(c) of Division C of Ontario Regulation 350/06 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, but ceases to be deemed to have these qualifications if the person does not successfully complete a knowledge maintenance examination as required under Sentence 3.7.4.2.(2).

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 at least 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).

r_2 **(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.

$r_{2.1}$ 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,
(a) $395, for 2015, and
(b) the amount determined in accordance with Sentences (5) and (6) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(3) The fee for the addition of a new class of registration is,
(a) $65, for 2015, and
(b) the amount determined in accordance with Sentences (5) and (6) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(4) The fee for renewal of a registration is,
(a) $290, for 2015, and
(b) the amount determined in accordance with Sentences (5) and (6) rounded to the nearest dollar, for 2016 and subsequent calendar years.

(5) On and after January 1, 2016, the fee for a calendar year is the fee for the previous calendar year adjusted by the percentage change from year to year in the Consumer Price Index for Ontario (All-Items) as reported monthly by Statistics Canada under the authority of the *Statistics Act* (Canada), averaged over the 12-month period that ends on March 31 of the previous calendar year, rounded to the first decimal point.

(6) Despite Sentence (5), if the percentage change results in a negative amount, the fee for a calendar year shall remain at the same level as the previous calendar year.

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,
r_2 (c) by the end of the eighteenth month following the month in which the *director* gives notice of a knowledge maintenance examination to the registered person under Sentence 3.4.3.8.(1), the registered person shall ensure that the persons who are deemed under Clause 3.4.3.2.(3)(a) or (b) to have the qualifications set out in Clause 3.4.3.2.(1)(a) or (b), as applicable, have successfully completed the knowledge maintenance examination referred to in the notice,
(d) the registered person shall, during the term of the registration, be covered by the insurance required under Subsection 3.6.2.,
(e) 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),
(f) 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 (e), that is contained in or accompanies an application for registration or renewal of a registration,
(g) 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
(h) 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. Knowledge Maintenance

r_6 **(1)** The *director* shall give notice of a knowledge maintenance examination administered or authorized by the Ministry of Municipal Affairs in respect of changes described in Sentence (2) that relate to the subject matter of an examination program referred to in Clause 3.4.3.2.(1)(a), (b) or (c) to every person who is registered under Sentence 3.4.3.2.(1) in a class of registration set out in Column 1 of Table 3.5.2.2. to which the examination relates.

r_3 **(2)** The changes referred to in Sentence (1) are changes made to the Act and Ontario Regulation 350/06 (Building Code) from December 31, 2006 to December 31, 2013 and changes made at the time that regulation is replaced by this Code on January 1, 2014.

r_5 **(3)** The *director* may give the notice referred to in Sentence (1) by sending it,
(a) by regular mail to the last address of the person that has been filed with the *director*, or
(b) by email to the last email address of the person that has been filed with the *director*.

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

r2.1 **(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.
r_2 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)

$r_{2.1}$ Item	Classes of Registration for *Inspectors* and Persons Who Carry out *Design Activities*	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)	Type of *Building*
r_6 1	*House*	*House*	(a) A *house* and the *building* systems, works, fixtures and service systems appurtenant to the *house*, including: (b) an ancillary *building* that serves the *house*, 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 1.1.2.4.(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 1.3.1.1.(1)(e) of Division A.
3	Large *Buildings*	Large *Buildings*	(a) *Buildings* described in Sentence 1.1.2.2.(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 1.3.1.1.(1)(e) of Division A.
4	Complex *Buildings*	Complex *Buildings*	*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 3.2.8.11. of Division B applies.
r_6 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.
r_6 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*.
	Column 1	2	3

Table 3.5.2.1. (Cont'd)

r2 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)

r2.1

Item	Classes of Registration for *Inspectors* and Persons Who Carry out *Design Activities*	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)	Type of *Building*
8	*Building* Services	*Building* Services	(a) *Building* systems, works, fixtures and service systems that are appurtenant to *buildings* described in Sentence 1.1.2.2.(1), (3) or (4) or Sentence 1.1.2.4.(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 1.1.2.2.(2) or 1.1.2.4.(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 1.1.2.2.(1) or 1.1.2.4.(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 1.1.2.2.(1) or Sentence 1.1.2.4.(1) of Division A.
	Column 1	2	3

r2.1 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)

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.
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
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
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
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
On-Site *Sewage Systems*	On-Site *Sewage Systems*	Column 3 of Item 10
Column 1	2	3

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).

Part 4

e5 Transition, Amendments, Revocation and Commencement

4.1. Transition Rule
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Part 4

Transition, Amendments, Revocation and Commencement

Section 4.1. Transition Rule

4.1.1. Transition, January 2014

4.1.1.1. Transition Rule

r3 **(1)** Subject to Sentence (2), Ontario Regulation 350/06 (Building Code) made under the Act, as it read on December 31, 2013, is deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2014.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

r3 4.1.2. Transition, January 2015

4.1.2.1. Transition Rule

(1) Subject to Sentence (2), this Regulation, as it read on December 31, 2014, is deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2015.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

r3 4.1.3. Transition, January 2017

4.1.3.1. Transition Rule

r5 **(1)** Subject to Sentence (2), Item 337 (MMAH Supplementary Standard SB-5, “Approved Sewage Treatment Units”) of Table 1.3.1.2. and Sentence 8.6.2.2.(5) of Division B of this Regulation, as they read on December 31, 2016, are deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2017.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

r6 4.1.4. Transition, July 2017

4.1.4.1. Transition Rule

(1) Subject to Sentence (2), this Regulation, as it read on June 30, 2017, is deemed to continue in force with respect to *construction* for which a permit has been applied for before July 1, 2017.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

e5 Section 4.2. Omitted

(Provides for Amendments to this Regulation). O. Reg. 332/12, Section 4.2.

e5 Section 4.3. Omitted

(Revokes Other Regulations). O. Reg. 332/12, Section 4.3.

e5 Section 4.4. Omitted

(Provides for Coming into Force of Provisions of this Regulation). O. Reg. 332/12, Section 4.4.

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2012 Building Code Compendium

Volume 2

July 1, 2017 update
(Containing O. Reg. 139/17)

COMMENCEMENT

Supplementary Standards SA-1, SB-1 to SB-13 and SC-1 come into force on the 1st day of January, 2014.

See "Code Amendment History" page in the Preface of Volume 1 for information concerning amendments to Supplementary Standards issued through Minister's Rulings.

a_1 Amendment made to Appendix A or B issued for January 1st, 2014.
a_2 Amendment made to Appendix A or B issued for January 1st, 2014.
$a_{2.1}$ Amendment made to Appendix A or B issued for January 1st, 2015.
a_3 Amendment made to Appendix A or B issued for January 1st, 2015.
a_4 Amendment made to Appendix A or B issued for July 7th, 2016.
a_5 Amendment made to Appendix A or B issued for July 1st, 2017.
$a_{5.1}$ Amendment made to Appendix A or B issued for January 1st, 2018.

EDITORIAL

e_1 Editorial correction issued for January 1st, 2014.
e_2 Editorial correction issued for January 1st, 2014.
$e_{2.1}$ Editorial correction issued for January 1st, 2015.
e_3 Editorial correction issued for January 1st, 2015.
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e_5 Editorial correction issued for January 1st, 2017.

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Explanatory Material for Division B

A-1.1.2.1.(2) Winter Design Temperatures.

The 2.5 percent values referenced in Sentence 1.1.2.1.(2) are the least restrictive temperatures that can be used. If a designer chooses to use the 1 percent values shown in MMAH Supplementary Standard SB-1, they would be in excess of the Code minimums and would be considered acceptable.

A-1.3.2.1. Abbreviations of Proper Names.

The following table provides contact information for organizations referenced in this Code:

Name	Address	Contact
ACGIH	American Conference of Governmental Industrial Hygienists 1330 Kemper Meadow Drive Cincinnati, Ohio 45240 USA	ph: 513-742-2020 fax: 513-742-3355 web site: www.acgih.org
AISI	American Iron and Steel Institute 25 Massachusetts Ave., NW Suite 800 Washington, DC 20001 USA	ph: 202-452-7100 fax: 202-452-1039 web site: www.steel.org
ANSI	American National Standards Institute 25 West 43rd Street, 4th Floor New York, New York 10036 USA	ph: 212-642-4900 fax: 212-398-0023 web site: www.ansi.org
APHA	American Public Health Association 800 I Street, NW Washington, DC 20001 USA	ph: 202-777-2742 fax: 202-777-2534 web site: www.apha.org
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, Georgia 30329 USA	ph: 404-636-8400 800-527-4723 fax: 404-321-5478 web site: www.ashrae.org
ASME	The American Society of Mechanical Engineers Three Park Avenue New York, New York 10016-5990 USA	ph: 800-843-2763 fax: 973-882-1717 web site: www.asme.org
ASPE	American Society of Plumbing Engineers 6400 Shafer Court, Suite 350 Rosemont, Illinois 60018 USA	ph: 847-296-0002 fax: 847-296-2963 web site: www.aspe.org
ASSE	American Society of Sanitary Engineering 901 Canterbury Suite A Westlake, Ohio 44145 USA	ph: 440-835-3040 fax: 440-835-3488 web site: www.asse-plumbing.org
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive PO Box C700 West Conshohocken, Pennsylvania 19428-2959 USA	ph: 610-832-9585 fax: 610-832-9555 web site: www.astm.org
AWPA	American Wood-Preservers' Association P.O. Box 361784 Birmingham, Alabama 35236-1784 USA	ph: 205-733-4077 fax: 205-733-4075 web site: www.awpa.com

Name	Address	Contact
AWS	American Welding Society 8669 NW 36th Street, Suite 130 Doral, Florida 33166 USA	ph: 800-443-9353 fax: 305- 443-5647 web site: www.aws.org
AWWA	American Water Works Association 6666 W. Quincy Ave. Denver, Colorado 80235 USA	ph: 303-794-7711 800-926-7337 fax: 303-347-0804 web site: www.awwa.org
BCMOHS	British Columbia Ministry of Health Population Health and Wellness, Health Protection 1515 Blanshard Street, 4th Floor Victoria, British Columbia V8W 3C8	ph: (250) 952-1469 fax: (250) 952-1713 web site: http://www.health.gov.bc.ca
BNQ	Bureau de Normalisation du Québec 333, rue Franquet Québec, Québec G1P 4C7	ph: 418-652-2238 800-386-5114 fax: 418-652-2292 web site: www.bnq.qc.ca
CCBFC	Canadian Commission on Building and Fire Codes National Research Council Canada Building M-23A 1200 Montreal Road Ottawa, Ontario K1A 0R6	ph: 613-993-9960 fax: 613-952-4040 web site: www.nationalcodes.ca
CGSB	Canadian General Standards Board 11 Laurier Street Gatineau, Quebec K1A 1G6	ph: 819-956-0425 800-665-2472 fax: 819-956-5740 web site: www.pwgsc.gc.ca/cgsb
CSA	Canadian Standards Association 5060 Spectrum Way, Suite 100 Mississauga, Ontario L4W 5N6	ph: 416-747-4044 800-463-6727 fax: 416-747-2510 web site: www.csa.ca
CWC	Canadian Wood Council 99 Bank Street, Suite 400 Ottawa, Ontario K1P 6B9	ph: 613-747-5544 800-463-5091 fax: 613-747-6264 web site: www.cwc.ca
DBR	Institute for Research in Construction National Research Council Canada Building M-23A 1200 Montreal Road Ottawa, Ontario K1A 0R6 *The Division of Building Research (DBR) is now known as the Institute for Research in Construction.*	ph: 613-993-9960 fax: 613-952-4040 web site: www.nationalcodes.ca
EPA	Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460 USA	ph: (202) 272-0167 web site: www.epa.gov

	Name	Address	Contact
	FINA	Fédération Internationale de Natation Avenue de l'Avant-Poste No 4 CH-1005 Lausanne, Switzerland	ph: (+41-21) 310-47-10 fax: (+41-21) 312-66-10 web site: www.fina.org
	HC	Health Canada Address Locator 0900C2 Ottawa, Ontario K1A 0K9	ph: 866-225-0709 fax: 613-941-5366 web site: www.hc-sc.gc.ca
	HI	Hydronics Institute Division of GAMA 35 Russo Place P.O. Box 218 Berkeley Heights, New Jersey 07922 USA *The Hydronics Institute was formally merged into GAMA in 2004.*	ph: 866-408-3831 908-464-8200 fax: 908-464-7818 web site: www.gamanet.org
	HRAI	Heating, Refrigerating and Air-Conditioning Institute of Canada 2800 Skymark Avenue Building 1, Suite 201 Mississauga, Ontario L4W 5A6	ph: 905-602-4700 800-267-2231 fax: 905-602-1197 web site: www.hrai.ca
	HVI	Home Ventilating Institute 1000 N. Rand Rd. Suite 214 Wauconda, Illinois 60084 USA	ph: 847-526-2010 fax: 847-526-3993 web site: www.hvi.org
a5	IAPMO	International Association of Plumbing and Mechanical Officials 4755 E. Philadelphia St. Ontario, California 91761 USA	ph: 909-472-4100 fax: 909-472-4150 web site: iampo.org
	IESNA	Illuminating Engineering Society of North America 120 Wall Street, Floor 17 New York, New York 10005-4001 USA	ph: 212-248-5000 fax: 212-248-5017 web site: www.iesna.org
	ISO	International Organization for Standardization ISO Central Secretariat 1, ch. de la Voie-Creuse CP 56 CH-1211 Geneva 20, Switzerland	ph: 41-22-749-01-11 fax: 41-22-733-34-30 web site: www.iso.org
	HUD	U.S. Department of Housing and Urban Development *HUD established HUD USER as the primary source of US government technical housing publications.* HUD USER P.O. Box 23268 Washington, DC 20026-3268 USA	ph: 202-708-3178 800-245-2691 fax: 202-708-9981 web site: www.huduser.org
a5	MMAH (now MMA)	Ontario Ministry of Municipal Affairs and Housing (Ontario Ministry of Municipal Affairs) 777 Bay Street, 17th Floor Toronto, Ontario M5G 2E5	ph: 416-585-7041 fax: 416-585-6470 web site: www.ontario.ca/buildingcode
a5	MOE (now MOECC)	Ontario Ministry of the Environment (Ontario Ministry of the Environment and Climate Change) 135 St Clair Avenue West Toronto, Ontario M4V 1P5	ph: 416-325-4000 fax: 416-314-6713 web site: www.ontario.ca/ministry-environment-and-climate-change

Name	Address	Contact
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, Massachusetts 02169-7471 USA	617-770-3000 fax: 617-770-0700 web site: www.nfpa.org
NLGA	National Lumber Grades Authority #302 -960 Quayside Drive, New Westminster, British Columbia V3M 6G2	ph: 604-524-2393 fax: 604-524-2893 web site: www.nlga.org
NRCan	Natural Resources Canada Office of Energy Efficiency 580 Booth St., 18th Floor Ottawa, Ontario K1A 0E4	ph: 613-995-2943 800-387-2000 web site: www.nrcan-rncan.gc.ca
NSF	NSF International P.O. Box 130140 789 N. Dixboro Road Ann Arbor, Michigan 48113-0140 USA	ph: 734-769-8010 fax: 734-769-0109 web site: www.nsf.org
SMACNA	Sheet Metal and Air Conditioning Contractors National Association Inc. 4201 Lafayette Center Drive Chantilly, Virginia 20151-1219 USA	ph: 703-803-2980 fax: 703-803-3732 web site: www.smacna.org
TC	Transport Canada 330 Sparks Street Ottawa, Ontario K1A 0N5	ph: 613-990-2309 866-995-9737 fax: 613-954-4731 web site: www.tc.gc.ca
TPIC	Truss Plate Institute of Canada c/o Jager Metal Products, #220 6223 2nd Street East, Calgary, Alberta T2H 1J5 *The TPIC, "Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses" is available on-line at: the TPIC web site at: www.tpic.ca.*	web site: www.tpic.ca.
UL	Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, Illinois 60062-2096 USA	ph: 847-272-8800 web site: www.ul.com
ULC	Underwriters' Laboratories of Canada 7 Underwriters Road Toronto, Ontario M1R 3A9	ph: 866-937-3852 fax: 416-757-8727 web site: www.ulc.ca
USDA	United States Department of Agriculture 1400 Independence Ave., S.W. Washington, DC 20250 USA	web site: www.usda.gov
WEF	Water Environment Federation 601 Wythe Street Alexandria, Virginia 22314-1994 USA	ph: 800-666-0206 fax: 703-684-2492 web site: www.wef.org

roof area of the overall structure exceeds 4 550 m^2. Thus, the simplified specified snow load calculation may be used for typical townhouse construction but would not be appropriate for much larger commercial or industrial buildings, for example.

The simplified specified snow loads are also not designed to take into account roof configurations that seriously exacerbate snow accumulation. This does not pertain to typical projections above a sloped roof, such as dormers, nor does it pertain to buildings with higher and lower roofs. Although two-level roofs generally lead to drift loading, smaller light-frame buildings constructed according to Part 9 have not failed under these loads. Consequently, the simplified calculation may be used in these cases. Rather, this limitation on application of the simplified calculation pertains to roofs with high parapets or significant other projections above the roof, such as elevator penthouses, mechanical rooms or larger equipment that would effectively collect snow and preclude its blowing off the roof.

The reference to Article 9.4.3.1. invokes, for roof assemblies other than common lumber trusses, the same performance criteria for deflection.

The unit weight of snow on roofs, γ, obtained from measurements at a number of weather stations across Canada varied from about 1.0 to 4.5 kN/m^3. An average value for use in design in lieu of better local data is γ = 3.0 kN/m^3. In some locations the unit weight of snow may be considerably greater than 3.0 kN/m^3. Such locations include regions where the maximum snow load on the roof is reached only after contributions from many snowstorms, coastal regions, and regions where winter rains are considerable and where a unit weight as high as 4.0 kN/m^3 may be appropriate.

a5 A-9.4.2.3.(1) Accessible Platforms Subject to Snow and Occupancy Loads.

Many platforms are subject to both occupancy loads and snow loads. These include balconies, decks, verandas, flat roofs over garages and carports. Where such a platform, or a segregated area of such a platform, serves a house or an individual dwelling unit, it must be designed for the greater of either the specified snow load or an occupancy load of 1.9 kPa. Where the platform serves more than one house or an individual dwelling unit or an occupancy other than a residential occupancy, higher occupancy loads will apply, as specified in Table 4.1.5.3.

A-9.4.2.4.(1) Specified Loads for Attics or Roof Spaces with Limited Accessibility.

Typical residential roofs are framed with roof trusses and the ceiling is insulated.

Residential trusses are placed at 600 mm on centre with web members joining top and bottom chords. Lateral web bracing is installed perpendicular to the span of the trusses. As a result, there is limited room for movement inside the attic or roof space or for storage of material. Access hatches are generally built to the minimum acceptable dimensions, further limiting the size of material that can be moved into the attic or roof space.

With exposed insulation in the attic or roof space, access is not recommended unless protective clothing and breathing apparatus are worn.

Thus, the attic or roof space is recognized as uninhabitable and loading can be based on actual dead load. In emergency situations or for the purpose of inspection, it is possible for a person to access the attic or roof space without over-stressing the truss or causing damaging deflections.

A-Table 9.4.4.1. Classification of Soils.

Sand or gravel may be classified by means of a picket test in which a 38 mm by 38 mm (2" x 2") picket bevelled at the end at 45° to a point is pushed into the soil. Such material is classified as “dense or compact” if a man of average weight cannot push the picket more than 200 mm into the soil and “loose” if the picket penetrates 200 mm or more.

Clay and silt may be classified as “stiff” if it is difficult to indent by thumb pressure, “firm” if it can be indented by moderate thumb pressure, “soft” if it can be easily penetrated by thumb pressure, where this test is carried out on undisturbed soil in the wall of a test pit.

A-9.4.4.4.(1) Soil Movement.

In susceptible soils, changes in temperature or moisture content can cause significant expansion and contraction. Soils containing pyrites can expand simply on exposure to air.

Expansion and Contraction due to Moisture

Clay soils are most prone to expansion and contraction due to moisture. Particularly wet seasons can sufficiently increase the volume of the soil under and around the structure to cause heaving of foundations and floors-on-ground, or cracking of foundation walls. Particularly dry seasons or draw-down of water by fast-growing trees can decrease the volume of the soil supporting foundations and floors-on-ground, thus causing settling.

Frost Heave

Frost heave is probably the most commonly recognized phenomenon related to freezing soil. Frost heave results when moisture in frost-susceptible soil (clay and silt) under the footings freezes and expands. This mechanism is addressed by requirements in Section 9.12. regarding the depth of excavations.

Ice Lenses

When moisture in frost-susceptible soils freezes, it forms an ice lens and reduces the vapour pressure in the soil in the area immediately around the lens. Moisture in the ground redistributes to rebalance the vapour pressures providing more moisture in the area of the ice lens. This moisture freezes to the lens and the cycle repeats itself. As the ice lens grows, it exerts pressure in the direction of heat flow. When lenses form close to foundations and heat flow is toward the foundation - as may be the case with unheated crawl spaces or open concrete block foundations insulated on the interior- the forces may be sufficient to crack the foundation.

Adfreezing

Ice lenses can adhere themselves to cold foundations. Where heat flow is essentially upward, parallel to the foundation, the pressures exerted will tend to lift the foundation. This may cause differential movement or cracking of the foundation. Heat loss through basement foundations of cast-in-place concrete or concrete block insulated on the exterior appears to be sufficient to prevent adfreezing. Care must be taken where the foundation does not enclose heated space or where open block foundations are insulated on the interior. The installation of semi-rigid glass fibre insulation has demonstrated some effectiveness as a separation layer to absorb the adfreezing forces.

Pyrites

Pyrite is the most common iron disulphide mineral in rock and has been identified in rock of all types and ages. It is most commonly found in metamorphic and sedimentary rock, and especially in coal and shale deposits.

Weathering of pyritic shale is a chemical-microbiological oxidation process that results in volume increases that can heave foundations and floors-on-ground. Concentrations of as little as 0.l% by weight have caused heaving. Weathering can be initiated simply by exposing the pyritic material to air. Thus, building on soils that contain pyrites in concentrations that will cause damage to the building should be avoided, or measures should be taken to remove the material or seal it. Material containing pyrites should not be used for backfill at foundations or for supporting foundations or floors-on-ground.

Where it is not known if the soil or backfill contains pyritic material in a deleterious concentration, a test is available to identify its presence and concentration.

References:

(1) Legget, R.F. and Crawford, C.B. Trees and Buildings. Canadian Building Digest 62, Division of Building Research, National Research Council Canada, Ottawa, 1965.
(2) Hamilton, J.J. Swelling and Shrinking Subsoils. Canadian Building Digest 84, Division of Building Research, National Research Council Canada, Ottawa, 1966.
(3) Hamilton, J.J. Foundations on Swelling and Shrinking Subsoils. Canadian Building Digest 184, Division of Building Research, National Research Council Canada, Ottawa, 1977.
(4) Penner, W., Eden, W.J., and Gratten-Bellew, P.E. Expansion of Pyritic Shales. Canadian Building Digest 152, Division of Building Research, National Research Council Canada, Ottawa, 1975.

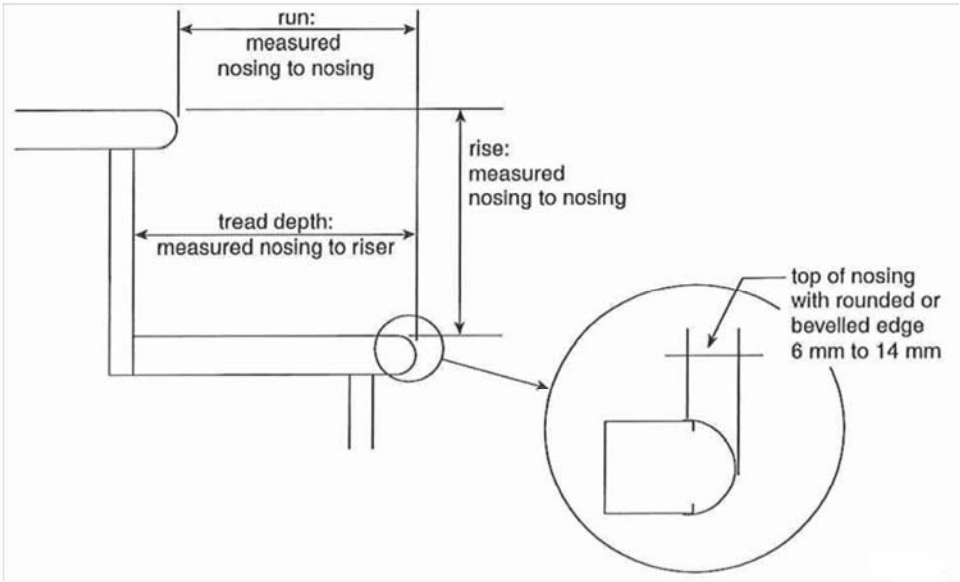


Figure A-9.8.4.B.
Elements of Steps and their Measurement

A-9.8.4.5. Winders.

The safest method of incorporating a change in the direction of a stair is to use a landing. Within a dwelling unit, however, where occupants are familiar with their environment, winders are an acceptable method of reducing the amount of floor area devoted to the stair and have not been shown to be more hazardous than a straight run of steps. Nevertheless, care is required to ensure that winders are as safe as possible. Experience has shown that 30° winders are the best compromise and require the least change in the natural gait of the stair user; 45° winders are also acceptable, as they are wider. The Code permits winders to turn through any angle between 30° and 45°, inclusive. This allows winder-type stairs to change direction through any angle between 30° (1 winder) and 90° (2 or 3 winders).

A-9.8.4.6.(1) Tread Projection and Leading Edge of Steps.

A sloped or bevelled edge on nosings or leading edges of steps will make the tread more visible through light modelling. The sloped portion of the leading edge must not be too wide so as to reduce the risk of slipping of the foot. To reduce the risk of tripping, the leading edge must not reduce the effective tread depth to less than the required minimum tread depth less 15 mm. Similarly, the projection of the tread behind the nosing can also cause tripping, particularly during a person's ascent. Figure A-9.8.4.6. illustrates the various dimensional requirements stated in Sentence 9.8.4.6.(1).

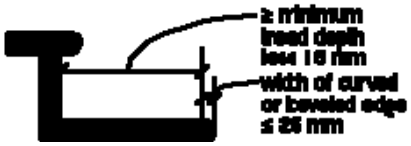


Figure A-9.8.4.6.
Tread Depth and Treatment of Leading Edge

a5 A-9.8.6.3.(1) Dimensions of Landings.

Figure A-9.8.6.3.(1) illustrates various landing configurations.

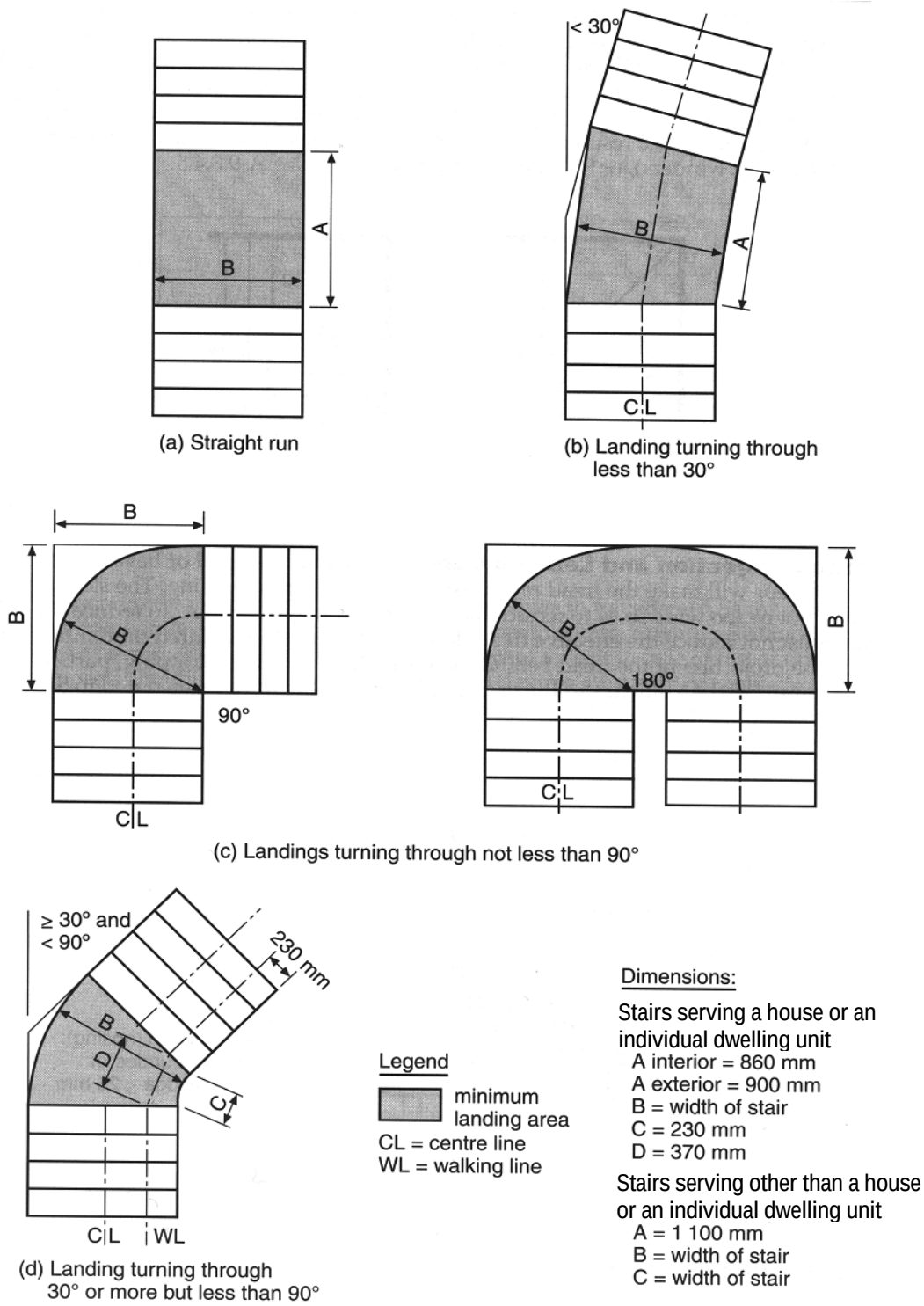


Figure A-9.8.6.3.(1)
Landing Configurations

a5 A-9.8.7.2. Continuity of Handrails.

The guidance and support provided by handrails is particularly important at the beginning and end of ramps and flights of stairs and at changes in direction such as at landings and winders.

The intent of the requirement in Sentence (1) for handrails to be continuous throughout the length of the stair is that the handrail be continuous from the bottom riser to the top riser of the stair. The required handrail may start back from the bottom riser only if it is supported by a newel post installed on the bottom tread. (See Figure A-9.8.7.2.)

For stairs or ramps serving a house or an individual dwelling unit, the intent of the requirement in Sentence (2) for handrails to be continuous throughout the length of the flight is that the handrail be continuous from the bottom riser to the top riser of the flight. Once again, the required handrail may start back from the bottom riser only if it is supported by a newel post installed on this line. (See Figure A-9.8.7.2.) With regard to stairs serving a house or an individual dwelling unit, the handrail may terminate at landings.

In the case of stairs within dwelling units that incorporate winders, the handrail should be configured so that it will in fact provide guidance and support to the stair user throughout the turn through the winder.

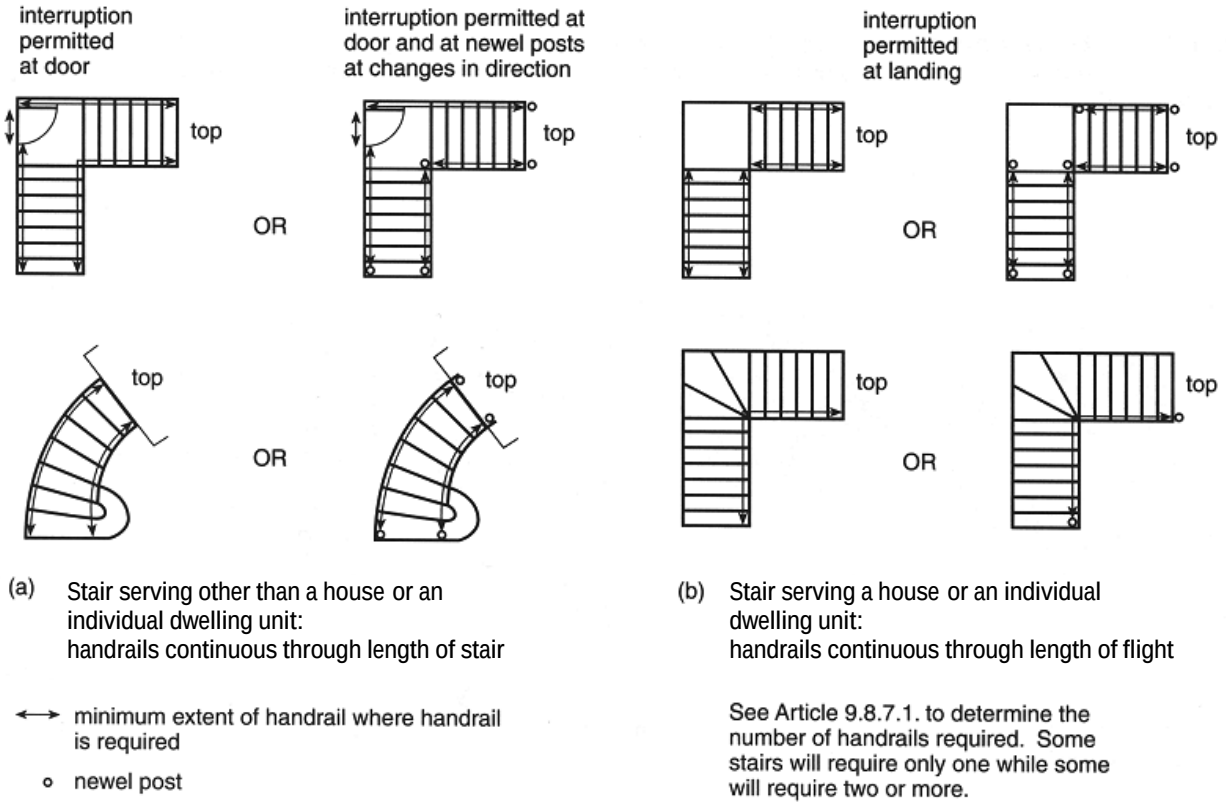


Figure A-9.8.7.2.
Continuity of Handrails at the Top and Bottom of Stairs and Flights of Stairs

A-9.8.7.3.(1) Termination of Handrails.

Handrails are required to be installed so as not to obstruct pedestrian travel. To achieve this end, the rail should not extend so far into a hallway as to reduce the clear width of the hallway to less than the required width. Where the stair terminates in a room or other space, likely paths of travel through that room or space should be assessed to ensure that any projection of the handrail beyond the end of the stair will not interfere with pedestrian travel. As extensions of handrails beyond the first and last riser are not required in dwelling units [See Sentence 9.8.7.3.(2)] and as occupants of dwellings are generally familiar with their surroundings, the design of dwellings would not generally be affected by this requirement.

Handrails are also required to terminate in a manner that will not create a safety hazard to blind or visually impaired persons, children whose heads may be at the same height as the end of the rail, or persons wearing loose clothing or carrying items that might catch on the end of the rail. One approach to reducing potential hazards is returning the handrail to a wall, floor or post. Again, within dwelling units, where occupants are generally familiar with their surroundings, returning the handrail to a wall, floor or post may not be necessary. For example, where the handrail is fastened to a wall and does not project past the wall into a hallway or other space, a reasonable degree of safety is assumed to be provided; other alternatives may provide an equivalent level of protection.

A-9.8.7.3.(2) Handrail Extensions.

As noted in Appendix Note A-9.8.7.2., the guidance and support provided by handrails is particularly important at the beginning and end of ramps and flights of stairs and at changes in direction. The extended handrail provides guidance and allows users to steady themselves upon entering or leaving a ramp or flight of stairs. Such extensions are particularly useful to visually-impaired persons, and persons with physical disabilities or who are encumbered in their use of the stairs or ramp.

A-9.8.7.4. Height of Handrails.

Figure A-9.8.7.4. illustrates how to measure handrail height.

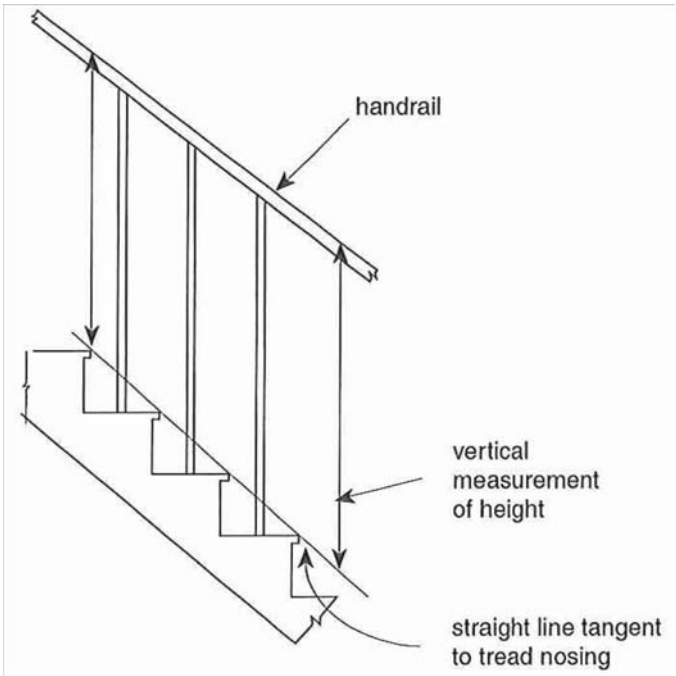


Figure A-9.8.7.4.
Measuring Handrail Height

A-9.8.7.5.(2) Handrail Sections.

Handrails are intended to provide guidance and support to stair users. To fulfil this intent, handrails must be "graspable". Acceptable handrail sections include, but are not limited to, those shown in Figure A-9.8.7.5.(2).

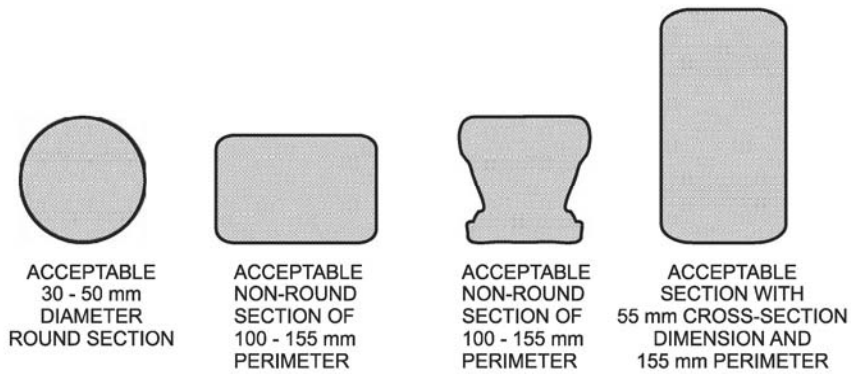


Figure A-9.8.7.5.(2)
Handrail Sections

a5 A-9.8.7.7. Attachment of Handrails.

Handrails are intended to provide guidance and support to the stair user and to arrest falls. The loads on handrails may therefore be considerable. The attachment of handrails serving a house or an individual dwelling unit may be accepted on the basis of experience, structural design, or the prescriptive requirements of Sentence 9.8.7.7.(2).

A-9.8.8.1. Required Guards.

The requirements relating to guards stated in Part 9 are based on the premise that, wherever there is a difference in elevation of 600 mm or more between two floors, or between a floor or other surface to which access is provided for other than maintenance purposes and the next lower surface, the risk of injury in a fall from the higher surface is sufficient to warrant the installation of some kind of barrier to reduce the chances of such a fall. A wall along the edge of the higher surface will obviously prevent such a fall, provided the wall is sufficiently strong that a person cannot fall through it. Where there is no wall, a guard must be installed. Because guards clearly provide less protection than walls, additional requirements apply to guards to ensure that a minimum level of protection is provided. These relate to the characteristics described in notes A-9.8.8.3., A-9.8.8.5.(1) and (2), A-9.8.8.5.(3) and A-9.8.8.6.

Examples of such surfaces where the difference in elevation could exceed 600 mm and consequently where guards would be required include, but are not limited to, landings, porches, balconies, mezzanines, galleries, and raised walkways. Especially in exterior settings, surfaces adjacent to walking surfaces, stairs or ramps often are not parallel to the walking surface or the surface of the treads or ramps. Consequently, the walking surface, stair or ramp may need protection in some locations but not in others. (See Figure A-9.8.8.1.) In some instances, grades are artificially raised close to walking surfaces, stairs or ramps to avoid installing guards. This provides little or no protection for the users. That is why the requirements specify differences in elevation not only immediately adjacent to the construction but also for a distance of 1 200 mm from it by requiring that the slope of the ground be within certain limits. (See Figure A-9.8.8.1.)

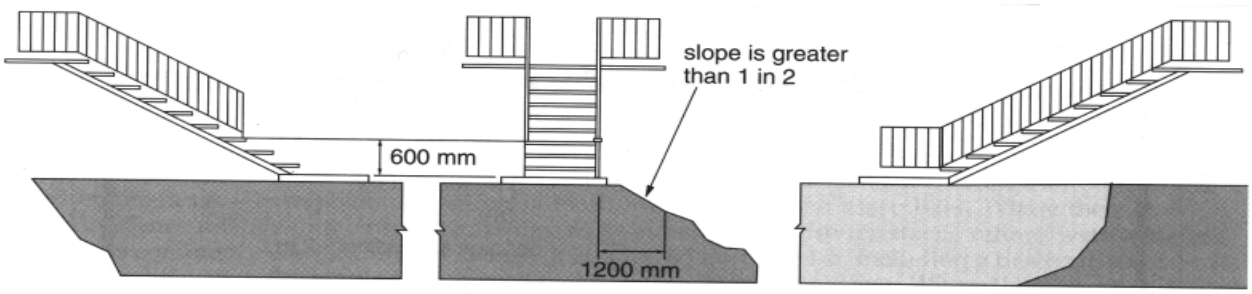


Figure A-9.8.8.1.
Required Locations of Guards

A-9.8.8.1.(5) Height of Window Sills Above Floors or Ground.

The primary intent of the requirement is to minimize the likelihood of small children falling significant heights from open windows. Reflecting reported cases, the requirement applies only to dwelling units and generally those located on the second floor or higher of residential or mixed use buildings where the windows are essentially free-swinging or free-sliding.

Free-swinging or free-sliding means that a window that has been cracked open can be opened further by simply pushing on the openable part of the window. Care must be taken in selecting windows, as some with special operating hardware can still be opened further by simply pushing on the window.

a3 Casement windows with crank operators could, in some cases, be considered to conform to Clause (1)(b). To provide additional safety, where slightly older children are involved, occupants can easily remove the crank handles from these windows. Awning windows with scissor hardware, however, may not keep the window from swinging open once it is unlatched. Hopper windows would be affected only if an opening is created at the bottom as well as at the top of the window. The requirement will impact primarily on the use of sliding windows which do not incorporate devices in their construction that can be used to limit the openable area of the window.

a3 The 100 mm opening limit is consistent with widths of openings that small children cannot fall through. Again, care must be taken in selecting a window. At some position, scissor hardware on an awning window may break up the open area such that there is no unobstructed opening with dimensions greater than 100 mm. At another position, however, though the window is not open much more, the hardware may not adequately break up the opening. The 480 mm height off the floor recognizes that furniture is often placed under windows and small children are often good climbers.

A-9.8.8.2. Loads on Guards.

Guards must be constructed so as to be strong enough to protect persons from falling under normal use. Many guards installed in dwelling units or on exterior stairs serving one or two dwelling units have demonstrated acceptable performance over time. The loading specified in the first row of Table 9.8.8.2. is intended to be consistent with the performance provided by these guards. Guards constructed in accordance with MMAH Supplementary Standard SB-7 are deemed to meet the requirements of Article 9.8.8.2.

The load on guards within dwelling units, or on exterior guards serving not more than two dwelling units, is to be imposed over an area of the guard such that, where standard balusters are used and installed at the maximum 100 mm spacing permitted for required guards, 3 balusters will be engaged. Where the balusters are wider, only two may be engaged unless they are spaced closer together. Where the guard is not required, and balusters are installed more than 100 mm apart, fewer balusters may be required to carry the imposed load.

A-9.8.8.3. Minimum Heights.

Guard heights are generally based on the waist heights of average persons. Generally, lower heights are permitted in dwelling units because the occupants become familiar with the potential hazards, and situations which lead to pushing and jostling under crowded conditions are less likely to arise.

A-9.10.12.4.(3) Protection at Soffits.

The materials required by this Sentence to be used as protection for soffit spaces in certain locations do not necessarily have to be the finish materials. They can be installed either behind the finishes chosen for the soffits or in lieu of these.

A-9.10.13.2.(1) Wood Doors in Fire Separations.

CAN/ULC-S113, "Wood Core Doors Meeting the Performance Required by CAN/ULC-S104 for Twenty Minute Fire Rated Closure Assemblies" provides construction details to enable manufacturers to build wood core doors that will provide a 20 min fire-protection rating without the need for testing. The Standard requires each door to be marked with

(1) manufacturer's or vendor's name or identifying symbol,
(2) the words "Fire Door", and
(3) a reference to the fire-protection rating of 20 min.

a5 A-9.10.15.1.(1) Application of Subsection 9.10.15.

Subsection 9.10.15. applies to the spatial separation between houses which may contain one dwelling unit above another. The designer has the option of using either Subsection 9.10.14. or Subsection 9.10.15. for the determination of spatial separation requirements for these types of buildings. However, the requirements of these two Subsections cannot be mixed.

The buildings to which Subsection 9.10.15. applies include:

- traditional individual detached houses with or without a second dwelling unit,
- semi-detached houses (doubles) where each house may contain a second dwelling unit,
- row houses, where any house may contain a second dwelling unit, and
- stacked dwelling units where one of them is a second dwelling unit in a house.

Subsection 9.10.15. does not apply to stacked row houses/townhouses or stacked dwelling units that are not within a house.

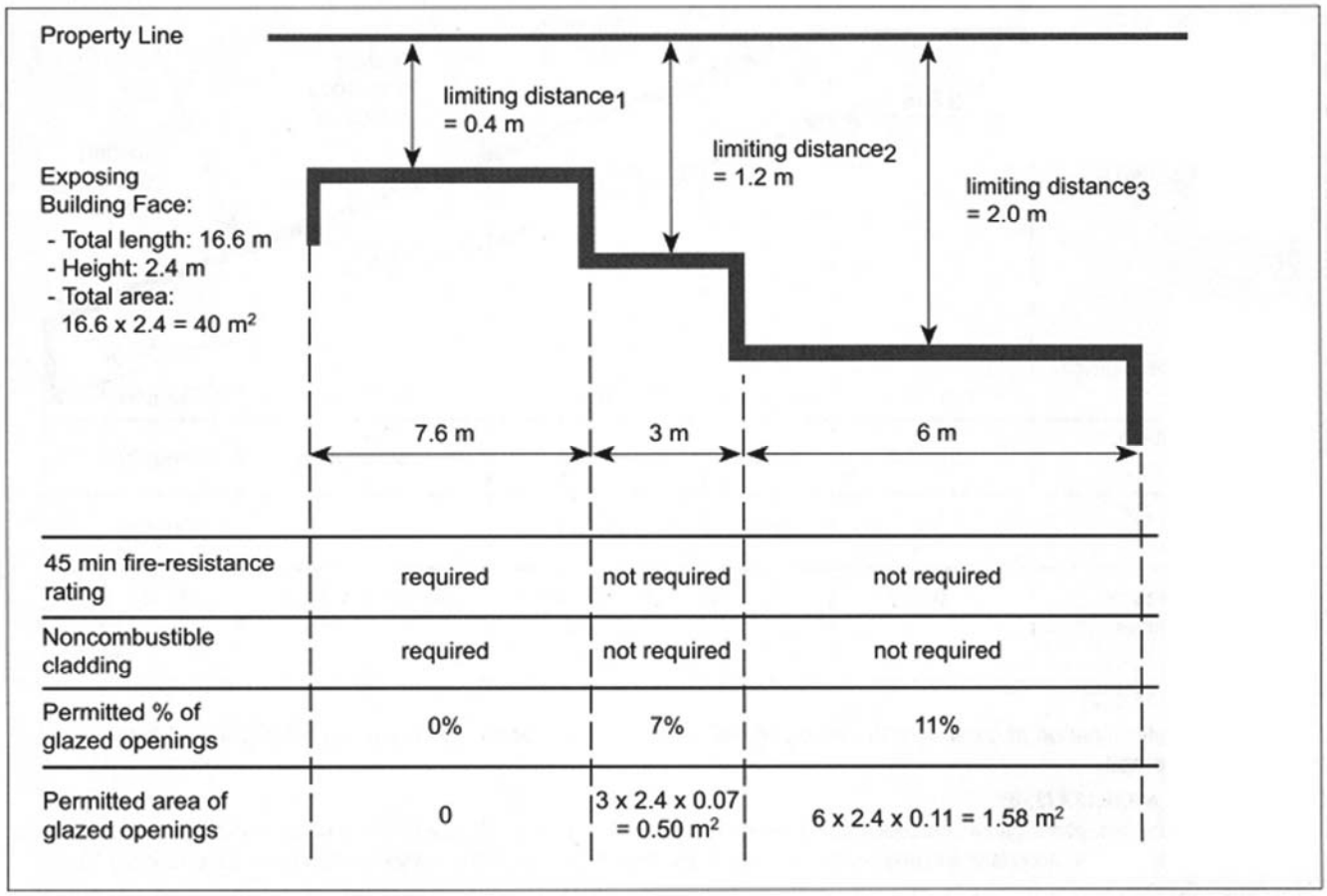
A-9.10.15.4.(2) Staggered or Skewed Exposing Building Faces of Houses.

Studies at the National Fire Laboratory of the National Research Council have shown that, where an exposing building face is stepped back from the property line or is at an angle to the property line, it is possible to increase the percentage of glazing in those portions of the exposing building face further from the property line without increasing the amount of radiated energy that would reach the property line in the event of a fire in such a building. Figures A-9.10.15.4.(2)-A to A-9.10.15.4.(2)-C show how Sentences 9.10.15.4.(1) and (2) could be applied to exposing building faces that are stepped back from or not parallel to the property line.

The following procedure can be used to establish the maximum permitted area of glazed openings for such facades:

1. Calculate the total area of the exposing building face, i.e. facade of the fire compartment, as described in the definition of exposing building face.
2. Identify the portions into which the exposing building face is to be divided. It can be divided in any number of portions, not necessarily of equal size.
3. Measure the limiting distance for each portion. The limiting distance is measured along a line perpendicular to the wall surface from the point closest to the property line.
4. Establish the line in Table 9.10.15.4. from which the maximum permitted percentage area of glazed openings will be read. The selection of the line depends on the maximum area of exposing building face for the whole fire compartment, including all portions, as determined in Step 1.
5. On that line, read the maximum percentage area of glazed openings permitted in each portion of the exposing building face according to the limiting distance for that portion.
6. Calculate the maximum area of glazed openings permitted in each portion. The area is calculated from the percentage found applied to the area of that portion.

Table 9.10.15.4. is used to determine the maximum area of glazed openings. Therefore, unglazed portions of doors need not be counted, as for other types of buildings.



45 min fire-resistance rating	required	not required	not required
Noncombustible cladding	required	not required	not required
Permitted % of glazed openings	0%	7%	11%
Permitted area of glazed openings	0	3 x 2.4 x 0.07 = 0.50 m^2	6 x 2.4 x 0.11 = 1.58 m^2

Figure A-9.10.15.4.(2)-A
Example of Determination of Criteria for the Exposing Building Face of a Staggered Wall of a House

A-11.3.1.2.(1) New and Extension of Existing Building System.

Generally, new or extended building systems should follow the Building Code for new construction, and where necessary, may seek some relief through compliance alternatives, alternative measures or match existing.

A-11.3.3.1. Basic Renovation.

The basic renovation is the simplest form of renovation; the work area is limited in size (within a suite or room), and does not involve a decrease in performance level of the building. The limit in size assures that accesses to exits, corridor separations, or other life safety systems are left intact, where less than a full floor area is under renovation.

A-11.3.3.2. Extensive Renovation.

In cases where extensive renovation of the building is proposed, there is generally no reason why the new systems should not comply with new construction requirements; in this case the applicant may seek relief only through "alternative measures", should a construction difficulty arise that requires such relief. This would apply to the substantial renovation of the entire building.

a2.1 A-11.3.3.2.(3) Application of Limited Barrier-Free Design Requirements in Renovations.

Certain barrier-free design provisions must be incorporated into all renovations where new interior walls or floor assemblies are installed other than in a suite described in Sentence (2) or in a suite in a building described in Sentence 3.8.1.1.(1). This includes construction within suites less than 300 m^2 and suites on storeys or floor levels not accessible by a barrier-free path of travel. In those cases, any new construction is subject to the barrier-free design provisions listed in 11.3.3.2.(3). Sentence 1.1.2.7.(1) of Division A continues to apply, so that any existing construction that is not being materially altered as part of the renovation need not include barrier-free design features.

The intent of these provisions is to make more suites and buildings accessible for people with sensory and other non-mobility disabilities. Not every person with a disability uses a wheelchair. Many people who use mobility aids such as canes or service animals or who have sensory disabilities are able to navigate stairs but would benefit from certain barrier-free elements such as lever door handles or an ambulatory washroom stall.

A-11.4.3.1. Compensating Construction.

Where the performance level of the building or part of the building is reduced through Subsection 11.4.2., compensating construction will be required to restore the performance level to its former state, of the early warning and evacuation systems, the fire and structural protection construction of the building. The amount of upgrading required depends on the results of a performance level evaluation.

The extent, or areas covered, of this upgrading include the protection of the surrounding existing areas from the portion being renovated, and the means of egress from the building if adversely affected by the renovation.

A-11.4.3.2.(1) Structural.

Provides, subject to any of three conditions, for adequacy of support for floors that will be receiving increased dead or live loads: options are restriction of loads, or upgrading of support systems.

A-11.4.3.3. Increase in Occupant Load.

Where the increase is greater than 15%, and construction takes place, the performance level is reduced and must be restored as required in Table 11.4.3.3.

Where the increase is 15% or less, and construction takes place, the performance level is reduced. Where the new occupant load is more than 15% above the exit capacity or for which a fire alarm system is required. The performance level must be restored as required by Table 11.4.3.3.

Smaller buildings, of 14 persons or less in boarding houses, and 16 persons or less in dwelling units, are exempt.

A-11.4.3.4. Change in Major Occupancy.

Provided construction takes place, a change in major occupancy to one of a greater hazard index reduces the performance level. An increase of the hazard index will trigger the classification of the entire building as to its construction index and hazard index under Table 11.4.3.3., Table 11.4.3.4.A. and B, to determine what upgrading, if any is required to ensure that the building will support that new hazard.

A-11.5.1. Compliance Alternative.

Subsection 11.5.1. allows compliance alternatives to be used, in lieu of certain requirements in other Parts of Division B. Alternatives to requirements in Part 3, 4, 6 or 8 may be used subject to the chief official's satisfaction, while alternatives to Parts 9 and 12 requirements are not subject to this condition.

a5 A-12.3.1.5.(1) Residential Furnaces.

Where an existing furnace without a brushless direct current motor is replaced in a dwelling unit or house, replacement with a furnace with similar characteristics would provide an acceptable performance level, since the furnace flow rate and ductwork size would be compatible and this alteration to the heating and cooling system would not reduce the performance level.

Explanatory Material for Division C

A-1.2.1.1. Design by Architect or Professional Engineer.

The practice of architecture is regulated by the Architects Act. The practice of professional engineering is regulated by the Professional Engineers Act. Professional design requirements related to the design of buildings are regulated by the Professional Engineers Act and the Architects Act.

Certain foundations, sprinkler protected glazed wall assemblies, shelf and rack storage systems, tent framing and sign structures are required to be designed by a suitably qualified and experienced person. Refer to Article 1.2.2.1. for general review by an Architect or a Professional Engineer of these assemblies and systems.

Refer to the "Use of the Professional Engineer's Seal" published by Professional Engineers Ontario for guidance on the proper use of a Professional Engineer's seal.

A-1.2.2.1. General Review by Architect or Professional Engineer.

In addition to the general review of the construction of buildings described in Table 1.2.2.1. by an Architect or Professional Engineer, Sentences 1.2.2.1.(4) to (9) require general review by an Architect or a Professional Engineer of certain foundations, sprinkler protected glazed wall assemblies, shelf and rack storage systems, tent framing and sign structures. These assemblies and systems are required to be designed by a suitably qualified and experienced person, as detailed in Article 1.2.2.1.

A-1.3.6.1. As Constructed Plans.

The intent of the provision for as constructed plans is to provide the municipality with authority to ask for information that is necessary for the enforcement of the Act and the Building Code. The intent of the provision is not to duplicate the permit approval process and require similar information to be filed upon completion of the project. Similarly, the provision is not intended to require information and documentation beyond those that are normally generated in the building permit approval process.

A-3.2.2.2.(1) Other Designers.

The qualifications for the designer of a public pool located in a building are based on the size and occupancy of the building. An outdoor public pool is a designated structure. The occupancy of an outdoor public pools depends on the major occupancy of the building it serves. In the case where the outdoor public pool is a stand-alone structure with ancillary change facilities, the major occupancy of the pool would be Group A, Division 4 where it is used for social, education, recreational or similar purposes.

MMA Supplementary Standard SA-1

Objectives and Functional Statements Attributed to the Acceptable Solutions

March 21, 2017 update

COMMENCEMENT

MMAH Supplementary Standard SA-1 comes into force on the 1st day of January, 2014.

m1 Ruling of the Minister of Municipal Affairs and Housing (Minister's Ruling) MR-13-S-24 takes effect on the 1st day of January, 2014.

r3 SA-1 as amended by Ontario Regulation 361/13 comes into force on the 1st day of January, 2014.
r3.1 SA-1 as amended by Ontario Regulation 361/13 corresponding to Ontario Regulation 361/13 provisions that come into force on the 1st day of January, 2015.
r4 SA-1 as amended by Ontario Regulation 361/13 corresponding to Ontario Regulation 368/13 provisions that come into force on the 1st day of January, 2015.
r5 SA-1 as amended by Ontario Regulation 191/14 comes into force on the 1st day of January, 2015.
r6 SA-1 as amended by Ontario Regulation 139/17 comes into force on the 1st day of July, 2017.
r6.1 SA-1 as amended by Ontario Regulation 139/17 comes into force on the 1st day of January, 2018.

EDITORIAL

e1 Editorial correction issued for January 1st, 2014.
e2 Editorial correction issued for January 1st, 2014.
e2.1 Editorial correction issued for January 1st, 2015.
e3 Editorial correction issued for January 1st, 2015.
e4 Editorial correction issued for July 1st, 2017.
e4.1 Editorial correction issued for January 1, 2018.

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	Acceptable Solutions	Objectives and Functional Statements
	3.2.2.1.	Application
	(1)	
	3.2.2.2.	Special and Unusual Structures
	(1)	[F02, F03, F04-OP1.2, OP1.3]
		[F02, F03, F04-OS1.2, OS1.3]
	3.2.2.3.	Exceptions to Structural Fire Protection
	(1)	
	3.2.2.4.	Buildings with Multiple Major Occupancies
	(1)	
	(2)	
r6	(3)	
	3.2.2.5.	Applicable Building Height and Area
	(1)	
r6	(2)	
	3.2.2.6.	Multiple Major Occupancies
	(1)	[F02, F03, F04-OP1.2, OP1.3]
		[F02, F03, F04-OS1.2, OS1.3]
r6	(2)	
	3.2.2.7.	Superimposed Major Occupancies
	(1)	
	(2)	
r6	(3)	
	3.2.2.8.	Exceptions for Major Occupancies
	(1)	
r6	(1.1)	
	(2)	
	3.2.2.9.	Crawl Spaces
	(1)	
	(2)	
r5	3.2.2.10.	Streets
	(1)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
e4	(2) to (6)	
	3.2.2.11.	Exterior Balconies
	(1)	
	3.2.2.12.	Exterior Passageways
	(1)	
	3.2.2.13.	Occupancy on Roof
	(1)	
	3.2.2.14.	Roof-Top Enclosures
	(1)	
	(2)	
	(3)	
	(4)	
	3.2.2.15.	Storeys Below Ground
	(1)	
	(2)	(a) [F02, F04-OP1.2, OP1.3]
		(a) [F02, F04-OS1.2, OS1.3]
		(b), (c) [F03, F04-OP1.2] [F04-OP1.3]
		(b), (c) [F03, F04-OS1.2] [F04-OS1.3]
	(3)	

	Acceptable Solutions	Objectives and Functional Statements
	3.2.2.16.	Heavy Timber Roof Permitted
e_3	(1), (2)	
	3.2.2.17.	Sprinklers in Lieu of Roof Rating
	(1)	
r_5	(2)	
	3.2.2.18.	Automatic Sprinkler System Required
	(1)	
	3.2.2.19.	Buildings Containing Impeded Egress Zones
	(1)	
	3.2.2.20.	Group A, Division 1, Any Height, Any Area, Sprinklered
	(1)	
	(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *non-combustible construction...*" [F02, F04-OP1.2, OP1.3] Applies to portion of Code text: "a) ... the *building* shall be *sprinklered*,"
		[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *non-combustible construction....*" [F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a) ... the *building* shall be *sprinklered*,"
		(b), (d) [F03, F04-OP1.2] [F04-OP1.3]
		(b), (d) [F03, F04-OS1.2] [F04-OS1.3]
		(c) [F04-OP1.3]
		(c) [F04-OS1.3]
	3.2.2.21.	Group A, Division 1, One Storey, Limited Area
	(1)	
	(2)	[F02-OP1.2] Applies to portion of Code text: "The *building* referred to in Sentence (1) is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination," [F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a) floor assemblies shall be *fire separations,* i) with a *fire-resistance rating* not less than 45 min," and to Clause (b).
		[F02-OS1.2] Applies to portion of Code text: "The *building* referred to in Sentence (1) is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination" [F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) floor assemblies shall be *fire separations*, i) with a *fire-resistance rating* not less than 45 min," and to Clause (b).
	3.2.2.22.	Group A, Division 1, One Storey
	(1)	
	(2)	[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min," and to Clause (d).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min," and to Clause (d).
		(b), (c) [F04-OP1.3]
		(b), (c) [F04-OS1.3]
	3.2.2.23.	Group A, Division 2, Any Height, Any Area, Sprinklered
	(1)	
	(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction* ..." [F02, F04-OP1.2, OP1.3] Applies to portion of Code text: "a) ... the *building* shall be *sprinklered*,"
		[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction* ..." [F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a) ... the *building* shall be *sprinklered*,"
		(b), (d) [F03, F04-OP1.2] [F04-OP1.3]
		(b), (d) [F03, F04-OS1.2] [F04-OS1.3]
		(c) [F04-OP1.3]
		(c) [F04-OS1.3]
	3.2.2.24.	Group A, Division 2, up to 6 Storeys, Any Area, Sprinklered
	(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: "a)... the *building* is *sprinklered*,"
		[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a)... the *building* is *sprinklered*,"

Acceptable Solutions	Objectives and Functional Statements
(2) (Cont'd)	[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction* ..." [F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a) ... the *building* shall be *sprinklered*,"
	(b), (d) [F03, F04-OP1.2] [F04-OP1.3]
	(b), (d) [F03, F04-OS1.2] [F04-OS1.3]
	(c) [F04-OP1.3]
	(c) [F04-OS1.3]
3.2.2.37.	Group B, Division 1, up to 3 Storeys, Sprinklered
(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*"
	[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*"
(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction* ..."
	[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction* ..."
	(a), (c) [F03, F04-OP1.2] [F04-OP1.3]
	(a), (c) [F03, F04-OS1.2] [F04-OS1.3]
	(b) [F04-OP1.3]
	(b) [F04-OS1.3]
3.2.2.38.	Group B, Division 2 or Division 3, Any Height, Any Area, Sprinklered
(1)	
(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building referred* to in Sentence (1) shall be of *noncombustible construction*," [F02, F04-OP1.2, OP1.3] Applies to portion of Code text: "a) ... the *building* shall be *sprinklered,*"
	[F02-OS1.2] Applies to portion of Code text: "... the *building referred* to in Sentence (1) shall be of *noncombustible construction*," [F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a) ... the *building* shall be *sprinklered*,"
	(b), (d) [F03, F04-OP1.2] [F04-OP1.3]
	(b), (d) [F03, F04-OS1.2] [F04-OS1.3]
	(c) [F04-OP1.3]
	(c) [F04-OS1.3]
3.2.2.39.	Group B, Division 2 or Division 3, up to 3 Storeys, Sprinklered
(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: "a)... the *building* is *sprinklered*,"
	[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a)... the *building* is *sprinklered,*"
(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
	[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
	(a), (c) [F03, F04-OP1.2] [F04-OP1.3]
	(a), (c) [F03, F04-OS1.2] [F04-OS1.3]
	(b) [F04-OP1.3]
	(b) [F04-OS1.3]
3.2.2.40.	Group B, Division 2 or Division 3, up to 2 Storeys, Sprinklered
(1)	[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a)... the building is *sprinklered,*"
	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: "a)... the building is *sprinklered*,"
(2)	(a), (c) [F03, F04-OP1.2] [F04-OP1.3]
	(a), (c) [F03, F04-OS1.2] [F04-OS1.3]
	(b) [F04-OP1.3]
	(b) [F04-OS1.3]
3.2.2.41.	Group B, Division 2 or Division 3, One Storey, Sprinklered
(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: "a) ... the building is *sprinklered*,"
	[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a) ... the building is *sprinklered*,"
3.2.2.42.	Group C, Any Height, Any Area, Sprinklered
(1)	

	Acceptable Solutions	Objectives and Functional Statements
	(2)	[F02-OP1.2] Applies to portion of Code text: "...the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
		[F02-OS1.2] Applies to portion of Code text: "...the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
		[F02,F04-OP1.2, OP1.3] Applies to portion of Code text: "...a) ...the *building* shall be *sprinklered*..."
		[F02,F04-OS1.2, OP1.3] Applies to portion of Code text: "...a) ...the *building* shall be *sprinklered*..."
		(b), (d) [F03-OP1.2] [F04-OP1.2, OP1.3]
		(b), (d) [F03-OS1.2] [F04-OS1.2, OS1.3]
		(c), (d) [F04-OP1.3]
		(c) ,(d) [F04-OS1.3]
	(3)	
r_5	3.2.2.43.	Group C, up to 6 Storeys, Sprinklered, Noncombustible Construction
	(1)	[F02,F04-OP1.2, OP1.3] Applies to portion of Code text: "...a) ...the *building* shall be *sprinklered*..."
		[F02,F04-OS1.2,OP1.3] Applies to portion of Code text: "...a) ...the *building* shall be *sprinklered*..."
	(2)	[F02-OP1.2] Applies to portion of Code text: "...the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
		[F02-OS1.2] Applies to portion of Code text: "...the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
		(a), (c) [F03-OP1.2] [F04-OP1.2, OP1.3]
		(a), (c) [F03-OS1.2] [F04-OS1.2, OS1.3]
		(b), (c) [F04-OP1.3]
		(b,) (c) [F04-OS1.3]
	(3)	
r_5	3.2.2.43A.	Group C, up to 6 Storeys, Sprinklered, Combustible Construction
	(1)	[F02,F04-OP1.2, OP1.3] Applies to portion of Code text: "...a) ...the *building* shall be *sprinklered*..."
		[F02,F04-OS1.2,OP1.3] Applies to portion of Code text: "...a) ...the *building* shall be *sprinklered*..."
	(2)	[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with *a fire-resistance rating* not less than 1 h," and to Clause (f).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (f).
		(b), (c), (d), (f) [F04-OP1.3]
		(b), (c), (d), (f) [F04-OS1.3]
		(a), (f) [F03-OP1.2] [F04-OP1.2, OP1.3]
		(a), (f) [F03-OS1.2] [F04-OS1.2, OS1.3]
		(e) [F03, F06-OS1.2] [F05, F06-OS1.5]
		(e) [F03, F06-OP1.2]
	(3)	
	(4)	
	(5)	[F02, F03-OS1.2] [F10-OS1.5]
r_6	3.2.2.44.	Group C, up to 4 Storeys, Noncombustible Construction
	(1)	
	(2)	[F02-OP1.2] Applies to portion of Code text: "...the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
		[F02-OS1.2] Applies to portion of Code text: "...the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
		[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (d).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (d).
		(b), (d) [F04-OP1.3]
		(b), (d) [F04-OS1.3]
		(c), (d) [F04-OP1.3]
		(c), (d) [F04-OS1.3]

	Acceptable Solutions	Objectives and Functional Statements
	(3)	
	(4)	
	3.2.2.45.	Group C, up to 4 Storeys, Sprinklered
	(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
		[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
	(2)	[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with *a fire-resistance rating* not less than 1 h," and to Clause (c).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (c).
		(b), (c) [F04-OP1.3]
		(b), (c) [F04-OS1.3]
	(3)	
	(4)	
r_6	3.2.2.46.	Group C, up to 3 Storeys, Increased Area
	(1)	
	(2)	[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: " a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (d).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: " a) ... floor assemblies shall be fire *separations* with a *fire-resistance rating* not less than 1 h," and to Clause (d).
		(b), (c), (d) [F04-OP1.3]
		(b), (c), (d) [F04-OS1.3]
	(3)	
	(4)	
r_6	3.2.2.47.	Group C, up to 3 Storeys
	(1)	
	(2)	[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a)... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min," and to Clause (c).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min," and to Clause (c).
		(b), (c) [F04-OP1.3]
		(b), (c) [F04-OS1.3]
	(3)	
	(4)	
	3.2.2.48.	Group C, up to 3 Storeys, Sprinklered
	(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
		[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min," and to Clause (c).
		(b), (c) [F04-OP1.3]
		(b), (c) [F04–OS1.3]
	(3)	
	(4)	
r_6	3.2.2.48A.	Group C, Retirement Home, Any Height, Any Area, Sprinklered
	(1)	
	(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction*," [F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building* shall be *sprinklered* ..."
		[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction*," [F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* shall be *sprinklered* ..."

	Acceptable Solutions	Objectives and Functional Statements
		[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "b)... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h," and to Clause (d).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "b) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h," and to Clause (d).
		(c), (d) [F04-OP1.3]
		(c), (d) [F04-OS1.3]
r_6	3.2.2.48B.	Group C, Retirement Home, up to 4 Storeys, Sprinklered, Increased Area
	(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building is sprinklered*,"
		[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
	(2)	[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a)... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h," and to Clause (c).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h," and to Clause (c).
		(b), (c) [F04-OP1.3]
		(b), (c) [F04-OS1.3]
r_6	3.2.2.48C.	Group C, Retirement Home, up to 4 Storeys, Sprinklered
	(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building is sprinklered*,"
		[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
	(2)	[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a)... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (c).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (c).
		(b), (c) [F04-OP1.3]
		(b), (c) [F04-OS1.3]
r_6	3.2.2.48D.	Group C, Retirement Home, up to 3 Storeys, Sprinklered, Noncombustible Construction
	(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building is sprinklered*,"
		[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
	(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction,*"
		[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
		[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a)... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (c).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (c).
		(b), (c) [F04-OP1.3]
		(b), (c) [F04-OS1.3]
r_6	3.2.2.48E.	Group C, Retirement Home, up to 3 Storeys, Sprinklered, Combustible Construction
	(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building is sprinklered*,"
		[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
	(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) is permitted …. or *noncombustible construction,*"
		[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) is permitted… or *noncombustible construction*,"
		[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a)... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (c).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (c).
		(b), (c) [F04-OP1.3]
		(b), (c) [F04-OS1.3]

	Acceptable Solution	Objectives and Functional Statements
	3.2.2.49.	Group D, Any Height, Any Area
	(1)	
	(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction,*" [F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)... the *building* shall be *sprinklered* ..."
		[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction*," [F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* shall be *sprinklered* ..."
		(b), (d) [F03, F04-OP1.2] [F04-OP1.3]
		(b), (d) [F03, F04-OS1.2] [F04-OS1.3]
		(c) [F04-OP1.3]
		(c) [F04-OS1.3]
	3.2.2.50.	Group D, up to 6 Storeys
	(1)	
	(2)	[F02-OP1.2] Applies to portion of Code text: "The *building referred* to in Sentence (1) shall be of *noncombustible construction*," [F04-OP1.3] Applies to portion of Code text: "c) roof assemblies shall have a *fire-resistance rating* not less than 1 h," and to Clause (d).
		[F02-OS1.2] Applies to portion of Code text: "The *building* referred to in Sentence (1) shall be of *noncombustible construction*," [F04-OS1.3] Applies to portion of Code text: "c) roof assemblies shall have a *fire-resistance rating* not less than 1 h," and to Clause (d).
		(a), (d) [F03, F04-OP1.2] [F04-OP1.3]
		(a), (d) [F03, F04-OS1.2] [F04-OS1.3]
		(b) [F04-OP1.3]
		(b) [F04-OS1.3]
r5	3.2.2.50A.	Group D, up to 6 Storeys, Sprinklered
	(1)	[F02,F04-OP1.2, OP1.3] Applies to portion of Code text: "...a) ...the *building* shall be *sprinklered*..."
		[F02,F04-OS1.2,OP1.3] Applies to portion of Code text: "...a) ...the *building* shall be *sprinklered*..."
	(2)	[F03, F04-OP1.2] [F04-OP1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with *a fire-resistance rating* not less than 1 h," and to Clause (f).
		[F03, F04-OS1.2] [F04-OS1.3] Applies to portion of Code text: "a) ... floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h," and to Clause (f).
		(b), (c), (d), (f) [F04-OP1.3]
		(b), (c), (d), (f) [F04-OS1.3]
		(a), (f) [F03-OP1.2] [F04-OP1.2, OP1.3]
		(a), (f) [F03-OS1.2] [F04-OS1.2, OS1.3]
		(e) [F03, F06-OS1.2] [F05, F06-OS1.5]
		(e) [F03, F06-OP1.2]
	(3)	
	(4)	[F02, F03-OS1.2] [F10-OS1.5]
r5	3.2.2.51.	Group D, up to 6 Storeys, Sprinklered, Noncombustible Construction
	(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a) ...the *building* is *sprinklered*,"
		[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)... the *building* is *sprinklered*,"
	(2)	[F02-OP1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction*,"
		[F02-OS1.2] Applies to portion of Code text: "... the *building* referred to in Sentence (1) shall be of *noncombustible construction,*"
		(a), (c) [F03, F04-OP1.2] [F04-OP1.3]
		(a), (c) [F03, F04-OS1.2] [F04-OS1.3]
		(b) [F04-OP1.3]
		(b) [F04-OS1.3]

Acceptable Solution	Objectives and Functional Statements
3.2.2.52.	Group D, up to 4 Storeys, Sprinklered
(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)...the *building* is *sprinklered,*"
	[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)...the *building* is *sprinklered,*"
(2)	(a), (c) [F03, F04-OP1.2] [F04-OP1.3]
	(a), (c) [F03, F04-OS1.2] [F04-OS1.3]
	(b) [F04-OP1.3]
	(b) [F04-OS1.3]
3.2.2.53.	Group D, up to 3 Storeys
(1)	
(2)	[F04-OP1.3] Applies to portion of Code text: "c) roof assemblies shall have, if of *combustible construction,* a *fire-resistance rating* not less than 45 min,..." and to Clause (d).
	[F04-OS1.3] Applies to portion of Code text: "c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,..." and to Clause (d).
	(a) [F03-OP1.2] Applies to the requirement that *noncombustible* floor assemblies be *fire separations*.
	(a) [F03-OS1.2] Applies to the requirement that *noncombustible* floor assemblies be *fire separations*.
	(a), (d) [F03, F04-OP1.2] [F04-OP1.3]
	(a), (d) [F03, F04-OS1.2] [F04-OS1.3]
	(b) [F04-OP1.3]
	(b) [F04-OS1.3]
3.2.2.54.	Group D, up to 3 Storeys, Sprinklered
(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: " a)...the *building* is *sprinklered,*"
	[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: " a)...the *building* is *sprinklered,*"
(2)	(a) [F03-OP1.2] Applies to the requirement that *noncombustible* floor assemblies be *fire separations*.
	(a) [F03-OS1.2] Applies to the requirement that *noncombustible* floor assemblies be *fire separations*.
	(a), (c) [F03, F04-OP1.2] [F04-OP1.3]
	(a), (c) [F03, F04-OS1.2] [F04-OS1.3]
	(b) [F04-OP1.3]
	(b) [F04-OS1.3]
3.2.2.55.	Group D, up to 2 Storeys
(1)	
(2)	[F03, F04-OP1.2] [F04-OP1.3]
	[F03, F04-OS1.2] [F04-OS1.3]
	(a) [F03-OP1.2] Applies to the requirement that *noncombustible* floor assemblies be *fire separations*.
	(a) [F03-OS1.2] Applies to the requirement that *noncombustible* floor assemblies be *fire separations*.
3.2.2.56.	Group D, up to 2 Storeys, Sprinklered
(1)	[F02, F04-OP1.2, OP1.3] Applies to portion of Code text: "a) ...the *building* is *sprinklered,*"
	[F02, F04-OS1.2, OS1.3] Applies to portion of Code text: "a) ...the *building* is *sprinklered,*"
(2)	[F03, F04-OP1.2] [F04-OP1.3]
	[F03, F04-OS1.2] [F04-OS1.3]

	Acceptable Solution	Objectives and Functional Statements
	3.2.4.17.	System Monitoring
	(1)	[F12-OS1.2] [F11, F12-OS1.5]
		[F12-OP1.2]
	(2)	[F13-OS1.2] [F11, F13-OS1.5]
		[F13-OP1.2]
	3.2.4.18.	Manual Pull Stations
	(1)	[F11-OS1.5]
	(2)	[F02, F12-OS1.2] [F10, F12-OS1.5]
	(3)	[F02, F12-OS1.2] [F10, F12-OS1.5]
	(4)	[F11-OS1.5]
	(5)	[F11-OS1.5]
	(6)	[F81-OS1.2] [F11, F81-OS1.5]
	(7)	[F11-OS1.5]
	(8)	
	3.2.4.19.	Alert and Alarm Signals
	(1)	
	(2)	[F11-OS1.5]
	(3)	[F11-OS1.5]
	(4)	[F11-OS1.5]
$e_{2.1}$	(5), (6)	
	3.2.4.20.	Audibility of Alarm Systems
	(1)	[F11-OS1.5]
	(2)	[F11-OS1.5]
	(3)	[F11-OS1.5]
	(4)	[F33-OS3.5]
	(5)	[F11-OS1.5]
	(6)	[F11-OS1.5]
	(7)	[F11-OS1.5]
	(8)	
	(9)	[F11, F81-OS1.5]
	(10)	[F11, F81-OS1.5]
	(11)	[F11, F81-OS1.5]
	(12)	[F11-OS1.5]
	(13)	
	(14)	[F11-OS1.5]
	3.2.4.21.	Visual Signals
	(1)	[F11-OS1.5]
	(2)	[F11-OS1.5]
	3.2.4.22.	Smoke Alarms
	(1)	[F11, F81-OS1.5]
	(2)	[F11-OS1.5]
	(3)	[F11-OS1.5]
	(4)	[F11-OS1.5]
	(5)	[F11,F81-OS1.5]
	(6)	[F11,F81-OS1.5]
	(7)	
	(8)	[F11-OS1.5]
	(9)	[F81,F11-OS1.5]
	(10)	[F81,F11-OS1.5]
	(11)	
	(12)	[F11-OS1.5]
r_5	(13)	[F74-OA-2] [F11-OS1.5]

	Acceptable Solution	Objectives and Functional Statements
r_5	(14)	
r_5	(15)	[F74-OA-2] [F11-OS1.5]
r_6	(16)	[F11,F81-OS1.5]
	3.2.4.23.	Voice Communication Systems
	(1)	[F11, F12-OS3.7]
	(2)	[F11-OS1.5]
	(3)	[F11-OS1.5]
	(4)	F11-OS1.5] [F13-OS1.4,OS1.5]
	(5)	[F11-OS1.5]
	(6)	[F12-OS3.7]
e_4	(7) to (9)	[F11-OS1.5]
	(10)	
	3.2.5.1.	Access to Above Grade Storeys
	(1)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
	(2)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
	(3)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
	3.2.5.2.	Access to Basements
e_3	(1), (2)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
	3.2.5.3.	Roof Access
	(1)	[F12-OP1.2]
		[F12-OS1.2]
	(2)	[F12-OP1.2]
		[F12-OS1.2]
		[F05, F06, F10, F12-OS3.7]
	3.2.5.4.	Access Routes
	(1)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
	3.2.5.5.	Location of Access Routes
	(1)	[F12-OP1.2]
		[F06-OS1.1] [F12-OS1.2, OS1.5]
	(2)	[F12-OP1.2]
		[F12-OS1.2]
	(3)	
	(4)	[F12-OP1.2]
		[F12-OS1.2]
	3.2.5.6.	Access Route Design
	(1)	[F12-OP1.2]
		[F12-OS1.2]
r_5	(2)	[F12-OP1.2]
		[F12-OS1.2]
	3.2.5.7.	Water Supply
	(1)	[F02-OP1.2]
		[F02-OP3.1]
		[F02-OS1.2]
	(2)	[F02, F12-OP1.2]
		[F02-OP3.1]
		[F02, F12-OS1.2]

Acceptable Solution	Objectives and Functional Statements
(5)	
(6)	[F05-OS1.2] [F06-OS1.5]
(7)	[F10-OS1.5]
(8)	[F10-OS1.5]
(9)	[F03, F05-OS1.2] [F06-OS1.5]
(10)	
(11)	
(12)	[F03, F05-OS1.2] [F06-OS1.5]
3.3.3.6.	Protection for Special Care and Treatment Facilities
(1)	[F03-OS1.2]
3.3.3.7.	Contained Use Areas
(1)	
(2)	[F03, F06-OS1.2] [F06-OS1.5]
	[F03, F06-OP1.2]
(3)	[F02, F06-OS1.2] [F06-OS1.5]
	[F02, F06-OP1.2]
(4)	[F02, F06-OS1.2] [F06-OS1.5]
	[F02, F06-OP1.2]
(5)	[F10-OS3.7]
3.3.3.8.	Handrails
(1)	[F30-OS3.1]
	[F73-OA1]
3.3.4.1.	Scope
(1)	
3.3.4.2.	Fire Separations
(1)	[F03, F06-OS1.2] [F05, F06-OS1.5]
	[F03, F06-OP1.2]
(2)	
(3)	
(4)	[F44-OS1.1] [F02, F03-OS1.2]
	(a), (b) [F02, F03-OP1.2]
(5)	[F01-OS1.1] [F03-OS1.2]
	[F44-OS3.4]
	(a) [F03-OP1.2]
3.3.4.3.	Storage Rooms
(1)	[F02-OP1.2]
	[F02-OS1.2]
(2)	[F03-OP1.2]
	[F03-OS1.2]
(3)	
(4)	[F12-OP1.2]
	[F12-OS1.2]
3.3.4.4.	Egress from Dwelling Units
(1)	
(2)	[F05, F10-OS3.7]
(3)	[F10-OS3.7]
(4)	[F05-OS1.2, OS1.5]
(5)	[F05, F10-OS3.7]
(6)	[F05, F10-OS3.7]

Acceptable Solutions	Objectives and Functional Statements
(7)	[F05, F10-OS3.7]
(8)	[F05-OS1.2]
	[F10-OS3.7]
(9)	[F05, F10-OS3.7]
3.3.4.5.	Automatic Locking Prohibition
(1)	[F10-OS3.7]
3.3.4.6.	Sound Transmission
(1)	
3.3.4.7.	Stairs, Handrails and Guards for Dwelling Units
(1)	
(2)	
3.3.4.8.	Window Protection
(1)	[F30-OS3.1]
(2)	
3.3.4.9.	Stud Wall Reinforcement
(1)	[F74-OA2]
3.3.4.10.	Resistance to Forced Entry
(1)	[F4.1-OS3.1]
r6 3.3.4.11.	Retirement Homes
(1)	
(2)	[F06-OS1.2] [F05, F06-OS1.5]
	[F06-OP1.2]
(3)	
(4)	[F03, F06-OP1.2]
	[F05, F06-OS1.2] [F06-OS1.5]
(5)	
(6)	[F05-OS1.2] [F06-OS1.5]
(7)	[F10-OS1.5]
(8)	[F10-OS1.5]
(9)	[F03-OS1.2]
	[F03-OP1.2]
(10)	[F10-OS3.7]
(11)	[F10, F12-OS3.7]
(12)	[F11, F12-OS3.7]
3.3.5.1.	Scope
(1)	
3.3.5.2.	Fire Extinguishing Systems
(1)	[F03-OP1.2]
	[F03-OS1.2]
3.3.5.3.	Basements
(1)	[F12-OP1.2]
	[F01-OS1.1] [F12-OS1.2, OS1.5]
(2)	[F06-OS1.2] [F05, F06-OS1.5,] Applies to the separation of *exits* from the remainder of the *building.* [F06-OS1.2, OS1.5] Applies to the separation of entrances to *basements* and to rooms containing *building* services from the remainder of the *building.*
	[F06-OP1.2] Applies to the separation of *exits* from the remainder of the *building.* [F06-OP1.2] Applies to the separation of entrances from the remainder of the *building.*
(3)	[F44-OS1.1]

Acceptable Solutions	Objectives and Functional Statements
3.3.5.4.	Repair and Storage Garages
(1)	
(2)	[F30-OS3.1] [F10, F12-OS3.7]
(3)	
(4)	
(5)	[F30-OS3.1]
(6)	[F30-OS3.1]
(7)	[F02-OP1.2]
	[F02-OS1.2]
(8)	
3.3.5.5.	Repair Garage Separation
(1)	[F03-OP1.2]
	[F03-OS1.2]
3.3.5.6.	Storage Garage Separation
(1)	[F03-OP1.2]
	[F03-OS1.2]
3.3.5.7.	Vestibules
(1)	
(2)	
(3)	[F44-OS1.1]
	[F44-OS3.4]

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Acceptable Solution	Objectives and Functional Statements
6.2.4.4.	Warm-Air Supply Outlets
(1)	[F40, F63-OH1.1] [F51, F52-OH1.2]
	[F63-OS2.3]
(2)	[F63-OH1.1] [F51-OH1.2]
	[F63-OS2.3]
(3)	[F40, F63-OH1.1] [F51-OH1.2]
(4)	[F40, F63-OH1.1] [F51-OH1.2]
	[F63-OS2.3]
(5)	[F40, F63-OH1.1] [F51-OH1.2]
	[F63-OS2.3]
(6)	[F40, F63-OH1.1] [F51-OH1.2]
	[F63-OS2.3]
(7)	
(8)	[F31-OS3.2]
(9)	[F40, F63-OH1.1] [F51-OH1.2]
	[F63-OS2.3] Applies to warm-air supply outlets located in finished areas.
(10)	[F40-OH1.1]
	[F40-OS3.4]
6.2.4.5.	Reserved
(1)	
6.2.4.6.	Adjustable Dampers and Balance Stops
(1)	[F40, F63-OH1.1] [F51, F52-OH1.2]
	[F63-OS2.3] Applies to branch supply ducts that are not fitted with diffusers with adjustable stops.
6.2.4.7.	Return-Air System
(1)	[F63-OH1.1] [F51-OH1.2]
	[F63-OS2.3]
(2)	[F01, F02-OP1.1]
	[F01, F02-OS1.1]
(3)	[F01-OP1.1]
	[F01-OS1.1]
(4)	[F01-OP1.1]
	[F01-OS1.1]
(5)	[F01-OP1.1]
	[F01-OS1.1]
(6)	[F51, F52-OH1.1, OH1.2]
	[F51, F52-OS2.3]
(7)	[F63-OH1.1] [F51-OH1.2]
	[F63-OS2.3]
(8)	
(9)	[F44-OH1.1]
	[F44-OS3.4]
(10)	[F40-OH1.1]
	[F44-OS1.1]
(11)	[F63-OH1.1] [F51-OH1.2]
(12)	[F01-OP1.1]
	[F01-OS1.1]
(13)	[F40, F44-OH1.1]
	[F40, F44-OS3.4]
r6 (14)	
6.2.4.8.	Coverings, Linings and Insulation
(1)	
(2)	[F81-OH1.1, OH1.2, OH1.3]

Acceptable Solution	Objectives and Functional Statements
6.2.4.9.	Tape
(1)	[F02-OS1.2]
6.2.4.10.	Clearances of Ducts and Plenums
(1)	(a), (b) [F01-OP1.1]
	(a), (b) [F01-OS1.1]
(2)	(a), (b) [F01-OP1.1]
	(a), (b) [F01-OS1.1]
(3)	(a), (b), (c) [F01-OP1.1]
	(a), (b), (c) [F01-OS1.1]
(4)	[F01-OP1.1]
	[F01-OS1.1]
6.2.4.11.	Exhaust Ducts and Outlets
(1)	[F44, F81-OH1.1] [F81-OH1.2]
(2)	[F81-OH1.1, OH1.2]
(3)	[F81-OS1.1]
(4)	[F81-OH1.1]
6.2.4.12.	Make-up Air
(1)	[F50, F81-OH1.1]
	[F44, F81-OS3.4]
6.2.4.13.	Supply, Return, Intake and Exhaust Air Openings
(1)	[F81-OH1.2]
	[F30-OS3.1]
(2)	[F81-OH1.1]
	[F44, F81-OS3.4]
(3)	[F81-OH1.1]
(4)	[F81, F82-OH1.1]
	[F82-OS3.4]
(5)	[F02-OP1.2]
	[F02-OS1.2]
6.2.4.14.	Air Filters and Equipment
(1)	[F80-OP1.1]
	[F80-OS1.1]
(2)	[F43, F81-OH1.1]
	[F30-OS3.3]
(3)	[F82-OH1.1]
6.2.5.1.	Location of Appliances
(1)	
6.2.5.2.	Appliances Installed Outside the Building
(1)	(a) [F81-OH1.1]
	(a) [F81-OP1.1]
	(a) [F81-OS1.1]
	(b) [F03-OP3.1]
	(b) [F03-OS1.2]
	(c) [F02-OP1.2]
	(c) [F02-OS1.1, OS1.2]
6.2.6.1.	Applicable Standard
(1)	[F81-OS1.1]
6.2.7.1.	Clearances
(1)	[F01-OP1.1]
	[F01-OS1.1]

Table 9
Objectives and Functional Statements Attributed to the Acceptable Solutions in Part 9 of Division B

	Acceptable Solution	Objectives and Functional Statements
	9.1.1.1.	Scope
	(1)	
	9.1.1.2.	Signs
	(1)	
	9.1.1.3.	Self-Service Storage Buildings
	(1)	
	9.1.1.4.	Tents and Air-Supported Structures
	(1)	
	(2)	
	9.1.1.5.	Proximity to Existing Above Ground Electrical Conductors
	(1)	
	9.1.1.6.	Food Premises
	(1)	
	9.1.1.7.	Radon
	(1)	[F40, F50-OH1.1]
	9.1.1.8.	Building in Flood Plains
	(1)	(a) [F20-OP2.1]
		(a) [F20-OS2.1, OS2.3]
		(a) [F61-OH1.3]
		(b) [F10, F12-OS3.1] [F10, F30-OS3.7]
	9.1.1.9.	Site Assembled and Factory-Built Buildings
e4	(1), (2)	
	9.1.1.10.	Public Pools and Public Spas
	(1)	
	9.1.1.11.	Shelf and Rack Storage Systems
	(1)	
r6	9.1.1.12.	Houses
	(1)	
	9.3.1.1.	General
	(1)	[F20-OP2.1, OP2.4] [F21-OP2.3, OP2.4] [F80-OP2.3] [F20-OP2.3] Applies to elements that support or are part of an environmental separator.
		[F20, F21, F80-OH1.1] Applies where concrete supports or is used in the walls of *chimneys* or fireplaces. [F20, F21, F55, F61, F80-OH1.1, OH1.2] [F20, F21, F80, F61-OH1.3] Applies where concrete supports or is used in an environmental separator.
		[F20, F21, F80-OH4] Applies where concrete elements support wood-frame floors.
		[F20, F21, F80-OS1.1] Applies where concrete supports or is used in *chimneys* or fireplaces.
		[F20-OS2.1] [F21, F80-OS2.3] [F20-OS2.3] Applies to elements that support or are part of an environmental separator.
		[F20, F21, F80-OS3.1] Applies to concrete floors or steps, concrete that supports wood-frame floors or steps, and concrete steps that support *guards* or handrails. [F20, F21, F80-OS3.4, OS3.7] Applies where concrete supports or is used in *chimneys* or fireplaces.
e4	(2), (3)	
	(4)	[F20-OP2.1, OP2.4] [F21, F80-OP2.3, OP2.4] [F20-OP2.3] Applies to elements that support or are part of an environmental separator.
		[F20, F21, F80-OH1.1] Applies where concrete supports or is used in the walls of *chimneys* or fireplaces. [F20, F21, F55, F80, F61-OH1.1, OH1.2] [F20, F21, F80, F61-OH1.3] Applies to elements that support or are part of an environmental separator.

Acceptable Solution	Objectives and Functional Statements
(4) (Cont'd)	[F20, F21, F80-OH4] Applies to elements that support floors.
	[F20, F80-OS1.1] Applies where concrete supports or is used in *chimneys* or fireplaces.
	[F20-OS2.1] [F80-OS2.3] [F20-OS2.3] Applies to elements that support or are part of an environmental separator.
	[F20, F80-OS3.1] Applies to concrete that supports wood-frame floors or steps. [F20, F80-OS3.4, OS3.7] Applies where concrete supports or is used in *chimneys* or fireplaces.
9.3.1.2.	Cement
(1)	[F20-OP2.1, OP2.4] [F80-OP2.3, OP2.4] [F20-OP2.3] Applies to elements that support or are part of an environmental separator.
	[F20, F80-OH1.1] Applies where concrete supports or is used in the walls of *chimneys* or fireplaces. [F20, F55, F61, F80-OH1.1, OH1.2] [F20, F61, F80-OH1.3] Applies where concrete supports or is used in an environmental separator.
	[F20, F80-OH4] Applies where concrete elements support wood-frame floors.
	[F20, F80-OS1.1] Applies where concrete supports or is used in *chimneys* or fireplaces.
	[F20-OS2.1] [F80-OS2.3] [F20-OS2.3] Applies to elements that support or are part of an environmental separator.
	[F20, F80-OS3.1] Applies to concrete floors or steps, concrete that supports wood-frame floors or steps, and concrete steps that support *guards* or handrails. [F20, F80-OS3.4, OS3.7] Applies where concrete supports or is used in *chimneys* or fireplaces.
9.3.1.3.	Concrete in Contact with Sulfate Soil
(1)	[F20-OP2.1, OP2.4] [F80-OP2.3, OP2.4] [F20-OP2.3] Applies to elements that support or are part of an environmental separator.
	[F80-OH1] Applies where concrete supports or is used in the walls of *chimneys* or fireplaces. [F80-OH1.1, OH1.2, OH1.3] Applies where concrete supports or is used in an environmental separator.
	[F80-OH4] Applies where concrete elements support wood-frame floors.
	[F80-OS1.1] Applies where concrete is used in footings for *chimneys* or fireplaces.
	[F20-OS2.1] [F80-OS2.3] [F20-OS2.3] Applies to elements that support or are part of an environmental separator.
	[F80-OS3.1] Applies to concrete floors or steps, concrete that supports wood-frame floors or steps, and concrete steps that support *guards* or handrails. [F80-OS3.4, OS3.7] Applies where concrete supports or is used in *chimneys* or fireplaces.
9.3.1.4.	Aggregates
(1)	[F20-OP2.1, OP2.4] [F80-OP2.3, OP2.4] [F20-OP2.3] Applies to elements that support or are part of an environmental separator.
	[F20, F80-OS1.1] Applies to concrete used in *chimneys* or fireplaces.
	[F20-OS2.1] [F80-OS2.3] [F20-OS2.3] Applies to elements that support or are part of an environmental separator.
	[F20, F80-OS3.1] Applies to floors and elements that support floors. [F20, F80-OS3.4] Applies to concrete used in *chimneys* or fireplaces.
	[F20, F55, F61, F80-OH1.1, OH1.2] Applies to elements that support or are part of an environmental separator and to masonry used in *chimneys* and fireplaces. [F20, F61, F80-OH1.3] Applies to elements that support or are part of an environmental separator and to masonry used in *chimneys* and fireplaces.
	[F20, F80-OH4] Applies to floors and elements that support floors.
9.3.1.5.	Water
(1)	[F20-OP2.1, OP2.4] [F80-OP2.3, OP2.4] [F20-OP2.3] Applies to elements that support or are part of an environmental separator.
	[F20, F80-OS1.1] Applies where concrete supports or is used in *chimneys* or fireplaces.

	Acceptable Solution	Objectives and Functional Statements
	(4)	[F30-OS3.1] [F10-OS3.7]
	(5)	[F30-OS3.1] [F10-OS3.7]
	9.8.4.5.	Winders
	(1)	[F30-OS3.1] [F10-OS3.7]
	(2)	[F30-OS3.1] [F10-OS3.7]
	9.8.4.6.	Leading Edges of Treads
	(1)	[F30-OS3.1] [F10-OS3.7]
	9.8.4.7.	Interior Stairs Extending Through the Roof
	(1)	[F30-OS3.1] [F10-OS3.7]
	9.8.5.1.	Application
	(1)	
	(2)	
	9.8.5.2.	Ramp Width
	(1)	[F30-OS3.1] [F10-OS3.7]
	(2)	[F30-OS3.1] [F10-OS3.7]
	(3)	[F30-OS3.1] [F10-OS3.7]
	9.8.5.3.	Height over Ramps
	(1)	[F30-OS3.1] [F10-OS3.7]
	9.8.5.4.	Slope
	(1)	[F30-OS3.1] [F10-OS3.7]
	9.8.5.5.	Maximum Rise
	(1)	[F30-OS3.1]
	9.8.6.1.	Application
e_4	(1) to (3)	
	9.8.6.2.	Required Landings
	(1)	[F30-OS3.1] [F10-OS3.7]
	(2)	
	(3)	
r_6	(3.1)	
	(4)	
	9.8.6.3.	Dimensions of Landings
	(1)	[F30-OS3.1] [F10-OS3.7]
	(2)	
	(3)	[F30-OS3.1] [F10-OS3.7]
	(4)	[F30-OS3.1] [F10-OS3.7]
	(5)	[F30-OS3.1] [F10-OS3.7]
	(6)	[F30-OS3.1] [F10-OS3.7]
	9.8.6.4.	Height over Landings
	(1)	[F30-OS3.1] [F10-OS3.7]
	9.8.7.1.	Required Handrails
	(1)	[F30-OS3.1] [F10-OS3.7]
	(2)	[F30-OS3.1] [F10-OS3.7]
	(3)	
	(4)	
	9.8.7.2.	Continuity of Handrails
	(1)	[F30-OS3.1] [F10-OS3.7]
	(2)	[F30-OS3.1] [F10-OS3.7]
	9.8.7.3.	Termination of Handrails
	(1)	[F30-OS3.1] [F10-OS3.7]
	(2)	[F30-OS3.1] [F10-OS3.7]

Acceptable Solution	Objectives and Functional Statements
9.8.7.4.	Height of Handrails
(1)	
(2)	[F30-OS3.1] [F10-OS3.7]
(3)	[F30-OS3.1] [F10-OS3.7]
(4)	
9.8.7.5.	Ergonomic Design
(1)	[F30-OS3.1] [F10-OS3.7]
(2)	[F30-OS3.1] [F10-OS3.7]
9.8.7.6.	Projections into Stairs and Ramps
(1)	[F30-OS3.1] [F10-OS3.7]
9.8.7.7.	Design and Attachment of Handrails
(1)	[F20-OS2.1]
	[F20-OS3.1, OS3.7]
(2)	[F20-OS2.1]
	[F20-OS3.1, OS3.7]
9.8.8.1.	Required Guards
(1)	[F30-OS3.1] [F10-OS3.7]
(2)	
(3)	[F30-OS3.1] [F10-OS3.7]
(4)	[F30-OS3.1] [F10-OS3.7]
(5)	[F30-OS3.1]
(6)	
(7)	[F30-OS3.1] [F10-OS3.7]
(8)	[F30-OS3.1] [F10-OS3.7]
(9)	[F30-OS3.1]
9.8.8.2.	Loads on Guards
(1)	[F20-OS2.1]
(2)	
(3)	
(4)	
(5)	
9.8.8.3.	Height of Guards
(1)	[F30-OS3.1] [F10-OS3.7]
(2)	[F30-OS3.1] [F10-OS3.7]
(3)	[F30-OS3.1] [F10-OS3.7]
(4)	[F30-OS3.1] [F10-OS3.7]
(5)	[F30-OS3.1] [F10-OS3.7]
(6)	[F30-OS3.1] [F10-OS3.7]
(7)	
9.8.8.4.	Guards for Floors and Ramps in Garages
(1)	[F10-OS3.1]
(2)	[F10-OS3.1]
9.8.8.5.	Openings in Guards
(1)	[F30-OS3.1]
(2)	[F30-OS3.1]
(3)	[F30-OS3.1]
9.8.8.6.	Guards Designed not to Facilitate Climbing
(1)	[F30-OS3.1]
(2)	[F30-OS3.1]
9.8.8.7.	Glass in Guards
(1)	[F20-OS2.1]
	[F20-OS3.1, OS3.7]

	Acceptable Solution	Objectives and Functional Statements
	9.10.7.1.	Protection of Structural Steel Members
	(1)	[F03-OP1.2] [F04-OP1.3]
		[F03-OS1.2] [F04-OS1.3]
	9.10.8.1.	Fire-Resistance Ratings for Floors and Roofs
	(1)	[F03-OP1.2] [F04-OP1.2, OP1.3] Applies to portion of Code text: "Except as other wise provided in this Subsection, the *fire-resistance ratings* of floors and roofs shall conform to Table 9.10.8.1."
		[F03-OS1.2] [F04-OS1.2, OS1.3] Applies to portion of Code text: "Except as otherwise provided in this Subsection, the *fire-resistance ratings* of floors and roofs shall conform to Table 9.10.8.1."
	9.10.8.2.	Fire-Resistance Ratings in Sprinklered Buildings
	(1)	(a), (b) [F13-OP1.2] [F02, F82-OP1.3]
		(a), (b) [F13-OS1.2, OS1.5] [F02, F82-OS1.3]
	9.10.8.3.	Fire-Resistance Ratings for Walls, Columns and Arches
	(1)	[F04-OP1.2, OP1.3]
		[F04-OS1.2, OS1.3]
r_6	9.10.8.4.	Reserved
	9.10.8.5.	Service Rooms
	(1)	
	9.10.8.6.	Mezzanines
	(1)	
	9.10.8.7.	Roofs Supporting an Occupancy
	(1)	[F03-OP1.2]
		[F03-OS1.2]
	9.10.8.8.	Floors of Exterior Passageways
	(1)	[F06-OP1.2] [F04-OP1.3]
		[F05-OS1.5] [F06-OS1.2, OS1.5]
	(2)	
	(3)	
	9.10.8.9.	Crawl Spaces
	(1)	
r_6	9.10.8.10.	Non-Application to Houses
	(1)	
	9.10.8.11.	Part 3 as an Alternative
	(1)	
	9.10.9.1.	Application
	(1)	
	9.10.9.2.	Continuous Barrier
	(1)	[F03-OP1.2]
		[F03-OS1.2]
	(2)	[F03-OP1.2]
		[F03-OS1.2]
	9.10.9.3.	Openings to be Protected With Closures
	(1)	[F03-OP1.2]
		[F03-OS1.2]
e_4	9.10.9.4.	Floor Assemblies
	(1)	[F03-OP1.2]
		[F03-OS1.2]
	(2)	
	(3)	
	(4)	
	9.10.9.5.	Interconnected Floor Spaces
	(1)	

Acceptable Solution	Objectives and Functional Statements
9.10.9.6.	Penetration of Fire Separations
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	[F03-OP1.2]
	[F03-OS1.2]
(3)	[F03-OP1.2] [F04-OP1.3] Applies to portion of Code text: "Except as provided in Sentence (3) to (9) and Article 9.10.9.7., pipes, ducts, electrical boxes, totally enclosed raceways or other similar service equipment that partly or wholly penetrate an assembly required to have a fire-*resistance rating* shall be *noncombustible* ..."
	[F03-OS1.2] [F04-OS1.3] Applies to portion of Code text: "Except as provided in Sentence (3) to (9) and Article 9.10.9.7., pipes, ducts, electrical boxes, totally enclosed raceways or other similar service equipment that partly or wholly penetrate an assembly required to have a *fire-resistance rating* shall be *noncombustible* ..."
(4)	
(5)	
(6)	
(7)	
(8)	
(9)	
(10)	
(11)	
(12)	
(13)	
9.10.9.7.	Combustible Piping
(1)	[F03-OP1.2] [F04-OP1.3]
	[F03-OS1.2] [F04-OS1.3]
(2)	
(3)	
(4)	
(5)	
(6)	
9.10.9.8.	Collapse of Combustible Construction
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.9.9.	Reduction in Thickness of Fire Separation by Beams and Joists
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.9.10.	Concealed Spaces above Fire Separations
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	[F03-OP1.2]
	[F03-OS1.2]
9.10.9.11.	Separation of Residential Occupancies
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	[F03-OP1.2]
	[F03-OS1.2]
(3)	[F03-OP1.2]
	[F03-OS1.2]
(4)	
9.10.9.12.	Residential Suites, Live/Work Units and Industrial Buildings
(1)	[F02-OS1.2]
(2)	[F02, F03-OS1.2]

	Acceptable Solution	Objectives and Functional Statements
	9.10.9.13.	Separation of Suites
	(1)	[F03-OP1.2]
		[F03-OS1.2]
	(2)	[F02-OP1.2]
		[F02-OS1.2]
	9.10.9.14.	Separation of Residential Suites
	(1)	[F03-OP1.2]
		[F03-OS1.2]
	(2)	
	(3)	[F03-OS1.2]
r_6	(4)	
r_6	(5)	
	9.10.9.15.	Separation of Public Corridors
	(1)	[F03, F06-OP1.2]
		[F03, F05-OS1.5] [F06-OS1.2, OS1.5]
	(2)	[F03-OS1.2] [F06, F05-OS1.5]
		[F03, F06-OP1.2]
	(3)	[F03-OS1.2] [F05, F06-OS1.5]
		[F03, F06-OP1.2]
	9.10.9.16.	Separation of Storage Garages
e_4	(1), (2)	[F03-OP1.2]
		[F03-OS1.2]
	(3)	
	(4)	[F01-OS1.1]
		[F44-OS3.4]
	(5)	[F01-OS1.1]
		[F44-OS3.4]
	9.10.9.17.	Separation of Repair Garages
	(1)	[F03-OP1.2]
		[F03-OS1.2]
	(2)	
	(3)	[F03-OP1.2]
		[F03-OS1.2]
	(4)	[F44-OH1.1]
		[F44-OS1.1]
		[F44-OS3.4]
	(5)	[F44-OH1.1]
		[F44-OS1.1]
		[F44-OS3.4]
	9.10.9.18.	Exhaust Ducts Serving More Than One Fire Compartment
	(1)	[F03-OS1.2]
	(2)	[F03-OS1.2]
	9.10.9.19.	Central Vacuum Systems
	(1)	[F03-OS1.2]
	9.10.10.1.	Application
	(1)	
	9.10.10.2.	Service Room Floors
	(1)	
	9.10.10.3.	Separation of Service Rooms
	(1)	[F03-OP1.2] [F03, F81-OP1.4]
		[F03-OS1.2] [F03, F81-OS1.4]
	(2)	

Acceptable Solution	Objectives and Functional Statements
9.10.10.4.	Appliances and Equipment to be Located in a Service Room
(1)	[F03-OP1.2] [F03, F81-OP1.4]
	[F03-OS1.2] [F03, F81-OS1.4]
(2)	
(3)	
9.10.10.5.	Incinerators
(1)	[F03-OP1.2] [F03, F81-OP1.4]
	[F03-OS1.2] [F03, F81-OS1.4]
(2)	[F01-OS1.1]
(3)	[F01-OP1.1]
	[F20-OP2.1] [F80-OP2.3]
	[F01-OS1.1]
	[F20-OS2.1] [F80-OS2.3]
	[F40, F61-OH1.1, OH1.3]
(4)	[F01, F02-OS1.2]
9.10.10.6.	Storage Rooms
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.10.7.	Emergency Power Installations
(1)	[F03-OS1.2, OS1.4] [F06-OS1.2, OS1.5]
	[F03-OP1.2, OP1.4] [F06-OP1.2]
9.10.11.1.	Required Firewalls
(1)	[F03-OP1.2]
	[F03-OP3.1]
	[F03-OS1.2]
9.10.11.2.	Firewalls Not Required
(1)	
(2)	[F03-OP3.1]
	[F03-OS1.2]
(3)	[F03-OP3.1]
	[F03-OS1.2]
9.10.11.3.	Construction of Firewalls
(1)	
9.10.11.4.	Firewalls in Detached Garages
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.12.1.	Termination of Floors or Mezzanines
(1)	[F03-OP1.2, OP1.4]
	[F03-OS1.5]
(2)	
9.10.12.2	Location of Skylights
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.12.3.	Exterior Walls Meeting at an Angle
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	[F03-OP1.2]
	[F03-OS1.2]
9.10.12.4.	Protection of Soffits
(1)	
(2)	[F03-OP1.2]
	[F03-OS1.2]

Acceptable Solution	Objectives and Functional Statements
(3)	[F03-OP1.2]
	[F03-OS1.2]
(4)	
(5)	
9.10.13.1.	Closures
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.13.2.	Solid Core Wood Door as a Closure
(1)	
(2)	[F03-OP1.2]
	[F03-OS1.2]
9.10.13.3.	Unrated Wood Door Frames
(1)	
9.10.13.4.	Doors as a Means of Egress
(1)	
9.10.13.5.	Wired Glass as a Closure
(1)	
(2)	[F03-OP1.2]
	[F03-OS1.2]
(3)	[F03-OP1.2]
	[F03-OS1.2]
9.10.13.6.	Steel Door Frames
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.13.7.	Glass Block as a Closure
(1)	
9.10.13.8.	Maximum Size of Opening
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	[F03-OP1.2]
	[F03-OS1.2]
9.10.13.9.	Door Latch
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.13.10.	Self-Closing Device
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	
9.10.13.11.	Hold-Open Devices
(1)	
9.10.13.12.	Service Room Doors
(1)	[F10-OS1.5] Applies to portion of Code text: "... but shall swing outward from such rooms in all other cases."
	[F30-OS3.1] Applies to portion of Code text: "Swing-type doors shall open into *service rooms* containing fuel-fired equipment where such doors lead to *public corridors* or rooms used for assembly ..."
9.10.13.13.	Fire Dampers
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	
(3)	
(4)	
(5)	

Acceptable Solution	Objectives and Functional Statements
9.10.13.14.	Fire Stop Flaps
(1)	[F03-OP1.3]
	[F03-OS1.3]
r6 9.10.13.15.	Doors Between Garages and Houses or Dwelling Units
(1)	[F01-OS1.1]
	[F44-OS3.4]
(2)	[F01-OS1.1]
	[F44-OS3.4]
9.10.13.16.	Door Stops
(1)	[F81-OP1.4]
	[F81-OS1.4]
9.10.14.1.	Application
(1)	
9.10.14.2.	Area and Location of Exposing Building Face
(1)	
(2)	
(3)	
(4)	
(5)	
9.10.14.3.	Inadequate Fire Fighting Facilities
(1)	[F03-OP3.1]
9.10.14.4.	Openings in Exposing Building Face
(1)	[F03-OP3.1]
(2)	[F03-OP3.1]
(3)	[F03-OP3.1]
(4)	[F03-OP3.1]
(5)	
(6)	
(7)	
9.10.14.5.	Construction of Exposing Building Face and Walls above Exposing Building Face
(1)	[F02, F03-OP3.1]
(2)	[F02, F03-OP3.1]
(3)	[F03-OP3.1]
(4)	
(5)	[F03-OP3.1]
(6)	
(7)	
9.10.14.6.	Minor Openings in Exposing Building Face
(1)	
9.10.15.1.	Application
(1)	
9.10.15.2.	Area and Location of Exposing Building Face
(1)	
(2)	
(3)	
(4)	
(5)	
9.10.15.3.	Inadequate Firefighting Facilities
(1)	[F03-OP3.1]
9.10.15.4.	Glazed Openings in Exposing Building Face
(1)	[F03-OP3.1]
(2)	

Acceptable Solution	Objectives and Functional Statements
(3)	
(4)	[F03-OP3.1]
(5)	
9.10.15.5.	Construction of Exposing Building Face of Houses
(1)	[F02, F03-OP3.1]
(2)	[F02, F03-OP3.1]
(3)	[F02, F03-OP3.1]
(4)	
(5)	[F03-OP3.1]
(6)	
9.10.16.1.	Required Fire Blocks in Concealed Spaces
e3 (1) to (4)	[F03-OP1.2]
	[F03-OS1.2]
(5)	[F02, F03-OP1.2]
	[F02, F03-OS1.2]
(6)	[F02, F03-OP1.2]
	[F02, F03-OS1.2]
9.10.16.2.	Required Fire Blocks in Wall Assemblies
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	
9.10.16.3.	Fire Block Materials
(1)	[F03-OP1.2]
	[F03-OS1.2]
(2)	[F03-OP1.2]
	[F03-OS1.2]
(3)	[F04-OP1.2]
	[F04-OS1.2]
9.10.16.4.	Penetration of Fire Blocks
(1)	[F03-OP1.2]
	[F03-OS1.2]
9.10.17.1.	Flame-Spread Rating of Interior Surfaces
(1)	[F02-OS1.2]
(2)	
(3)	
9.10.17.2.	Ceilings in Exits or Public Corridors
(1)	[F05-OS1.5]
9.10.17.3.	Walls in Exits
(1)	[F05-OS1.5]
(2)	[F05-OS1.5]
9.10.17.4.	Exterior Exit Passageways
(1)	[F05-OS1.5]
9.10.17.5.	Walls in Public Corridors
(1)	[F05-OS1.5]
9.10.17.6.	Calculation of Wall and Ceiling Areas
(1)	
9.10.17.7.	Corridors Containing an Occupancy
(1)	
9.10.17.8.	Light Diffusers and Lenses
(1)	

	Acceptable Solution	Objectives and Functional Statements
	9.10.17.9.	Combustible Skylights
	(1)	[F02F05-OS1.5]
	9.10.17.10.	Protection of Foamed Plastics
	(1)	(a), (b), (c) [F01, F02, F05-OS1.5]
	(2)	[F01, F02-OS1.2]
	9.10.17.11.	Walls and Ceilings in Bathrooms
	(1)	
	9.10.17.12.	Coverings or Linings of Ducts
	(1)	
	9.10.18.1.	Access Provided through a Firewall
	(1)	[F11-OS1.5]
	9.10.18.2.	Fire Alarm System Required
	(1)	[F11-OS1.5]
	(2)	
	9.10.18.3.	Design and Installation Requirements
$e_{2.1}$	(1), (2)	
	9.10.18.4.	Rooms and Spaces Requiring Heat Detectors or Smoke Detectors
	(1)	[F11-OS1.5]
	(2)	[F11-OS1.5]
	(3)	[F02-OS1.2] Applies to *sprinklered buildings*. [F11-OS1.5] Applies to the supervision of the system and flow alarm.
	(4)	[F11-OS1.5]
	9.10.18.5.	Smoke Detectors in Recirculating Air Handling Systems
	(1)	[F03-OS1.2]
	9.10.18.6.	Portions of Buildings Considered as Separate Buildings
	(1)	[F03-OS1.2]
	(2)	[F11-OS1.2]
	9.10.18.7.	Central Vacuum Systems
	(1)	[F03-OS1.2]
	9.10.18.8.	Open-Air Storage Garages
	(1)	
	9.10.18.9.	Fire Alarm System in a Hotel
	(1)	[F11-OS1.5]
	9.10.18.10.	Commissioning of Life Safety and Fire Protection Systems
	(1)	[F02, F81, F82-OS1.2, OS1.5]
		[F02, F81, F82-OP1.2]
	(2)	
	9.10.19.1.	Required Smoke Alarms
	(1)	[F11, F81-OS1.5]
r_5	(2)	[F11, F81-OS1.5]
		[F74-OA2]
r_5	(3)	
r_5	(4)	[F11, F81-OS1.5]
		[F74-OA2]
r_5	(5)	[F11, F81-OS1.5]
		[F74-OA2]
	9.10.19.2.	Sound Patterns of Smoke Alarms
	(1)	[F11-OS1.5]
	9.10.19.3.	Location of Smoke Alarms
	(1)	[F11-OS1.5]
r_6	(2)	[F11-OS1.5]
r_6	(3)	[F11, F81-OS1.5]

	Acceptable Solution	Objectives and Functional Statements
r_6	(4)	[F11-OS1.5]
r_6	(5)	
r_6	(6)	[F11, F81-OS1.5]
		[F74-OA2]
r_6	(7)	[F11-OS1.5]
	9.10.19.4.	Power Supply
	(1)	[F81-OS1.5]
	(2)	
	(3)	[F81-OS1.5]
	(4)	
	9.10.19.5.	Interconnection of Smoke Alarms
	(1)	[F11-OS1.5]
	9.10.19.6.	Silencing of Smoke Alarms
	(1)	[F11, F81-OS1.5]
	(2)	
	9.10.19.7.	Instructions for Maintenance and Care
	(1)	[F82-OS1.5]
	9.10.20.1.	Windows or Access Panels Required
e_3	(1), (2)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
	(3)	
	9.10.20.2.	Access to Basements
	(1)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
	(2)	[F12-OP1.2] Applies to portion of Code text: "Access required in Sentence (1) ... provides an opening not less than 1 100 mm high and 550 mm wide, the sill of which shall not be more than 900 mm above the floor."
		[F12-OS1.2, OS1.5] Applies to portion of Code text: "Access required in Sentence (1) ... provides an opening not less than 1 100 mm high and 550 mm wide, the sill of which shall not be more than 900 mm above the floor."
	(3)	
	9.10.20.3.	Fire Department Access to Buildings
e_3	(1), (2)	[F12-OP1.2]
		[F12-OS1.2, OS1.5]
e_2	9.10.20.4.	Portable Fire Extinguishers
	(1)	[F02, F12, F81-OP1.2]
		[F81, F02, F12-OS1.2]
	9.10.20.5.	Freeze Protection for Fire Protection Systems
	(1)	[F02, F81-OP1.2]
		[F02, F81-OS1.2]
	9.10.21.1	Requirements for Construction Camps
	(1)	
	9.10.21.2.	Separation of Sleeping Rooms
	(1)	[F03-OP1.2]
		[F03-OS1.2]
	9.10.21.3.	Floor Assemblies Between the First and Second Storey
	(1)	[F03-OP1.2]
		[F03-OS1.2, OS1.5]
	9.10.21.4.	Walkways Connecting Buildings
	(1)	[F03-OP1.2]
		[F03-OP3.1]
		[F03, F06-OS1.2, OS1.5]
	9.10.21.5.	Spatial Separations
	(1)	[F03-OP3.1]

Acceptable Solution	Objectives and Functional Statements
9.10.21.6.	Flame-Spread Ratings
(1)	[F05-OS1.2, OS1.5]
(2)	
9.10.21.7.	Smoke Detectors
(1)	[F11-OS1.5]
9.10.21.8.	Portable Fire Extinguishers
(1)	[F02, F12, F81-OP1.2]
	[F02, F12, F81-OS1.2]
9.10.21.9.	Hose Stations
(1)	[F02, F12, F81-OP1.2]
	[F02, F12, F81-OS1.2]
(2)	[F12-OP1.2]
	[F12-OS1.2]
(3)	[F12-OP1.2]
	[F12-OS1.2]
9.10.22.1.	Installation of Ranges
(1)	
(2)	
9.10.22.2.	Vertical Clearances above Cooktops
(1)	
(2)	[F01-OS1.1, OS1.2]
9.10.22.3.	Protection Around Cooktops
(1)	[F01-OS1.1, OS1.2]
(2)	
(3)	[F01-OS1.1, OS1.2]
9.11.1.1.	Determination of Sound Transmission Class Ratings
(1)	[F56-OH3.1]
9.11.2.1.	Minimum Sound Transmission Class Ratings
(1)	[F56-OH3.1]
(2)	[F56-OH3.1]
9.11.2.2.	Building Services in an Assembly
(1)	[F56-OH3.1]
9.12.1.1.	Removal of Topsoil and Organic Matter
(1)	[F20, F40, F41-OH1.1]
(2)	[F81-OP2.3, OP2.4]
	[F81-OH1.1, OH1.2, OH1.3] Applies to elements that support or are part of an environmental separator.
	[F81-OS1.2] Applies to assemblies required to provide fire resistance.
	[F81-OS2.3]
	[F81-OS3.1] Applies to floors and elements that support floors.
(3)	[F20-OP2.2] [F20, F21-OP2.3, OP2.4]
	[F20-OS2.2, OS2.3] [F21-OS2.3]
	[F20, F21-OS3.1] Applies to floors and elements that support floors.
	[F20, F21, F40, F41-OH1.1] [F20, F21-OH1.2, OH1.3] Applies to elements that support or are part of an environmental separator.
	[F20, F21-OH4] Applies to floors and elements that support floors.
9.12.1.2.	Standing Water
(1)	[F60-OP2.2, OP2.3, OP2.4]
	[F60-OS2.2, OS2.3]
	[F60-OS3.1] Applies to floors and elements that support floors.
	[F60-OH1.1, OH1.2, OH1.3] Applies to elements that support or are part of an environmental separator.
	[F60-OH4] Applies to floors and elements that support floors.

Acceptable Solution	Objectives and Functional Statements
(5)	[F44-OS3.4]
9.33.4.3.	Installation and Conformance to Standards
(1)	[F44-OS3.4]
	(a), (d) [F81-OS3.4]
(2)	
9.34.1.1.	Reserved
9.34.1.2.	Required Facilities
(1)	
9.34.1.3.	Location of Equipment in Public Areas
(1)	[F10-OS3.1] [F32, F81-OS3.3]
9.34.1.4.	Recessed Lighting Fixtures
(1)	[F01-OS1.1]
9.34.1.5.	Wiring and Cables
(1)	[F02-OS1.2]
	[F02-OP1.2]
(2)	
9.34.2.1.	Lighting of Entrances
(1)	[F30-OS3.1]
	[F34-OS4.2]
(2)	
r6 9.34.2.2.	Lighting Outlets in Houses and Dwelling Units
(1)	[F30-OS3.1]
(2)	[F30-OS3.1]
9.34.2.3.	Stairways
(1)	[F30-OS3.1]
(2)	[F30-OS3.1]
(3)	
9.34.2.4.	Basements
(1)	[F30-OS3.1]
(2)	[F30-OS3.1]
9.34.2.5.	Storage Rooms
(1)	[F30-OS3.1]
9.34.2.6.	Garages and Carports
(1)	[F30-OS3.1]
(2)	[F30-OS3.1]
(3)	[F30-OS3.1]
(4)	
9.34.2.7.	Public and Service Areas
(1)	[F30-OS3.1]
(2)	[F30-OS3.1]
(3)	[F30-OS3.1]
9.34.3.1.	Emergency Lighting
(1)	
9.35.1.1.	Application
(1)	
9.35.1.2.	Construction Requirements
(1)	
9.35.2.1.	Carport Considered to be Garage
(1)	
9.35.2.2.	Garage Floor
(1)	[F40-OS1.1]

Acceptable Solution	Objectives and Functional Statements
9.35.3.1.	Foundation Required
(1)	
9.35.3.2.	Protection from Damage due to Soil Movement
(1)	[F21-OH1.1, OH1.2, OH1.3]
	[F21-OH4] Applies to floors and elements that support floors.
	[F21-OP2.3, OP2.4]
	[F21-OS2.3]
	[F21-OS3.1] Applies to floors and elements that support floors.
(2)	[F21-OH1.1, OH1.2, OH1.3]
	[F21-OH4] Applies to floors and elements that support floors.
	[F21-OP2.3, OP2.4]
	[F21-OS2.3]
	[F21-OS3.1] Applies to floors and elements that support floors.
(3)	
9.35.3.3.	Small Garages
(1)	
9.35.3.4.	Column Piers
(1)	[F80-OP2.3]
	[F80-OS2.3]
(2)	[F20-OP2.1, OP2.2]
	[F20-OS2.1, OS2.2]
9.35.4.1.	Interior Finish
(1)	
9.35.4.2.	Columns
(1)	[F20-OP2.1]
	[F20-OS2.1]
9.35.4.3.	Anchorage
(1)	[F22-OP2.4, OP2.5]
	[F22-OS2.4, OS2.5]
9.36.1.1.	Application
(1)	
(2)	
9.36.2.1.	Exclusions
(1)	
(2)	[F42-OH2.5]
	[F20-OP2.1]
	[F20-OS2.1] [F30-OS3.1]
(3)	
(4)	
(5)	
9.36.2.2.	Foundations
(1)	
(2)	[F20-OP2.1]
	[F20-OS2.1]
(3)	
9.36.2.3.	Waterproofing and Dampproofing
(1)	
9.36.2.4.	Smoke Alarms
(1)	
9.36.3.1.	Buildings for Seasonal Tourist Accommodation or for Rent
(1)	

Table 12
Objectives and Functional Statements Attributed to the Acceptable Solutions in Part 12 of Division B

	Acceptable Solution	Objectives and Functional Statements
	12.1.1.1.	Scope
	(1)	
	12.1.1.2.	Application
	(1)	
	12.2.1.1.	Energy Efficiency Design Before January 1. 2017
	(1)	
	(2)	[F131-OR2] [F131-OR1, OR1.2]
	(3)	(a) [F131-OR2] [F131-OR1, OR1.2]
		(b) [F131-OR1.2]
	(4)	
	12.2.1.2.	Energy Efficiency Design After December 31, 2016
	(1)	
	(2)	[F131-OR2] [F131-OR1, OR1.2]
	(3)	[F131-OR2] [F131-UR1, OR1.2]
	(4)	
	12.2.2.1.	Carbon Dioxide Equivalents
	(1)	[F131-OR1, OR1.2]
	(2)	
	12.2.3.1.	Peak Electric Demand
	(1)	[F131-OR1, OR1.2] [F133-OR2.1]
	(2)	
	12.2.4.1.	Motion Sensors
	(1)	
	(2)	[F30-OS3.1] [F10-OS3.7]
	(3)	[F30-OS3.1] [F10-OS3.7]
	12.3.1.1.	Application
	(1)	
	12.3.1.2.	Windows and Sliding Glass Doors
	(1)	[F131-OR1.2]
r6	12.3.1.3.	Temperature Control in Houses and Dwelling Units
	(1)	[F131-OR1.2]
	(2)	(a) [F131-OR1.2] [F133-OR2.1]
		(b) [F131-OR1.2] [F133-OR2.1]
		[c) [F131-OR1.2] [F133-OR2.1]
	(3)	[F131-OR1.2] [F132-OR2.1]
	12.3.1.4.	Hot Water Piping Insulation
	(1)	[F131-OR1.2] [F132-OR2.1]
	(2)	[F131-OR1.2] [F132-OR2.1]
	(3)	[F131-OR1.2] [F132-OR2.1]
r6	12.3.1.5.	Residential Furnaces
	(1)	[F131-OR1.2] [F132-OR2.1]
		[F150-OE1.1]
r6	12.3.1.6.	Energy Supply for Kitchen and Laundry Facilities
	(1)	[F131-OR1.2]
	12.4.1.1.	Plumbing Systems
	(1)	

Important Notice

Place these amendment pages after the tab "Pending Amendments" in Volume 1.

These amendments are effective January 1, 2018.

These pages, which have date bars at the bottom, are to replace or add to the existing corresponding pages on January 1, 2018.

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

(5) A *liquid manure* storage tank shall comply with the requirements of Part 4 of Division B of this Code and the requirements of Part 4 of the CCBFC NRCC 38732, "National Farm Building Code of Canada".

(6) A *permanent solid nutrient storage facility* shall comply with the requirements of Part 4 of Division B of this Code.

Section 1.4. Terms and Abbreviations

1.4.1. Definitions of Words and Phrases

1.4.1.1. Non-defined Terms

(1) Definitions of 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.

1.4.1.2. Defined Terms

(1) Each of the words and terms in italics in this Code has,
(a) the same meaning as in subsection 1(1) of the Act, if not defined in Clause (b) or (c),
(b) 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), 7.1.3.1.(1), 8.1.1.2.(1) and 11.1.1.2.(1) of Division B, or
(c) the following meaning for the purposes of this Code:

$r_{6.1}$ *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 3 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*.

r_4 *Adaptable seating* means a fixed seat or seats designed to facilitate a side transfer from a wheelchair. (See Appendix A.)

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.

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 an 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 is 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 one or more zones of a *building* 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.

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

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 means the *occupancy* or the use of a *building* or part of a *building* by a gathering of persons for civic, political, travel, religious, social, educational, recreational or similar 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-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 one or more *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* on which the *foundation unit* 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 m²,
(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.

Branch means a *soil* or *waste pipe* that is connected at its upstream end to the junction of two or more *soil* or *waste pipes* or to a *soil* or *waste stack* and that is connected at its downstream end to another *branch*, a sump, a *soil* or *waste 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 that, at its upper end, is connected to another *branch vent*, a *stack vent*, a *vent stack* or a *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*,
(a) within the outside surface of exterior walls, or
(b) 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 means the number of *storeys* contained between the roof and the floor of the *first storey*.

Building sewer means a *sanitary building sewer* or *storm building sewer*.

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

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

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.

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

r6 *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.

Cavity wall means a construction of masonry units laid with a cavity between the wythes, where 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.

r5 *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.

r6.1 *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.

r6 *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 shaft that is primarily vertical and that encloses 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 and 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.

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 is 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 containing no impurities or contaminants that are harmful to a person's health, plant or animal life or that impair the quality of the natural environment.

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, wired glass and 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, "Test for Determination of Non-Combustibility in Building Materials".

Combustible construction means a type of construction that does not meet the requirements for *noncombustible construction*.

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, and includes cotton, wool, hemp, sisal, jute, kapok, paper and cloth.

Combustible liquid means any 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 space within a *building* in which the temperature is controlled to limit variation in response to the exterior ambient temperature or interior differential temperatures 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.

r5 *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 those products or substances that are regulated by the *Transportation of Dangerous Goods Regulations* made under the *Transportation of Dangerous Goods Act, 1992* (Canada).

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 nonstructural components of a *building*.

Deep foundation means a *foundation unit* that provides support for a *building* by transferring loads either by end-bearing to a *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*.

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 an *occupancy* in which persons are under restraint or are incapable of self preservation because of security measures not under their control.

Developed length means, when applied to a pipe and fittings, the length along the centre line of the pipe and fittings.

Directly connected means physically connected in such a way that neither water nor 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*.

r6.1 *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 per cent 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.

r6.1 *Electric vehicle supply equipment* means electric vehicle supply equipment as defined in Rule 86-100 of the Electrical Safety Code adopted under Ontario Regulation 164/99 (Electrical Safety Code) made under the *Electricity Act, 1998*.

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 Appendix A.)

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.

r6 *House* means a detached house, semi-detached house or row house containing not more than two *dwelling units*.

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 being 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 means the *occupancy* or use of a *building* or part of a *building* for the assembling, fabricating, manufacturing, processing, repairing or storing of goods or 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.

e5 *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,
r6.1 (b) the *leaching chamber* or the *distribution pipe* and the stone or gravel layer in which the *distribution pipe* is located, and
r6.1 (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.

r6.1 *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.

r6.1 *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*, sewer or other place of disposal.

Limiting distance means the distance from an *exposing building face* to a property line, to the centre line of a *street*, lane or public thoroughfare or to an imaginary line between two *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 percent 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* and 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 means, when applied to a *building* element, subjected to or designed to carry loads in addition to its own *dead load*, but does not include a wall element subject 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 of a *building* is used or intended to be used, and is 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:

(a) Group A, Division 1 - *Assembly occupancies* intended for the production and viewing of the performing arts,
(b) Group A, Division 2 - *Assembly occupancies* not elsewhere classified in Group A,
(c) Group A, Division 3 - *Assembly occupancies* of the arena type,
(d) Group A, Division 4 - *Assembly occupancies* in which occupants are gathered in the open air,
(e) Group B, Division 1 - *Detention occupancies*,
(f) Group B, Division 2 - *Care and treatment occupancies*,
(g) Group B, Division 3 - *Care occupancies*,
(h) Group C - *Residential occupancies*,
(i) Group D - *Business and personal services occupancies*,
(j) Group E - *Mercantile occupancies*,
(k) Group F, Division 1 - *High hazard industrial occupancies*,
(l) Group F, Division 2 - *Medium hazard industrial occupancies*, and
(m) Group F, Division 3 - *Low hazard industrial occupancies*.

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 includes *exits* and *access to exits* and means a continuous path of travel provided for the escape of persons from any point in a *building* or in a contained open space to,

(a) a separate *building*,
(b) an open public thoroughfare, or
(c) an exterior open space that is protected from fire exposure from the *building* and that has access to an open public thoroughfare.

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*.

r3 *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.

r6.1 *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 on 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 pre-determined 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.

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*,
(a) that is intended to supply heat directly to a room or space, such as a *space heater*, fireplace and *unit heater*, or
(b) that is intended to supply heat to rooms or spaces of a *building* through a heating system, such as a central *furnace* or *boiler*.

Sprinklered means 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 of a *building* that is intended for the storage or parking of motor vehicles and that contains no provision for the repair or servicing of motor vehicles.

Storage-type service water heater means a *service water heater* with an integral hot water storage tank.

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 methods such 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*.
(See Appendix A.)

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.

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*.

r6.1 *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.

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.

Vent connector means, when applied to a heating or cooling system, 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 that is oriented essentially vertically and 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 two 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*.

1.4.1.3. Definition of Applicable Law (See Appendix A.)

(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:
r_6 (0.i) 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*,
(i) section 114 of the *City of Toronto Act, 2006* with respect to the approval by the City of Toronto or the Ontario Municipal Board of plans and drawings,
(ii) 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*,
r_6 (iii) reserved,
(iv) section 194 of the *Education Act* with respect to the approval of the Minister for the *demolition* of a *building*,
(v) section 6 of Regulation 314 of the Revised Regulations of Ontario, 1990 (General), made under the *Elderly Persons Centres Act*, with respect to the approval of the Minister for the *construction* of a *building* project,
(vi) section 5 of the *Environmental Assessment Act* with respect to the approval of the Minister or the Environmental Review Tribunal to proceed with an undertaking,

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Table 1.3.1.2. (Cont'd)
Documents Referenced in the Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document(1)	Code Reference
CSA	S16-09	Design of Steel Structures	Table 4.1.8.9. 4.3.4.1.(1)
CSA	CAN/CSA-S136-07	North American Specifications for the Design of Cold Formed Steel Structural Members (using the Appendix B provisions applicable to Canada)	Table 4.1.8.9. 4.3.4.2.(1)
CSA	CAN/CSA-S157-05 / S157.1-05	Strength Design in Aluminum / Commentary on CSA S157-05, Strength Design in Aluminum	4.3.5.1.(1)
CSA	S304.1-04	Design of Masonry Structures	Table 4.1.8.9. 4.3.2.1.(1)
CSA	S307-M1980	Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings	9.23.13.11.(5)
CSA	S367-09	Air-, Cable-, and Frame-Membrane Supported Structures	4.4.1.1.(1)
CSA	CAN/CSA-S406-92	Construction of Preserved Wood Foundations	9.13.2.8.(1) 9.15.2.4.(1) 9.16.5.1.(1)
CSA	S413-07	Parking Structures	4.4.2.1.(1)
CSA	S478-95	Guideline on Durability in Buildings	5.1.4.2.(3) Table 5.10.1.1.
CSA	Z32-09	Electrical Safety and Essential Electrical Systems in Health Care Facilities	3.2.7.3.(4) 3.2.7.6.(1) 3.7.5.1.(1)
CSA	CAN/CSA-Z91-02	Health and Safety Code for Suspended Equipment Operations	4.4.4.1.(1)
CSA	Z240 MH Series-09	Manufactured Homes	3.1.1.1.(2) of Division C 3.2.4.1.(3) of Division C
CSA	Z240.2.1-09	Structural Requirements for Manufactured Homes	9.1.1.9.(1) 9.12.2.2.(6) 9.15.1.3.(1)
CSA	Z240.10.1-08	Site Preparation, Foundation and Anchorage of Manufactured Homes	9.15.1.3.(1) 9.23.6.3.(1)
CSA	CAN/CSA-Z241 Series-03	Park Model Trailers	9.38.1.1.(1) 9.38.2.1.(1) 3.1.1.1.(2) of Division C 3.2.4.1.(3) of Division C
CSA	CAN/CSA-Z317.2-10	Special Requirements for Heating, Ventilation and Air Conditioning (HVAC) Systems in Health Care Facilities	6.2.1.1.(1)
CSA	CAN/CSA-Z662-11 / Z662.1-11	Oil and Gas Pipeline Systems / Commentary on CAN/CSA-Z662-11, Oil and Gas Pipeline Systems	3.2.3.21.(1)
CSA	Z7396.1-09	Medical Gas Piping Systems - Part 1: Pipelines for Medical Gases and Vacuum	3.7.5.2.(1)
CSA / IAPMO	CSA B45.5-11 / IAPMO Z124-2011	Plastic Plumbing Fixtures	7.2.2.2.(6)
CWC	2009	Engineering Guide for Wood Frame Construction	9.4.1.1.(1)
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Table 1.3.1.2. (Cont'd)
Documents Referenced in the Building Code
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document(1)	Code Reference
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	2009	Rules and Regulations - FINA Facilities Rules 2009-2013 - FR5 Diving Facilities	3.11.4.1.(17)
HI	2005	Hydronics Institute Manuals	6.2.1.1.(1)
HRAI	2005	Digest	6.2.1.1.(1) 6.2.3.5.(1) 6.2.4.3.(13)
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 915-2009	Procedure for Loudness Rating of Residential Fan Products	9.32.3.9.(2) Table 9.32.3.9.
HVI	HVI 916-2009	Airflow Test Procedure	9.32.3.9.(1)
r6.1 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: 2003	Graphical Symbols - Safety Colours and Safety Signs - Safety Signs Used in Workplaces and Public Areas	3.4.5.1.(2) 9.9.11.3.(2)
ISO	8201: 1987(E)	Acoustics - Audible Emergency Evacuation Signal	3.2.4.20.(2)
ISO	23599: 2012	Assistive Products for Blind and Vision-Impaired Persons – Tactile Walking Surface Indicators	3.8.3.18.(1)
r6 MMAH	Supplementary Standard SA-1, March 21, 2017	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
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Part 3

Fire Protection, Occupant Safety and Accessibility

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(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.

3.1.20. Glass in Guards

3.1.20.1. Glass

(1) Except as provided in Sentence 3.3.4.7.(1), glass in *guards* shall conform to MMAH Supplementary Standard SB-13, "Glass in Guards".

r6.1 3.1.21. Electric Vehicle Charging

3.1.21.1. Electric Vehicle Charging Systems

(1) Except as provided in Sentence (3), where vehicle parking spaces are located in a *building*, other than an apartment *building*, not less than 20% of the parking spaces shall be provided with *electric vehicle supply equipment* installed in accordance with Section 86 of the Electrical Safety Code adopted under Ontario Regulation 164/99 (Electrical Safety Code) made under the *Electricity Act, 1998*.

(2) The remaining parking spaces located in a *building* described in Sentence (1) shall be designed to permit the future installation of *electric vehicle supply equipment* that conforms to Section 86 of the Electrical Safety Code.

(3) Except as provided in Sentence (6), where a *house* is served by a garage, carport or driveway, the following shall be installed to permit the future installation of *electric vehicle supply equipment* that conforms to Section 86 of the Electrical Safety Code:
(a) a minimum 200 amp panelboard,
(b) a conduit that is not less than 27 mm trade *size* and is equipped with a means to allow cables to be pulled into the conduit, and
(c) a square 4-11/16 in. trade *size* electrical outlet box.

(4) The electrical outlet box described in Clause (3)(c) shall be installed in the garage or carport or adjacent to the driveway.

(5) The conduit and electrical outlet box described in Clauses (3)(b) and (c) shall provide an effective barrier against the passage of gas and exhaust fumes.

(6) A *house* need not comply with Sentence (3) where it,
(a) is not connected to a distribution system, as defined in subsection 2(1) of the *Electricity Act, 1998*, or
(b) is used or intended to be used as a seasonal recreational *building* described in Section 9.36.

Section 3.2. Building Fire Safety

3.2.1. General

3.2.1.1. Exceptions in Determining Building Height

e3 **(1)** A rooftop enclosure provided for elevator machinery, a stairway or a *service room* used for no purpose other than for service to the *building*, shall not be considered as a *storey* in calculating the *building height*.

(2) Space under tiers of seats in a *building* of the arena type shall not be considered as adding to the *building height* provided the space is used only for dressing rooms, concession stands and similar purposes incidental to the *major occupancy* of the *building*.

(3) Except as required by Sentence (5), the space above a *mezzanine* need not be considered as a *storey* in calculating *building height* provided,
(a) the aggregate area of *mezzanines* that are not superimposed does not exceed 40% of the open area of the room in which they are located, and (See Appendix A.)
(b) except as permitted in Sentence (8) and Sentence 3.3.2.11.(3) the space above the *mezzanine* is used as an open area without *partitions* or subdividing walls higher than 1 070 mm above the *mezzanine* floor.

(4) Except as required by Sentence (5), the space above a *mezzanine* need not be considered as a *storey* in calculating the *building height* provided,
e3 (a) the aggregate area of *mezzanines* that are not superimposed and do not meet the conditions of Sentence (3) does not exceed 10% of the *floor area* in which they are located, and
(b) the area of *mezzanine* in a *suite* does not exceed 10% of the area of that *suite*.

(5) Except as permitted by Sentences (6) and (7), each level of *mezzanine* that is partly or wholly superimposed above the first level of *mezzanine* shall be considered as a *storey* in calculating the *building height*.

(6) Platforms intended solely for periodic inspection and elevated catwalks need not be considered as floor assemblies or *mezzanines* for the purpose of determining *building height* provided,
(a) they are not used for storage,
(b) they are constructed with *noncombustible* materials unless the *building* is permitted to be of *combustible construction*, and
(c) where they are intended to be occupied, they have an *occupant load* of not more than four persons.

(7) *Mezzanines*, elevated walkways and platforms that are intended to be occupied in Group F, Division 2 or 3 *major occupancies* need not be considered as *storeys* in calculating *building height* provided,
(a) the *building* is of *noncombustible construction*, and
(b) the *occupant load* is not more than four persons.

(8) The space above a *mezzanine* conforming to Sentence (3) is permitted to include an enclosed space whose area does not exceed 10% of the open area of the room in which the *mezzanine* is located, provided the enclosed space does not obstruct visual communication between the open space above the *mezzanine* and the room in which it is located.

(9) A *service space* in which facilities are included to permit a person to enter and to undertake maintenance and other operations pertaining to *building* services from within the *service space* need not be considered a *storey* if it conforms to Articles 3.2.5.15. and 3.3.1.23. and Sentences 3.2.4.20.(12), 3.2.7.3.(2), 3.3.1.3.(7), 3.4.2.4.(3) and 3.4.4.4.(9). (See Appendix A.)

3.2.1.2. Storage Garage Considered as a Separate Building

(1) A *basement* used primarily as a *storage garage* is permitted to be considered as a separate *building* for the purposes of Subsection 3.2.2., provided the floor and roof assemblies above the *basement* and, except as permitted by Sentence (2), the exterior walls of the *basement* above the adjoining ground level are constructed as *fire separations* of,
(a) masonry or concrete having a *fire-resistance rating* not less than 2 h, or
(b) *noncombustible construction* having a *fire-resistance rating* of not less than 2 h, where the *building* conforms to Clauses 3.1.10.2.(4)(a) and (c) to (e).

(2) The exterior wall of a *basement* that is required to be a *fire separation* with a *fire-resistance rating* in accordance with Sentence (1) is permitted to be penetrated by openings that are not protected by *closures* provided,
(a) the *storage garage* is *sprinklered*,
(b) every opening in the exterior wall is separated from *storeys* above the opening by a projection of the floor or roof assembly above the *basement*, extending not less than,
  (i) 1 m beyond the exterior face of the *storage garage* if the upper *storeys* are required to be of *noncombustible construction*, or
  (ii) 2 m beyond the exterior face of the *storage garage* if the upper *storeys* are permitted to be of *combustible construction*, or
(c) the exterior walls of any *storeys* located above the floor or roof assembly referred to in Sentence (1) are recessed behind the outer edge of the assembly by not less than,
  (i) 1 m if the upper *storeys* are required to be of *noncombustible construction*, or
  (ii) 2 m if the upper *storeys* are permitted to be of *combustible construction*.

(3) The floor or roof assembly projection referred to in Clause (2)(b) shall have a *fire-resistance rating* not less than 2 h and shall have no openings within the projection

3.2.1.3. Roof Considered as a Wall

r3 **(1)** For the purposes of this Section any part of a roof that is pitched at an angle of 60° or more to the horizontal and is adjacent to a space intended for occupancy within a *building* shall be considered as part of an exterior wall of the *building*.

3.2.1.4. Floor Assembly Over Basement

(1) Except as permitted by Sentence 3.2.2.42.(3), 3.2.2.43.(3), 3.2.2.44.(3), 3.2.2.45.(3), 3.2.2.46.(3), 3.2.2.47.(3) or 3.2.2.48.(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 3.2.2.83. for a floor assembly, but not less than 45 min.

(2) All *loadbearing* walls, columns and arches supporting a floor assembly immediately above a *basement* shall have a *fire-resistance rating* not less than that required by Sentence (1) for the floor assembly.

3.2.1.5. Fire Containment in Basements

(1) Except as permitted by Sentences (2) and 3.2.2.15.(3), in a *building* in which an automatic sprinkler system is not required to be installed by Articles 3.2.2.20. to 3.2.2.83., every *basement* shall,
(a) be *sprinklered*, or
(b) be subdivided into *fire compartments* not more than 600 m^2 in area by a *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly immediately above the *basement*.

(2) An *open-air storey* need not conform to Sentence (1).

3.2.1.6. Mezzanines

(1) The floor assembly of a *mezzanine* that is required to be considered as a *storey* in calculating *building height* shall be constructed in conformance with the *fire separation* requirements for floor assemblies in Articles 3.2.2.20. to 3.2.2.83.

3.2.2. Building Size and Construction Relative to Occupancy

3.2.2.1. Application

(1) Except as permitted by Article 3.2.2.3., a *building* shall be constructed in conformance with this Subsection to prevent fire spread and collapse caused by the effects of fire.

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 3.2.2.83. shall be protected against fire spread and collapse in conformance with good fire protection engineering practice. (See Appendix A.)

3.2.2.3. Exceptions to Structural Fire Protection

(1) Fire protection is not required for,
(a) steel lintels above openings not more than 2 m wide in *loadbearing* walls and not more than 3 m wide in non-*loadbearing* walls,
(b) steel lintels above openings more than 2 m wide in *loadbearing* walls and more than 3 m wide in non-*loadbearing* walls, provided the lintels are supported at intervals of not more than 2 m by structural members with the required *fire-resistance rating*,
(c) the bottom flanges of shelf angles and plates that are not a part of the structural frame,
(d) steel members for framework around elevator hoistway doorways, steel for the support of elevator and dumbwaiter guides, counterweights and other similar equipment, that are entirely enclosed in a hoistway and are not a part of the structural frame of the *building*,
(e) steel members of stairways and escalators that are not a part of the structural frame of a *building*,
(f) steel members of porches, exterior balconies, exterior stairways, fire escapes, cornices, *marquees* and other similar appurtenances, provided they are outside an exterior wall of a *building*, and
(g) *loadbearing* steel or concrete members wholly or partly outside a *building* face in a *building* not more than 4 *storeys* in *building height* and classified as Group A, B, C, D or F, Division 3 *major occupancy* provided the members are,
  (i) not less than 1 m away from any *unprotected opening* in an exterior wall, or
  (ii) shielded from heat radiation in the event of a fire within the *building* by construction that will provide the same degree of protection that would be necessary if the member was located inside the *building*, with the protection extending on either side of the member a distance equal to the projection of the member from the face of the wall.

3.2.2.4. Buildings with Multiple Major Occupancies

(1) The requirements restricting fire spread and collapse for a *building* of a single *major occupancy* classification are provided in this Subsection according to its *building height* and *building area*.

(2) If a *building* contains more than one *major occupancy*, classified in more than one Group or Division, the requirements of this Subsection concerning *building* size and construction relative to *major occupancy* shall apply according to Articles 3.2.2.5. to 3.2.2.8.

r6 **(3)** For the purposes of Sentences (1) and (2), a *retirement home* is deemed to be a separate *major occupancy*.

3.2.2.5. Applicable Building Height and Area

(1) In determining the fire safety requirements of a *building* in relation to each of the *major occupancies* contained in it, the *building height* and *building area* of the entire *building* shall be used.

r6 **(2)** For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy*.

3.2.2.6. Multiple Major Occupancies

r5 **(1)** Except as permitted by Articles 3.2.2.7. and 3.2.2.8. and Sentences 3.2.2.43A.(5) and 3.2.2.50A.(4), 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*.

r6 **(2)** For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy*.

3.2.2.7. Superimposed Major Occupancies

r5 **(1)** Except as permitted by Article 3.2.2.8. and Sentences 3.2.2.43A.(5) and 3.2.2.50A.(4), 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* was 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*.

r6 **(3)** For the purposes of Sentences (1) and (2), a *retirement home* is deemed to be a separate *major occupancy*.

3.2.2.8. Exceptions for Major Occupancies

(1) In a *building* in which the aggregate area of all *major occupancies* in a particular Group or Division is not more than 10% of the *floor area* of the *storey* in which they are located, these *major occupancies* need not be considered as *major occupancies* for the purposes of this Subsection, provided they are not classified as Group F, Division 1 or 2 *occupancies*.

r6 **(1.1)** For the purposes of Sentence (1), a *retirement home* is deemed to be a separate *major occupancy*.

(2) 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.

3.2.2.9. Crawl Spaces

(1) For the purposes of Articles 3.2.1.4. and 3.2.1.5., a crawl space shall be considered as a *basement* if it is,
(a) more than 1 800 mm high between the lowest part of the floor assembly and the ground or other surface below,
(b) used for any *occupancy*,
(c) used for the passage of *flue pipes*, or
(d) used as a *plenum* in *combustible construction*.

(2) A floor assembly immediately above a crawl space is not required to be constructed as a *fire separation* and is not required to have a *fire-resistance rating* provided the crawl space is not required to be considered as a *basement* by Sentence (1).

3.2.2.10. Streets

(1) Every *building* shall face a *street* located in conformance with the requirements of Articles 3.2.5.4 and 3.2.5.5 for access routes.

(2) For the purposes of Subsections 3.2.2. and 3.2.5. an access route conforming to Subsection 3.2.5. is permitted to be considered as a *street*.

Table 7.6.3.2.A. (Cont'd)
Sizing of Water Distribution Systems(1)(2)
Forming Part of Sentences 7.6.3.2.(1) to (3) and 7.6.3.4.(2), (3) and (5)

Fixture or Device	Minimum *Size* of Supply Pipe, in.	*Private Use* Hydraulic Load, *fixture units*			*Public Use* Hydraulic Load, *fixture units*		
		Cold	Hot	Total	Cold	Hot	Total
Urinal, with direct flush valve	3/4	(6)	-	(6)	(6)	-	(6)
Urinal, with flush tank	3/8	3	-	3	3	-	3
Urinal, with self-closing metering valve	1/2	2	-	2	4	-	4
Water closet, 6 LPF or less with flush tank	3/8	2.2	-	2.2	2.2	-	2.2
Water closet, greater than 6 LPF with flush tank	3/8	3	-	3	5	-	5
Water closet, with direct flush valve	1	(6)	-	(6)	(6)	-	(6)
Column 1	2	3	4	5	6	7	8

Notes to Table 7.6.3.2.A.:
(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 a ½ in. size bathtub supply pipe.
(4) Add additional *fixture* to the *fixture* load for *bathroom group*.
(5) Refer to the 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 Units* 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
Column 1	2	3

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 Units* 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
Column 1	2	3

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.(2) and (3) and 7.6.3.4.(5)

Size of Supply Pipe, in.	Hydraulic Load, *fixture units*	
	Private Use	*Public Use*
⅜	1	2
½	2	4
¾	3	6
1	6	10
Column 1	2	3

7.6.3.3. Static Pressure

(1) Where the static pressure at any *fixture* may exceed 550 kPa, a pressure reducing valve conforming to Article 7.2.10.12. shall be installed to limit the maximum static pressure at the *fixture* to 550 kPa.

7.6.3.4. Size

(1) Every *water service pipe* shall be sized according to the peak demand flow but shall not be less than ¾ in. in *size*.

(2) Except as permitted in Sentence (3), the *size* of a supply pipe that serves a *fixture* or device shall conform to Table 7.6.3.2.A.

(3) For *fixtures* listed in Table 7.6.3.2.A that have a permitted supply pipe *size* of ⅜ in., a connector not more than 750 mm long and not less than 6.3 mm inside diameter may be used to supply water to the *fixture* or device.

(4) No *water system* between the point of connection with the *water service pipe* or the water meter and the first branch that supplies a water heater that serves more than one *fixture* shall be less than ¾ in. in *size*.

r6.1 **(5)** Where both hot and cold water is supplied to *fixtures* in residential *buildings* containing more than one *dwelling unit*, the *water system* may be sized in accordance with Table 7.6.3.4. provided,
(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 Tables 7.6.3.2.A., 7.6.3.2.B., 7.6.3.2.C. and 7.6.3.2.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 Appendix A.)

r6.1 **(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 ¾ in. in *size* provided,
(a) a minimum ¾ in. 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.

r6.1 Table 7.6.3.4.
Water Pipe Sizing for Buildings Containing More Than One Dwelling Unit
Forming Part of Sentence 7.6.3.4.(5)

Size of Water Pipe, in.	Water Velocity m/s(1)	
	2.4	1.5
	Hydraulic Load, *fixture units*	
½	7	4
¾	16	9
1	31	18
1¼	57	30
Column 1	2	3

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) The flow rates of fittings that supply water to a *fixture* shall not exceed the maximum flow rates at the test pressures listed for that fitting in Table 7.6.4.1.

(2) Sentence (1) does not apply to a *fixture* located in a *heritage building*.

Table 7.6.4.1.
Maximum Flow Rates for Water Supply Fittings
Forming Part of Sentence 7.6.4.1.(1)

Fitting	Maximum Flow, L/min	Test Pressure, kPa
Lavatory Faucet	8.35	413
Kitchen Faucet	8.35	413
Shower Heads in *Residential Occupancy*	7.6	550
Shower Heads in Other *Occupancies*	9.5	550
Column 1	2	3

7.6.4.2. Plumbing Fixtures

(1) Water closets and urinals shall be certified to CAN/CSA-B45.0, "General Requirements for Plumbing Fixtures".

(2) Except as provided in Sentence (3), the flush cycle for each *fixture* that is a water closet or urinal shall not exceed the maximum water consumption per flush cycle listed for that *fixture* in Table 7.6.4.2.A. (See Appendix A.)

Table 7.6.4.2.A.
Maximum Water Consumption per Flush Cycle for Sanitary Fixtures
Forming Part of Sentence 7.6.4.2.(2)

Fixture	Maximum Water Consumption per Flush Cycle, LPF
Water Closet (Tank Type)	6.0
Water Closet (Direct Flush)	6.0
Urinal (Tank Type)	1.9(1)
Urinal (Direct Flush)	1.9(1)
Column 1	2

Notes to Table 7.6.4.2.A.:
(1) Urinals equipped with automatic flushing devices shall be controlled to prevent unnecessary flush cycles during *building* down time.

(3) 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 consumption per flush cycle listed for that *fixture* in Table 7.6.4.2.B.

(4) Sentences (2) and (3) 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 Appendix A.)

Table 7.6.4.2.B.
Maximum Water Consumption per Flush Cycle for Sanitary Fixtures in a Group C Occupancy
Forming Part of Sentence 7.6.4.2.(3)

Fixture	Maximum Water Consumption per Flush Cycle, LPF
Water Closet (Tank Type)	4.8(1)
Water Closet (Direct Flush)	4.8
Urinal (Tank Type)	1.9(2)
Urinal (Direct Flush)	1.9(2)
Column 1	2

Notes to Table 7.6.4.2.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.
(2) Urinals equipped with automatic flushing devices shall be controlled to prevent unnecessary flush cycles during *building* down time.

7.6.5. Water Temperature Control (See Appendix A.)

7.6.5.1. Maximum Temperature of Hot Water

(1) Except as provided in Sentences (2) and 7.6.5.3.(1), the maximum temperature of hot water supplied by fittings to *fixtures* in a *residential occupancy* shall not exceed 49°C.

Part 8

Sewage Systems

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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
Column 1	2	3	4	5

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
Column 1	2

r6.1 **(2)** Except as provided in Sentences 8.2.1.4.(1) and (2), the centreline 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).

r6.1

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
Column 1	2

(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
Column 1	2

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) Subject to Sentence (3), 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) Subject to Sentence (3), 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”.

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,

$$L_R = \frac{400}{T}$$

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

$r_{6.1}$ **(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*.

$r_{6.1}$ **(1.1)** Where the total length of *leaching chamber* is 150 m or more, a *distribution pipe* shall be installed at the centreline of the *leaching chamber* and extend the total length of *leaching chamber* to allow for dosing of the *effluent*.

(2) Alternating siphons shall not be installed in a *sewage system*.

(3) 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.

(4) 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 fifteen minutes.

$r_{6.1}$ **(5)** 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 Appendix A.)

(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)

Classification of Treatment Unit(1)	Suspended Solids(2)	$CBOD_5$(2)
Level II	30	25
Level III	15	15
Level IV	10	10
Column 1	2	3

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*.

e5 **(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 Appendix A.)

(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 one minute, or greater than 125 minutes if *constructed* as a *shallow buried trench*, or
  (ii) less than one minute, or greater than 50 minutes 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.

r6.1 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.

(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, or
(c) other means of subsurface detection.

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
Column 1	2	3

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,

$$L = \frac{QT}{200}$$

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,

$$L = \frac{QT}{300}$$

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 ≤ 20	Q/75
20 < T ≤ 50	Q/50
50 < T < 125	Q/30
Column 1	2

where,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the design *percolation time*.

r6.1 8.7.3.1A. 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 8.7.3.1A.

Table 8.7.3.1A.
Length of Leaching Chamber in Shallow Buried Trench
Forming Part of Sentence 8.7.3.1A.(4)

Percolation Time, (T) of *Soil*, min	Length of *Leaching Chamber*, m
1 < T ≤ 20	Q/75
20 < T ≤ 50	Q/50
50 < T < 125	Q/30
Column 1	2

where,

Q = the total daily design *sanitary sewage* flow in litres, and

T = the design *percolation time*.

8.7.3.2. 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,
r6.1 (d) centred not less than,
(i) 1 600 mm apart where used in conjunction with a *distribution pipe* or a Type I *leaching chamber*, or
(ii) 2 400 mm apart where used in conjunction with a Type II *leaching chamber*,
(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 minutes, and
r6.1 (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.

8.7.3.3. 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
r6.1 (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 8.7.3.3.,
(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*.

r6.1 **(6)** This Article does not apply to a *distribution pipe* within a *leaching chamber*.

Table 8.7.3.3.
Gradation of Septic Stone
Forming Part of Sentences 8.7.3.3.(5) and 8.7.8.2.(6)

Particle Size	Percent Passing
53 mm	100
19 mm	0 - 5
75 µm	0 - 1
Column 1	2

r6.1 8.7.3.4. 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)

Percolation Time (T) of *Soil*, min	Loading Rates, (L/m^2)/day
1 < T ≤ 20	10
20 < T ≤ 35	8
35 < T ≤ 50	6
T > 50	4
Column 1	2

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
r6.1 (b) for at least 15 m beyond the centrelines 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.
(See Appendix A.)

(2) If the unsaturated *soil* or *leaching bed fill* described in Sentence (1) has a *percolation time* greater than 15 minutes, 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
r6.1 (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 *leaching chamber* under Article 8.7.3.1A.

(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.

r6.1 **(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.*

r6.1 **(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.

r6.1 **(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 a maximum spacing between the centrelines of the *distribution pipes* or *leaching chambers* in accordance with Table 8.7.5.3. (See Appendix A.)

r6.1 **(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.

Table 8.7.5.3.
Maximum Spacing Between Lines of Distribution Pipes or Leaching Chambers
Forming Part of Sentence 8.7.5.3.(2)

Distribution Method	Maximum Centreline Spacing, mm
Distribution pipes	1 200
Type I *leaching chambers*	900
Type II *leaching chambers*	1 000
Column 1	2

(4) The filter medium shall be unsaturated for its entire depth.

r6.1 **(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:

$$A = \frac{QT}{850}$$

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*.

r6.1 **(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 minutes.

8.7.6. Shallow Buried Trench

8.7.6.1. Construction Requirements (See Appendix A.)

(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.

r6.1 **(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.

r6.1 **(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.

r6.1 **(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,
r6.1 (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 (6.1), and
  (ii) the value determined by the formula,

$$A = \frac{QT}{850}$$

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,
r6.1 (a) extend to at least 15 m beyond the perimeter of the *treatment unit*, or the centrelines 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) have an area that is not less than the value determined by the formula,

$$A = \frac{QT}{400}$$

where,

A = the area of contact in square metres between the base of the sand 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*.

e3 (See Appendix A.)

r6.1 **(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 8.7.3.3.(2), and
(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.
(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.

r6.1 **(6.1)** 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 8.7.3.4.(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.

r6.1 **(7)** *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 (6.1)(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*.

r6.1 **(8)** 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 Appendix A.)

r6.1 **(8.1)** 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.

r6.1 **(9)** 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).

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r6 9.34.2.2. Lighting Outlets in Houses and Dwelling Units

r6 **(1)** Except as provided in Sentence (2), a lighting outlet with fixture controlled by a wall switch shall be provided in kitchens, bedrooms, living rooms, utility rooms, laundry rooms, dining rooms, bathrooms, water closet rooms, vestibules and hallways in a *house* or an individual *dwelling unit*.

(2) Where a receptacle controlled by a wall switch is provided in bedrooms or living rooms, such rooms need not conform to the requirements of Sentence (1).

9.34.2.3. Stairways

(1) Every stairway shall be lighted.

r6 **(2)** Except as provided in Sentence (3), 3-way wall switches located at the head and foot of every stairway shall be provided to control at least one lighting outlet with fixture for stairways with four or more risers in a *house* or an individual *dwelling unit*.

(3) The stairway lighting for *basements* that do not contain finished space or lead to an outside entrance or built-in garage and that serve not more than one *dwelling unit* is permitted to be controlled by a single switch located at the head of the stairs.

9.34.2.4. Basements

(1) A lighting outlet with fixture shall be provided for each 30 m² of floor area or fraction of it in unfinished *basements*.

(2) The outlet required in Sentence (1) nearest the stairs shall be controlled by a wall switch located at the head of the stairs.

9.34.2.5. Storage Rooms

(1) A lighting outlet with fixture shall be provided in storage rooms.

9.34.2.6. Garages and Carports

(1) A lighting outlet with fixture shall be provided for an attached, built-in or detached garage or carport.

(2) Except as provided in Sentence (3), lighting outlets required in Sentence (1) shall be controlled by a wall switch near the doorway.

(3) Where the lighting 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.

(4) Where a carport is lighted by a light at the entrance to a *dwelling unit*, additional carport lighting is not required.

9.34.2.7. Public and Service Areas

(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) When provided by incandescent lighting, illumination required in Sentence (1) shall conform to Table 9.34.2.7.

(3) When other types of lighting are used, illumination equivalent to that shown in Table 9.34.2.7. shall be provided.

r3

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/m² 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
Column 1	2	3

9.34.3. Emergency Lighting

9.34.3.1. Emergency Lighting

(1) Emergency lighting shall conform to Subsection 9.9.12.

r6.1

9.34.4. Electric Vehicle Charging

9.34.4.1. Electric Vehicle Charging Systems

(1) Except as provided in Sentence (3), where vehicle parking spaces are located in a *building*, other than an apartment *building*, not less than 20% of the parking spaces shall be provided with *electric vehicle supply equipment* installed in accordance with Section 86 of the Electrical Safety Code adopted under Ontario Regulation 164/99 (Electrical Safety Code) made under the *Electricity Act, 1998*.

(2) The remaining parking spaces located in a *building* described in Sentence (1) shall be designed to permit the future installation of *electric vehicle supply equipment* that conforms to Section 86 of the Electrical Safety Code.

(3) Except as provided in Sentence (6), where a *house* is served by a garage, carport or driveway, the following shall be installed to permit the future installation of *electric vehicle supply equipment* that conforms to Section 86 of the Electrical Safety Code:
(a) a minimum 200 amp panelboard,
(b) a conduit that is not less than 27 mm trade *size* and is equipped with a means to allow cables to be pulled into the conduit, and
(c) a square 4-11/16 in. trade *size* electrical outlet box.

(4) The electrical outlet box described in Clause (3)(c) shall be installed in the garage or carport or adjacent to the driveway.

(5) The conduit and electrical outlet box described in Clauses (3)(b) and (c) shall provide an effective barrier against the passage of gas and exhaust fumes.

(6) A *house* need not comply with Sentence (3) where it,
(a) is not connected to a distribution system, as defined in subsection 2 (1) of the *Electricity Act, 1998*, or
(b) is used or intended to be used as a seasonal recreational *building* described in Section 9.36.

Section 9.35. Garages and Carports

9.35.1. Scope

9.35.1.1. Application

r6 **(1)** This Section applies to garages and carports serving a *house* or an individual *dwelling unit*.

9.35.1.2. Construction Requirements

(1) The construction of a garage or carport shall conform to the requirements for other *buildings* in this Part except as provided in this Section.

9.35.2. General

9.35.2.1. Carport Considered to be Garage

(1) Where a roofed enclosure used for the storage or parking of motor vehicles has more than 60 percent of the total perimeter enclosed by walls, doors or windows, the enclosure shall be considered a garage.

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Part 4

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Part 4

Transition, Amendments, Revocation and Commencement

Section 4.1. Transition Rule

4.1.1. Transition, January 2014

4.1.1.1. Transition Rule

r3 **(1)** Subject to Sentence (2), Ontario Regulation 350/06 (Building Code) made under the Act, as it read on December 31, 2013, is deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2014.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

r3 4.1.2. Transition, January 2015

4.1.2.1. Transition Rule

(1) Subject to Sentence (2), this Regulation, as it read on December 31, 2014, is deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2015.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

r3 4.1.3. Transition, January 2017

4.1.3.1. Transition Rule

r5 **(1)** Subject to Sentence (2), Item 337 (MMAH Supplementary Standard SB-5, “Approved Sewage Treatment Units”) of Table 1.3.1.2. and Sentence 8.6.2.2.(5) of Division B of this Regulation, as they read on December 31, 2016, are deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2017.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

r6 4.1.4. Transition, July 2017

4.1.4.1. Transition Rule

(1) Subject to Sentence (2), this Regulation, as it read on June 30, 2017, is deemed to continue in force with respect to *construction* for which a permit has been applied for before July 1, 2017.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

r6.1 4.1.5. Transition, January 2018

4.1.5.1. Transition Rule

(1) Subject to Sentence (2), this Regulation, as it read on December 31, 2017, is deemed to continue in force with respect to *construction* for which a permit has been applied for before January 1, 2018.

(2) Sentence (1) does not apply unless the *construction* is commenced within six months after the permit is issued.

e5 Section 4.2. Omitted

(Provides for Amendments to this Regulation). O. Reg. 332/12, Section 4.2.

e5 Section 4.3. Omitted

(Revokes Other Regulations). O. Reg. 332/12, Section 4.3.

e5 Section 4.4. Omitted

(Provides for Coming into Force of Provisions of this Regulation). O. Reg. 332/12, Section 4.4.

A-7.6.4.2.(4) Plumbing Fixtures.

Heritage buildings including homes, may contain sanitary drainage piping that is sized in accordance with the flush cycle of period plumbing fixtures. Operational difficulties maybe encountered when these fixtures are replaced with one having a lower flush cycle.

a5.1 A-7.6.3.4.(5) Water System Pipe Size.

Where separate water service piping connects into private water supply piping, the private water supply piping will be governed by Article 7.1.5.5.

A-7.6.5. Hot Water Temperature.

Hot water delivered at 60°C will severely burn human skin in 1 to 5 seconds. At 49°C the time for a full thickness scald burn to occur is 10 minutes. Children, the elderly and persons with disabilities are particularly at risk of scald burns. Compliance with Article 7.6.5.2. will reduce the risk of scalding in showers and bathtubs and reduce the risk of thermal shock in wall mounted showers. Devices installed to achieve compliance must conform to the applicable standard referenced in the Code.

Since a scald risk also exists at other fixtures, such as lavatories, sinks and bathtubs, the water outlet temperature at those fixtures is addressed by Articles 7.6.5.1. and 7.6.5.3.

A-8.1.3.1.(1) Sanitary Sewage.

Sanitary sewage of domestic origin is as described in (b) of the definition in Sentence 1.4.1.2.(1) of Division A. The addition of public swimming pool drainage to the definition of sanitary sewage is not intended to allow the discharge of the pool drainage water to an on-site sewage system.

A-8.1.3.1.(3) Evaluation of Waste from Industrial Processes.

When evaluating whether industrial process waste can go to an on-site sewage system, the total contaminant levels in the whole waste stream must be looked at. Heavy metals, pesticides and solvents are not found in domestic sewage and those levels must be brought down if present. The BOD_5 and suspended solids should be consistent with the levels found in domestic sanitary sewage. Slaughterhouses and milking operations have wastes that are similar to domestic sewage in chemical composition, but are characterized by high organic, highly nitrogenous and biologically degradable suspended and dissolved solids and grease in high concentrations. These wastes are not suitable for discharge to an on-site sewage system.

A-8.2.1.2.(1) Site Evaluation Information.

The evaluation required in Sentence (1) usually includes at least the following and is required on permit application

(a) date the evaluation was done,
(b) name, address, telephone number, and signature of the person who prepared the evaluation,
(c) a scaled plan of the site showing
  (i) the legal description of the property, property lines and easements,
  (ii) the location of items in Column 1 of Tables 8.2.1.6.A. and 8.2.1.6.B.,
  (iii) the proposed location of the sewage system,
  (iv) the location of any unsuitable, disturbed or compacted areas, and
  (v) the access route for tank maintenance,
(d) depth to bedrock,
(e) evidence of high ground water,
(f) soil properties,
(g) soil conditions,
(h) utility corridors,
(i) permeability, and
(j) potential for flooding.

A-8.2.1.2.(2) Alternative Tests.

Other tests to determine percolation time may be suitable depending on the soil type(s) encountered on a site. The results of tests other than those described in this Code may be used by relying on provisions governing the use of alternative solutions (such as Clause 1.2.1.1.(l)(b) of Division A).

A-8.2.1.2.(3) Test Procedure.

Where a field percolation test is required, it is performed in the following manner:

(a) Make an excavation in the soil layer which is to be assessed for a percolation time. The excavation shall be:
  (i) between 100 and 300 mm in diameter
  (ii) be at least 200 mm in depth below the upper level of the soil layer being assessed.

(b) All loose material and smeared clay shall be removed from the sides and bottom of the excavation.

(c) Cover the bottom of the excavation with 50 mm of sand or fine gravel.

(d) Fill the hole with water to a depth of 300 mm (or to the surface) and determine the time it takes for the water to seep away; repeat, and if the second filling seeps away in 10 minutes or less proceed as follows:
  1. Establish a fixed reference point, add water to a depth of 150 mm above the sand or fine gravel, and measure the water drop every 10 minutes for one hour. If for one hour the first 150 mm seeps away in 10 minutes or less, use a shorter time interval between readings.
  2. Refill to the 150 mm level when necessary and start another series of readings. Continue readings until the last two series of readings show a similar drop pattern (approximately equal drop in the same number of readings) or, alternatively, until the difference in the maximum and minimum drops in 3 consecutive readings is less than 5 mm. In either case use the average drop of the last 3 readings in computing "T"

(e) If the initial fillings to 300 mm take more than 10 minutes to seep away, follow with this procedure:
  1. Maintain at least 300 mm of water in the hole for at least 4 hours, or until the soil being tested has become swollen and saturated with water. At least 12 hours should be allowed for swelling in clay soils, although dry clay soils may require longer periods to obtain a stabilized percolation rate.
  2. After swelling remove any loose material from the top of the sand or fine gravel.
  3. Using a fixed reference point, adjust the water level to 150 mm above the sand or gravel and measure the water drop every 30 minutes for four hours or until a stable rate of drop is reached. If the first 150 mm seeps away in less than 30 minutes, use a 10 minute interval and run the test for one hour or until the drop rate is stabilized. A drop of 5 mm or less in a 30 minute interval is indicative of a soil of "T" close to or greater than 50 min/cm. If it is to be assessed increase the reading interval to 60 minutes.
  4. Refill with water to the 150 mm level when necessary. Take readings until a stable rate of drop is reached. This may be when the drop in two successive readings does not vary by more than 1.5 mm or when the difference between the maximum and minimum readings of the last four readings does not exceed 5 mm. Once a stable rate is reached use the average drop of the last 3 readings in computing the percolation time.

(f)

$$\text{Percolation time} = \frac{\text{Time Interval (minutes)}}{\text{Average drop of last 3 readings (cm)}}$$

A-8.2.1.3.(1) and (2) Balancing Tanks.

Where variable daily flows or peak flows occur, the flows to the sewage system may be balanced. The sewage system and any pump(s) that are installed to move the sanitary sewage, should be sized to accommodate a daily design sanitary sewage flow at least equal to the average daily sanitary sewage flow for the week. Balancing tanks should be sized in accordance with good engineering practice to ensure that peak flows can be accommodated.

A-8.2.1.4. Clearance Requirements.

Where coarse natural soils exist it may be necessary to require greater clearance distances to wells or surface water than those listed in the Tables. This is of greater importance when applied to the shoreline properties of sensitive lakes, where it is desired to prevent phosphates from entering the lakes.

A-8.6.2.2. CAN/BNQ 3680-600 Standard.

The CAN/BNQ 3680-600 "Onsite Residential Wastewater Treatment Technologies" uses slightly different terminology than the Building Code. A Building Code Level II would be a Class B-II in the BNQ standard, a Level III would be a Class B-III, and Level IV would be a Class B-IV.

Acceptable Solutions	Objectives and Functional Statements
3.1.13.7.	High Buildings
(1)	[F02-OP1.2]
	[F02-OS1.2]
(2)	
(3)	
(4)	[F02-OP1.2]
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(5)	
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(1)	
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(2)	[F02-OP1.3]
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	[F02-OP3.1]
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	[F72-OH2.1] [F71-OH2.3]
(2)	[F10-OS3.7]
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(3)	

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		[F72-OH2.1] [F71-OH2.3]
	(5)	[F10-OS3.7]
		[F72-OH2.1] [F71-OH2.3]
	(6)	
	(7)	
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		[F60-OS2.3]
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		[F01-OS1.1]
		[F32-OS3.3]
	(2)	[F01-OP1.1]
		[F01-OS1.1]
		[F32-OS3.3]
	(3)	[F01-OP1.1]
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	(2)	
	3.2.1.6.	Mezzanines
	(1)	

Acceptable Solution	Objective and Functional Statement
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(2)	[F70, F81-OH2.2]
(3)	[F70, F81-OH2.2]
(4)	[F70,F81-OH2.2]
7.6.3.3.	Static Pressure
(1)	[F20, F81-OP1.1]
	[F20, F81-OP5]
	[F20, F81-OS1.1]
	[F20, F81-OS2.3]
	[F31, F81-OS3.2] Applies to pipes containing hot water
7.6.3.4.	Size
(1)	[F70, F81-OH2.2]
(2)	[F70, F81-OH2.2]
(3)	
(4)	[F70, F81-OH2.2]
$r_{6.1}$ (5), (6)	[F71, F72-OH2.1, OH2.3]
7.6.4.1.	Water Supply Fittings
(1)	[F130-OR1]
(2)	
7.6.4.2.	Plumbing Fixtures
(1)	[F130-OR1]
(2)	[F130-OR1]
(3)	[F130-OR1]
(4)	
7.6.5.1.	Maximum Temperature of Hot Water
(1)	[F31-OS3.2]

Acceptable Solution	Objective and Functional Statement
(2)	[F31-OS3.2]
7.6.5.2.	Showers
(1)	[F31-OH1.2]
	[F30-OS3.1] [F31-OS3.2]
(2)	
(3)	
(4)	[F31-OH1.2]
	[F31-OS3.2]
7.6.5.3.	Temperature Control Devices
(1)	[F31-OH1.2]
	[F31-OS3.2]
7.7.1.1.	Non-Potable Connection
(1)	[F46-OH2.2]
(2)	[F81-OH2.1] [F46, F70, F81-OH2.2]
(3)	[F81-OH2.1] [F46, F70, F81-OH2.2]
7.7.2.1.	Markings Required
(1)	[F46, F81-OH2.2]
(2)	[F46, F81-OH2.2]
(3)	[F46, F81-OH2.2]
7.7.3.1.	Pipes
(1)	[F81-OH2.1, OH2.2, OH2.4]
	(c), (d) [F46-OH2.2]
7.7.3.2.	Outlets
(1)	[F46-OH2.2] [F40-OH2.4]
7.7.4.1.	Conformance to Standards
(1)	[F81, F82-OH2.1, OH2.2, OH2.4] [F130-OR1]

	Acceptable Solution	Objective and Functional Statement
	8.6.1.3.	Pumps and Siphons
	(1)	[F110, F111, F112-OE]
		[F110, F111, F112-OH2.1]
		[F110, F111, F112-OH5]
$r_{6.1}$	(1.1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(2)	[F110, F111, F112-OE]
		[F110, F111, F112-OH5]
	(3)	[F111, F113-OE]
		[F111, F113-OH5]
	(4)	[F112-OE]
		[F112-OH5]
$r_{6.1}$	(5)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	8.6.2.1.	Septic Tank Systems
	(1)	[F110, F111-OE]
		[F110, F111-OH5]
	(2)	[F110, F111-OE]
		[F110, F111-OH5]
	(3)	[F82-OE]
		[F82-OH2.1]
	8.6.2.2.	Other Treatment Units
	(1)	[F110-OE]
		[F110-OH5]
	(2)	[F110, F111-OE]
		[F110, F111-OH5]
	(3)	[F111-OE]
		[F111-OH2.1]
		[F111-OH5]
	(4)	[F111-OE]
		[F111-OH2.1]
		[F111-OH5]
	(5)	
	(6)	[F82, F111-OE]
		[F82, F111-OH2.1]
		[F82, F111-OH5]
	8.7.1.1.	Application Scope
	(1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
r_3	8.7.1.2.	Limitation on Installation
	(1)	[F110, F111, F112-OE]
		[F110, F111, F112-OH2.1]
		[F110, F111, F112-OH5]
	8.7.2.1.	General Requirements
	(1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]

	Acceptable Solution	Objective and Functional Statement
	(2)	[F104, F110, F111-OE]
		[F104, F110, F111-OH2.1]
		[F104, F110, F111-OH5]
		[F104, F110, F111-OR2]
	(3)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(4)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(5)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
r_3	8.7.2.2.	Distribution Pipes within Leaching Beds
	(1)	
	(2)	[F111-OE]
$r_{6.1}$	8.7.2.3.	Leaching Chambers within Leaching Beds
	(1)	
	(2)	
	(3)	[F111, F112-OE]
		[F111, F112-OH2.1]
		[F111, F112-OH5]
	(4)	[F111-OE]
	8.7.3.1.	Length of Distribution Pipe
	(1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(2)	[F110-OE]
		[F110-OH5]
	(3)	[F110-OE]
		[F110-OH5]
	(4)	[F110-OE]
		[F110-OH5]
$r_{6.1}$	8.7.3.1A.	Length of Leaching Chamber
	(1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(2)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(3)	[F110-OE]
		[F110-OH2.1]
		[F110-OH5]
	(4)	[F110-OE]
		[F110-OH5]
	8.7.3.2.	Absorption Trenches
	(1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(2)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]

	Acceptable Solution	Objective and Functional Statement
	8.7.3.3.	Distribution Pipe
	(1)	[F111-OE]
		[F111-OH5]
	(2)	[F111-OE]
		[F111-OH5]
	(3)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(4)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(5)	
$r_{6.1}$	(6)	
$r_{6.1}$	8.7.3.4.	Leaching Chamber
	(1)	[F111-OE]
		[F111-OH5]
	(2)	[F111-OE]
		[F111-OH5]
	(3)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	8.7.4.1.	Loading Requirements
	(1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	8.7.4.2.	Construction Requirements
	(1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(2)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(3)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(4)	
	(5)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(6)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(7)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(8)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(9)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]

Acceptable Solution	Objective and Functional Statement
(10)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
(11)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
8.7.5.1.	Application
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
8.7.5.2.	Loading Requirements
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
(2)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
(3)	[F110, F111, F112-OE]
	[F110, F111, F112-OH2.1]
	[F110, F111, F112-OH5]
(4)	[F110, F111, F112-OE]
	[F110, F111, F112-OH2.1]
	[F110, F111, F112-OH5]
(5)	[F110, F111, F112-OE]
	[F110, F111, F112-OH2.1]
	[F110, F111, F112-OH5]
8.7.5.3.	Construction Requirements
(1)	
(2)	[F110, F112-OE]
	[F110, F112-OH2.1]
	[F110, F112-OH5]
(3)	[F110, F112-OE]
	[F110, F112-OH2.1]
	[F110, F112-OH5]
(4)	[F110, F111, F112-OE]
	[F110, F111, F112-OH2.1]
	[F110, F111, F112-OH5]
(5)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
(6)	[F110, F111, F112-OE]
	[F110, F111, F112-OH2.1]
	[F110, F111, F112-OH5]
(7)	
8.7.6.1.	Construction Requirements
(1)	[F112-OE]
	[F112-OH5]
(2)	[F110, F111, F112-OE]
	[F110, F111, F112-OH2.1]
	[F110, F111, F112-OH5]

	Acceptable Solution	Objective and Functional Statement
	(3)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(4)	[F20-OS2.2]
	(5)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(6)	
	8.7.7.1.	Construction Requirements
	(1)	[F112-OE]
		[F112-OH5]
	(2)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(3)	[F110, F112-OE]
		[F110, F112-OH2.1]
		[F110, F112-OH5]
	(4)	[F110, F112-OE]
		[F110, F112-OH2.1]
		[F110, F112-OH5]
	(5)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
r_3	(6)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
$r_{6.1}$	(6.1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
r_3	(7)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
r_3	(8)	[F111-OE]
		[F111-OH5]
$r_{6.1}$	(8.1)	[F111-OE]
		[F111-OH5]
r_3	(9)	[F110, F112-OE]
		[F110, F112-OH2.1]
		[F110, F112-OH5]
r_3	8.7.7.2.	Construction Requirements
	(1)	
	(2)	[F111-OE]
	8.7.8.1.	General Requirements
	(1)	
	(2)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]

	Acceptable Solution	Objective and Functional Statement
	8.7.8.2.	Construction Requirements
	(1)	[F112-OE]
		[F112-OH5]
	(2)	[F110, F112-OE]
		[F110, F112-OH2.1]
		[F110, F112-OH5]
	(3)	[F110, F112-OE]
		[F110, F112-OH5]
	(4)	[F110, F111, F112-OE]
		[F110, F111, F112-OH2.1]
		[F110, F111, F112-OH5]
	(5)	[F110, F111, F112-OE]
		[F110, F111, F112-OH2.1]
		[F110, F111, F112-OH5]
r3	(6)	
r3	(7)	[F110, F112-OE]
		[F110, F112-OH2.1]
		[F110, F112-OH5]
r3	(8)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
r3	(9)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
r3	(10)	[F110, F112-OE]
		[F110, F112-OH2.1]
		[F110, F112-OH5]
	8.7.8.3.	Design Requirements
	(1)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(2)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(3)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	(4)	[F110, F111-OE]
		[F110, F111-OH2.1]
		[F110, F111-OH5]
	8.8.1.1	Prohibited Installation
	(1)	
	8.8.1.2.	Acceptable Installation
	(1)	[F110-OE]
		[F110-OH5]
	(2)	[F82, F110-OE]
		[F82, F110-OH5]

Acceptable Solution	Objective and Functional Statement
8.8.2.1.	Construction Requirements
(1)	[F82, F110-OE]
	[F82, F110-OH5]
(2)	[F82, F110-OE]
	[F82, F110-OH5]
(3)	[F110-OE]
	[F110-OH5]
(4)	[F110-OE]
	[F110-OH5]
8.8.2.2.	Sizing of Holding Tanks
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
8.9.1.1.	Scope
(1)	
8.9.1.2.	General Requirements for Operation and Maintenance
(1)	[F110-OE]
	[F110-OH5]
(2)	
8.9.2.1.	Scope
(1)	
8.9.2.2.	General
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
8.9.2.3.	Class 4 Sewage Systems
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
(2)	[F82, F110-OE]
	[F82, F110-OH5]
(3)	
8.9.2.4.	Sampling of Treatment Units
(1)	[F82, F110-OE]
	[F82, F110-OH5]
(2)	[F82, F110-OE]
	[F82, F110-OH5]
(3)	[F82, F110-OE]
	[F82, F110-OH5]
(4)	[F82, F110-OE]
	[F82, F110-OH5]
8.9.2.5.	Class 5 Sewage Systems
(1)	[F82, F110-OE]
	[F82, F110-OH5]
(2)	[F110-OE]
	[F110-OH5]

Acceptable Solution	Objective and Functional Statement
8.9.3.1.	Scope
(1)	
r5 8.9.3.2.	General
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
(2)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
8.9.3.3.	Interceptors
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
8.9.3.4.	Class 4 Sewage Systems
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]
8.9.3.5.	Pressurized Distribution Systems
(1)	[F110, F111-OE]
	[F110, F111-OH2.1]
	[F110, F111-OH5]

	Acceptable Solution	Objectives and Functional Statements
	(5)	[F44-OS3.4]
	9.33.4.3.	Installation and Conformance to Standards
	(1)	[F44-OS3.4]
		(a), (d) [F81-OS3.4]
	(2)	
	9.34.1.1.	Reserved
	9.34.1.2.	Required Facilities
	(1)	
	9.34.1.3.	Location of Equipment in Public Areas
	(1)	[F10-OS3.1] [F32, F81-OS3.3]
	9.34.1.4.	Recessed Lighting Fixtures
	(1)	[F01-OS1.1]
	9.34.1.5.	Wiring and Cables
	(1)	[F02-OS1.2]
		[F02-OP1.2]
	(2)	
	9.34.2.1.	Lighting of Entrances
	(1)	[F30-OS3.1]
		[F34-OS4.2]
	(2)	
r_6	9.34.2.2.	Lighting Outlets in Houses and Dwelling Units
$e_{4.1}$	(1), (2)	[F30-OS3.1]
	9.34.2.3.	Stairways
	(1)	[F30-OS3.1]
	(2)	[F30-OS3.1]
	(3)	
	9.34.2.4.	Basements
	(1)	[F30-OS3.1]
	(2)	[F30-OS3.1]
	9.34.2.5.	Storage Rooms
	(1)	[F30-OS3.1]
	9.34.2.6.	Garages and Carports
$e_{4.1}$	(1) to (3)	[F30-OS3.1]
	(4)	
	9.34.2.7.	Public and Service Areas
$e_{4.1}$	(1) to (3)	[F30-OS3.1]
	9.34.3.1.	Emergency Lighting
	(1)	
$r_{6.1}$	9.34.4.1.	Electric Vehicle Charging Systems
	(1) to (4)	
	(5)	[F01-OS1.1]
		[F44-OS3.4]
	(6)	
	9.35.1.1.	Application
	(1)	
	9.35.1.2.	Construction Requirements
	(1)	
	9.35.2.1.	Carport Considered to be Garage
	(1)	
	9.35.2.2.	Garage Floor
	(1)	[F40-OS1.1]

Acceptable Solution	Objectives and Functional Statements
9.35.3.1.	Foundation Required
(1)	
9.35.3.2.	Protection from Damage due to Soil Movement
(1)	[F21-OH1.1, OH1.2, OH1.3]
	[F21-OH4] Applies to floors and elements that support floors.
	[F21-OP2.3, OP2.4]
	[F21-OS2.3]
	[F21-OS3.1] Applies to floors and elements that support floors.
(2)	[F21-OH1.1, OH1.2, OH1.3]
	[F21-OH4] Applies to floors and elements that support floors.
	[F21-OP2.3, OP2.4]
	[F21-OS2.3]
	[F21-OS3.1] Applies to floors and elements that support floors.
(3)	
9.35.3.3.	Small Garages
(1)	
9.35.3.4.	Column Piers
(1)	[F80-OP2.3]
	[F80-OS2.3]
(2)	[F20-OP2.1, OP2.2]
	[F20-OS2.1, OS2.2]
9.35.4.1.	Interior Finish
(1)	
9.35.4.2.	Columns
(1)	[F20-OP2.1]
	[F20-OS2.1]
9.35.4.3.	Anchorage
(1)	[F22-OP2.4, OP2.5]
	[F22-OS2.4, OS2.5]
9.36.1.1.	Application
(1)	
(2)	
9.36.2.1.	Exclusions
(1)	
(2)	[F42-OH2.5]
	[F20-OP2.1]
	[F20-OS2.1] [F30-OS3.1]
(3)	
(4)	
(5)	
9.36.2.2.	Foundations
(1)	
(2)	[F20-OP2.1]
	[F20-OS2.1]
(3)	
9.36.2.3.	Waterproofing and Dampproofing
(1)	
9.36.2.4.	Smoke Alarms
(1)	
9.36.3.1.	Buildings for Seasonal Tourist Accommodation or for Rent
(1)	