

## Section 11.2. Upgrade Application

### 11.2.1. Upgrade Requirements

#### 11.2.1.1. Upgrade Objectives

- 1) An *alteration* to an *existing building* shall trigger upgrading of the *existing building* to meet the following objectives
  - a) all *unsafe conditions* shall be corrected to an *acceptable* level,
  - b) all new materials and *construction* work shall comply with this By-law,
  - c) the *building* shall be upgraded to an *acceptable* level of
    - i) fire, life and health safety,
    - ii) structural safety,
    - iii) non-structural safety,
    - iv) accessibility for persons with disabilities, and
    - v) water efficiency,
  - d) any significant extension of the design life of an *existing building* beyond its original design life shall require upgrading to an *acceptable* level,
  - e) an *alteration* to an individual *suite* within an *existing building* will not trigger upgrades within any other *suites* except where the *alteration* creates non-conformity with the By-law within such other *suites*, and
  - f) the level of life safety and *building* performance shall not be decreased below the existing level.

2) An *alteration* to an *existing building* shall not trigger upgrading of the *existing building* to meet the rainwater management requirements described in Article 2.4.2.5. of Division B of Book II (Plumbing Systems) of this By-law.

#### 11.2.1.2. General Requirements

(See Note A-11.2.1.2.)

- 1) Where *construction* of *existing buildings* occurred before the effective date of this By-law, reconstruction or *alteration* of *existing buildings* is not a requirement of this By-law, except as required by Articles 11.2.1.3. to 11.2.1.11. inclusive.
- 2) Except as permitted by Sentences (3) to (9), and Articles 11.2.1.3. to 11.2.1.11., where an *alteration* is made to an *existing building*, the *alteration* shall comply with this By-law and the *existing building* shall be
  - a) upgraded to an *acceptable* level as defined in the *existing building* Upgrade Mechanism Model in Notes to Part 11, except that existing lighting exceeding the Lighting Power Density of ASHRAE 90.1-2016 shall be removed within existing spaces of a *suite* within the scope of a *project*,
  - b) upgraded to the satisfaction of the *Chief Building Official* where the *owner* demonstrates that the design levels, as defined by the Upgrade Mechanism Model in Notes to Part 11, present a hardship for the *owner*, or
  - c) upgraded to the satisfaction of the *Chief Building Official* through alternative upgrades, that demonstrate equivalent improvement where specific characteristics of the *building* are intended to be retained.
- 3) Except as required by changes of *major occupancy* in a *small suite*, where an *alteration* does not involve an *addition* or a change in *major occupancy*, further upgrading to an *existing building* is not a requirement of this By-law provided
  - a) *construction* or a full upgrade of the *building* occurred by means of a *building permit* issued on or after November 1, 1999,
  - b) all *unsafe conditions* are corrected to the satisfaction of the *Chief Building Official*, and
  - c) all new work is in compliance with this By-law.
- 4) Where a voluntary upgrade for fire alarm systems, *sprinkler systems*, *exits*, accessibility, seismic work, washrooms or kitchens for *single room accommodations*, energy efficiency or *building* envelope repair is carried out, no further upgrade of the *building* is required except that, where other work is included in the application, the upgrade requirement will only be based on the non-voluntary work proposed.
- 5) Where *building* envelope repair involves more than 60% of an opaque portion of a *building* face, the *building* envelope on the entire vertical section of that *building* face shall be replaced and upgraded to the thermal resistance and air-tightness requirements of Part 10, except where
  - a) the scope of work is limited to the replacement of windows
  - b) the *building* is two *storeys* in *building height* or less and is required to comply with Part 9 per Division A,

Article 1.3.3.3., or

c) the *building* face has heritage merit and is required to be retained as part of an approved retention plan.

6) Where a *building* is *altered* and is a *post disaster building* as defined in Table 4.1.2.1., or where there is a major *addition* to a *post disaster building*, the entire *building* shall be upgraded to design upgrade levels F4, S4, N4 and A4 as detailed in the Upgrade Mechanism Model in Note A-11.2.1.2.

7) Where there is a temporary change of *major occupancy* in a *building* for a temporary emergency shelter or an *arts and culture indoor event*, the upgrade requirements shall be based solely on Section 11.6.

8) Except as permitted by Sentence (9), where there is a change of *major occupancy* in a *building*, and the aggregate area of the change in *major occupancy* within any 5 year period is greater than 50% of the *building area* in a one *storey building* or greater than 100% of the *building area* in a *building* of more than one *storey*, the entire *building* shall be upgraded to design upgrade levels F4, S4, N4 and A4 as detailed in the Upgrade Mechanism Model in Notes to Part 11 except where

- a) the change in *major occupancy* is to a single *suite* of not more than 100 m<sup>2</sup>, and the work does not exceed 5% of the *building area*, or
- b) such upgrades are in conflict with an approved heritage retention plan.

9) Where there is a change of *major occupancy* in a *building*, the upgrade requirements of Flow Chart #2 of the Upgrade Mechanism Model in Division B Appendix A need not be provided where

- a) the change in *major occupancy* is to a single *suite*,
- b) the aggregate *suite* area does not exceed the lesser of 50% of the *building area* or 300 m<sup>2</sup>,
- c) the *major occupancy* of the *suite* is Group D or Group E, and
- d) the use and aggregate *suite* area complies with Table 11.2.1.2.-A.

**Table 11.2.1.2.-A**  
**Maximum Aggregate Suite Area**  
Forming part of Sentence 11.2.1.2.(9)

Major Occupancy	Suite Use	Aggregate Suite Use	
		≤200 m <sup>2</sup>	201 to 300 m <sup>2</sup>
Group D	Administrative & Business Offices	Y	Y
	Barber and Hairdressing Shop Beauty Salon	Y	Y
	Health Care Offices (non-surgical, non-sedation)	Y	Y <sup>(1)</sup>
Group E	General Retail (Non-hazardous materials)	Y <sup>(1)</sup>	N <sup>(2)</sup>

**Notes to Table 11.2.1.2.-A:**

<sup>(1)</sup> Provided the Hazard Index of the space is not increased (see Table A-11.2.1.2.D)

<sup>(2)</sup> Except as *acceptable* to the *Chief Building Official*.

**11.2.1.3. Sprinkler Installation Requirements for the Addition of Dwelling Units in Multi-family Buildings**

(See Note A-11.2.1.3.)

1) Except as provided in Sentences (2) and (4) and Sentence 11.2.1.4.(3), where an *alteration* to an *existing building* creates or adds one or more *dwelling units*, the *building* shall be *sprinklered* in conformance with Table 11.2.1.3.

2) Where the *alteration* in Sentence (1) involves the *addition* of existing *floor area* to an existing *dwelling unit*, and that converted space is greater than 50% of the *floor area* of the original *dwelling unit*, the *altered dwelling unit* shall be considered as a new *dwelling unit* and the *building* shall be *sprinklered* in conformance with Table 11.2.1.3.

3) If sprinklers are required by Table 11.2.1.3., they shall be installed throughout the *storey* on which the new *dwelling unit* is to be located and all *storeys* below the new *dwelling unit*.

4) A *building* need not be *sprinklered* in accordance with Sentence (1), if the *construction* value of the *alteration* does not exceed \$250,000.

**Table 11.2.1.3**  
**Sprinkler Installation Determination where Dwelling Units are Added**  
 Forming part of Sentences 11.2.1.3.(1), (2), and (3)

Existing Dwelling Units	New Dwelling Units <sup>(1)</sup> Added Over Any 5 Year Period <sup>(2)</sup>				
	1	2-3	4-5	6	>6
0-1	Spr R	Spr R	Spr R	Spr R	Spr R
2-4	-	Spr R	Spr R	Spr R	Spr R
5-10	-	-	Spr R	Spr R	Spr R
11-20	-	-	-	Spr R	Spr R
>20	-	-	-	-	Spr R

**Notes to Table 11.2.1.3.:**

- (1) The creation of *dwelling units* over the previous 5 years from the date of the proposed *building permit* application.  
 (2) Sprinklers required.

**11.2.1.4. Upgrade Requirements for a Residential Building Containing not more than Two Principal Dwelling Units**

1) Except as permitted by Subsection 11.4, an *alteration* or *addition* to a solely residential *building* containing not more than two principal *dwelling units* shall comply with this By-law, and the existing portions of *building* shall be upgraded to an *acceptable* level as determined by Tables 11.2.1.4.(1)-A, 11.2.1.4.(1)-B, and 11.2.1.4.(1)-C.

**Table 11.2.1.4.(1)-A**  
**Fire and Life Safety Upgrade requirements for Residential Buildings containing not more than Two Principal Dwelling Units**

Forming part of Sentence 11.2.1.4.(1)

Scope of Work	Smoke Alarms <sup>(1)</sup>	CO Alarms <sup>(2)</sup>	Guards <sup>(3)</sup>	Spatial Separation <sup>(4)</sup>	Structural <sup>(5)</sup>
Renovation	Y	Y	Y	N	N
Relocation or Reconstruction	Y	Y	Y	Y	Y
Horizontal Addition Floor Area					
up to 25% <sup>(6)</sup>	Y	Y	Y	N	N
over 25% <sup>(7)</sup>	Y	Y	Y	Y	Y
Vertical Addition Floor Area					
up to 25% <sup>(6)</sup>	Y	Y	Y	N	N
over 25% <sup>(7)</sup>	Y	Y	Y	Y	Y

**Notes to Table 11.2.1.4.(1)-A:**

- (1) Smoke Alarms: to be installed in conformance with Subsections 3.2.4. and 9.10.19. as applicable.  
 (2) CO Alarms: to be installed in conformance with Subsections 6.9.3. and 9.32.4. as applicable<sup>(3)</sup> Sprinklers required.  
 (3) *Guards*: all unsafe *guards* to be upgraded to the satisfaction of the *Chief Building Official*.  
 (4) *Spatial Separation*: *Spatial separation* of the *building* shall comply with Subsections 3.2.3., 9.10.14. or 9.10.15. as applicable; or as permitted by Section 11.3.  
 (5) All existing wood frame walls to be anchored to existing concrete foundation walls for seismic resistance  
 (6) Aggregate increase in *floor area* less than 25% of the *building area* (see flow chart #3 of Note A-11.2.1.2)..  
 (7) Aggregate increase in *floor area* greater than 25% of the *building area*

**Table 11.2.1.4.(1)-B**  
**Egress and Exit Upgrade requirements for Residential Buildings containing not more than Two Principal Dwelling Units**

Forming part of Sentence 11.2.1.4.(1)

Scope of Work	Means of Egress <sup>(1)</sup>	Handrails <sup>(2)</sup>	Exit Exposure <sup>(3)</sup>	Stair Dimensions <sup>(4)</sup>	Building Services <sup>(5)</sup>	Falling Hazards <sup>(6)</sup>
Renovation	N	Y	Y	Y	N	N
Relocation or Reconstruction	Y	Y	Y	Y	Y	Y
Horizontal Addition Floor Area						

up to 25% <sup>(7)</sup>	Y	Y	Y	Y	N	N
over 25% <sup>(8)</sup>	Y	Y	Y	Y	Y	Y
Vertical Addition Floor Area						
up to 25% <sup>(7)</sup>	Y	Y	Y	Y	N	N
over 25% <sup>(8)</sup>	Y	Y	Y	Y	Y	Y

**Notes to Table 11.2.1.4.(1)-B:**

- <sup>(1)</sup> *Means of egress*: confirm that access to exit (9.9.9.) and means of escape (9.9.10.) from all *floor areas* is compliant with regards to travel distance and *fire separation* (where applicable).
- <sup>(2)</sup> Handrails: all unsafe handrails to be upgraded to the satisfaction of the *Chief Building Official*.
- <sup>(3)</sup> Exit Exposure: *Exits* to be confirmed to be compliant with regards to *exit* exposure where applicable.
- <sup>(4)</sup> Stair Dimensions: Existing stairs in *means of egress* to comply with the dimensional requirements of Subsection 9.8.2.
- <sup>(5)</sup> Building Services: Restrain *building service* piping, conduit, and *appliances* to resist lateral movement due to earthquake.
- <sup>(6)</sup> Falling hazards: Restrain falling hazards within 3 m of the egress path to resist lateral movement due to earthquake.
- <sup>(7)</sup> Aggregate increase in *floor area* less than 25% of the *building area* (see flow chart #3 of Note A-11.2.1.2).
- <sup>(8)</sup> Aggregate increase in *floor area* greater than 25% of the *building area*.

**Table 11.2.1.4.(1)-C**  
**Floor Area Upgrade Requirements for Residential Buildings containing not more than Two Principal Dwelling Units**

Forming part of Sentence 11.2.1.4.(1)

Scope of Work	Flame Spread <sup>(1)</sup>	Floor Fire Separations <sup>(2)</sup>	Suite Fire Separations <sup>(3)</sup>	Lighting & Emergency Lights <sup>(4)</sup>	Door Hardware <sup>(5)</sup>
Renovation	N	N	N	N	N
Relocation or Reconstruction	Y	Y	Y	Y	Y
Horizontal Addition Floor Area					
up to 25% <sup>(6)</sup>	N	N	N	N	N
over 25% <sup>(7)</sup>	Y	Y	Y	Y	Y
Vertical Addition Floor Area					
up to 25% <sup>(6)</sup>	N	N	N	Y	N
over 25% <sup>(7)</sup>	Y	Y	Y	Y	Y

**Notes to Table 11.2.1.4.(1)-C:**

- <sup>(1)</sup> *Flame spread rating*: Exposed wall and ceiling finishes of egress routes to meet the requirements of Subsection 9.10.17. in *exits*
- <sup>(2)</sup> *Floor Fire separations*: Floor and occupied roof assemblies to be fire rated per Article 9.10.8.1.
- <sup>(3)</sup> *Suite Fire separations* (where applicable): Residential *suites* to be provided with a *fire separation* in accordance with Article 9.10.9.14. and Section 9.37.
- <sup>(4)</sup> Lighting & Emergency Lights (where applicable): Lighting and emergency lighting to be provided in *means of egress* in accordance with Subsection 9.9.12.
- <sup>(5)</sup> Door Hardware: Door hardware within existing *floor areas* to be made adaptable as per Subsection 3.8.5.
- <sup>(6)</sup> Aggregate increase in *floor area* less than 25% of the *building area* (see flow chart #3 of Note A-11.2.1.2).
- <sup>(7)</sup> Aggregate increase in *floor area* greater than 25% of the *building area*.

2) Where an *alteration* or *addition* is made to an existing residential *building*, containing not more than two principal *dwelling units*, the energy efficiency of a *building* shall be upgraded to an *acceptable* level in conformance with Table 11.2.1.4.(2).

**Table 11.2.1.4.(2)**  
**Energy Efficiency Upgrade Requirements for Residential Buildings containing not more than Two Principal Dwelling Units**

Forming part of Sentence 11.2.1.4.(2)

Alteration construction value	EnerGuide Assessment <sup>(1)</sup>	Air Tightness Upgrades <sup>(2)</sup>	Attic and Sloped Roof Insulation <sup>(3)</sup>	Hot Water Heating <sup>(4)</sup>	Space Heating
\$0.00 to \$149,999	N	N	N	N	N
\$150,000 to \$249,999	N	N	N	Y	N
≥\$250,000	Y <sup>(1)</sup>	Y	Y	Y	Y

**Notes to Table 11.2.1.4.(2):**

- <sup>(1)</sup> An *EnerGuide Assessment* completed within the last 4 years must be submitted, a *post-construction* assessment must also be completed.

(2) Where EGH>5 air changes per hour, air sealing is required.

(3) Where attic insulation <R12 (2.11RSI), increase to R28 (4.93RSI); where attic insulation ≥R12 (2.11RSI), increase to R40 (7.04RSI); Insulation in existing attics shall not exceed R43.7 (7.7RSI). All flat roof and cathedral ceiling insulation shall be upgraded to ≥R14 (2.47RSI).

(4) Domestic hot water equipment must be replaced in compliance with the domestic hot water requirements of Article 10.2.2.12. or a uniform energy factor of not less than 1.0, except the system may be gas-fired with a uniform energy factor of not less than 0.78 or a thermal efficiency of not less than 90% where: the *building* mechanical room, storage or service spaces have insufficient space to accommodate the footprint, height, or manufacturer-specified space requirements of the new equipment; the existing electrical panel has insufficient circuit or amperage capacity to accommodate the new equipment; the existing domestic hot water system is part of a combined system that also provides space-heating; the existing domestic hot water equipment was installed with a valid permit within the previous five years; or, equivalent emissions reduction measures are completed as *acceptable to the Chief Building Official.*”.

3) Except as permitted by Sentence (4), where an *alteration* is made to an existing residential *building* containing not more than two principal residential *dwelling units*, a *sprinkler system* shall be installed

- throughout the *building*, where more than one *dwelling unit* is created, reconstructed, or both,
- throughout any *storey* on which a new principal *dwelling unit* is created, and all *storeys* below, or
- throughout any *storey* on which an *alteration* to the *building* increases the aggregate area of an existing *dwelling unit* by more than 50% of the *floor area* and

4) A *building* need not be *sprinklered* in accordance with Sentence (3), if the *construction* value of the *alteration* does not exceed \$250,000.

#### **11.2.1.5. Self-contained Volumetric Spaces**

(See Note A-11.2.1.5)

1) Where an *alteration* to a *building* is a self-contained volumetric space that is separated from the remainder of the *building* by a *non-combustible* vertical *fire separation* with a 2 h *fire resistance rating*, the upgrade requirements of this Part do not apply to the remainder of the *building* provided

- the self-contained volumetric space is upgraded in conformance with this By-law,
- the self-contained volumetric space does not exit through the remainder of the *building*,
- the *building area* of the self-contained volumetric space is not larger than 10% of the *existing building area*,
- a *non-combustible* vertical *fire separation* with a 2 h *fire resistance rating* is constructed as a continuous vertical *fire separation* from the *building foundation* to the underside of the roof sheathing, and
- the self-contained volumetric space does not reduce the existing structural capacity of the *building*.

#### **11.2.1.6. Relocated Buildings**

1) Except as permitted by Article 11.2.1.4., where a *building* is relocated from another municipality to the *City*, from another lot within the *City* or within its existing lot, the *building* shall be upgraded to Design Upgrade Levels F4, S4, N4 and A4, as determined by the Upgrade Mechanism Model in Notes to Part 11.

#### **11.2.1.7. Relocated Property Lines**

1) Where property lines are relocated closer to a *building*, the *building* shall be upgraded to conform to the spatial requirements, fire department access requirements and *means of egress* requirements of this By-law or the applicant shall demonstrate that the relocated property lines and the *existing building* configuration comply with this By-law.

#### **11.2.1.8. Demolished Buildings**

1) Where a *building* is being demolished in whole or in part, the *demolition* work shall conform to the requirements of Part 8 and any part of the *building* that remains after *demolition* shall be upgraded in conformance with Article 11.2.1.2.

#### **11.2.1.9. Damaged Buildings**

1) Where a *building* has been damaged, all work necessary to reconstruct the damaged portions of the *building* shall conform to this By-law and the Fire By-law and the remainder of the *building* shall be upgraded in conformance with Article 11.2.1.2.

#### **11.2.1.10. Fire Department Order**

1) Where an order issued under the Fire By-law requires upgrading of a *building*, the *Chief Building Official* may allow deviations from this By-law.

### **11.2.1.11. Specific Upgrade Requirements for Float Homes and Marinas**

- 1) Except as permitted by Sentence (2), where a *marina* is *altered*, all new work shall comply with Subsection 12.2.2. and the *marina* shall be upgraded to an *acceptable* level as determined by the Upgrade Mechanism Model in Notes to Part 11.
- 2) Except as required by Sentence (3); Sentences 12.2.2.7.(1), and 12.2.2.8.(1) need not apply to a *marina*.
- 3) Where the total *construction* value of an *alteration* to a *marina* exceeds 50% of the replacement value of the *marina* as determined at the application stage for *alteration*, then the *marina* shall comply with Subsection 12.2.2.
- 4) Where a *float home* is *altered*
  - a) new work shall comply with Subsection 12.2.2. of Division B and this By-law, and
  - b) the *float home* shall be upgraded to an *acceptable* level in accordance with Article 11.2.1.4.
- 5) A *marina* shall have an *occupancy* classification as specified in Sentences 12.2.2.1.(4) and (5)