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## Proposed Change 1928

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<b>Code Reference(s):</b>	<b>NBC20 Div.B 3.2.2.18.(2) (first printing)</b>
Subject:	Automatic Sprinkler System
Title:	Standardization of Terminology in NBC Sprinkler Requirements
Description:	This proposed change is one of a series of proposed changes that standardize the terminology related to sprinklers in the NBC.
Related Proposed Change(s):	PCF 1910, PCF 1912, PCF 1915, PCF 1916, PCF 1917, PCF 1920, PCF 1921, PCF 1922, PCF 1924, PCF 1925, PCF 1926, PCF 1927, PCF 1929, PCF 1930, PCF 1931, PCF 1932, PCF 1933, PCF 1934

This change could potentially affect the following topic areas:

- |  |   |
|--|---|
| <input type="checkbox"/> Division A                                | <input checked="" type="checkbox"/> Division B              |
| <input type="checkbox"/> Division C                                | <input checked="" type="checkbox"/> Design and Construction |
| <input type="checkbox"/> Building operations                       | <input type="checkbox"/> Housing                            |
| <input type="checkbox"/> Small Buildings                           | <input checked="" type="checkbox"/> Large Buildings         |
| <input checked="" type="checkbox"/> Fire Protection                | <input type="checkbox"/> Occupant safety in use             |
| <input type="checkbox"/> Accessibility                             | <input type="checkbox"/> Structural Requirements            |
| <input type="checkbox"/> Building Envelope                         | <input type="checkbox"/> Energy Efficiency                  |
| <input type="checkbox"/> Heating, Ventilating and Air Conditioning | <input type="checkbox"/> Plumbing                           |
|  | <input type="checkbox"/> Construction and Demolition Sites  |

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### Problem

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Currently, various wordings and phrases are used in the National Building Code of Canada (NBC) 2020 to describe whether or not sprinklers are mandated in the space or area in question. Inconsistent use of terminology could create confusion or misunderstanding.

This proposed change standardizes Code wording to clarify where sprinklers are mandated by the NBC by using the defined term "sprinklered" and thereby eliminates any potential confusion.

## Justification

As defined in the NBC, “sprinklered (as applying to a building or part thereof) means that the building or part thereof is equipped with a system of automatic sprinklers.”

In the NBC 2020 and National Fire Code of Canada (NFC) 2020, 11 different phrases are used to indicate where sprinklers are mandated, while 8 different phrases are used to indicate where sprinklers are not mandated. In all cases, the defined term “sprinklered” could be used. Not standardizing this terminology could potentially cause confusion among architects and designers as to where sprinklers are mandated. Revising the Code wording to use the defined term “sprinklered” would introduce consistency as well as eliminate any potential confusion.

Table 1 shows the different phrases used in the NBC and NFC to indicate where sprinklers are mandated, along with their frequency.

**Table 1. Existing Phrases Indicating Where Sprinklers Are Mandated in the NBC and NFC**

Phrase	Code	Number of Occurrences
“... to have an automatic sprinkler system installed throughout ...”	NBC	1
“... an automatic sprinkler system shall be installed in ...”	NBC	1
“... sprinklers shall be installed in ...”	NBC	2
“... sprinklers shall be provided for ...”	NBC	1
“... sprinklers shall not be omitted in ...”	NBC	1
“... in which an automatic sprinkler system is installed ...”	NBC	1
“... in which a sprinkler system is installed ...”	NBC	2
“... in which a sprinkler system has been installed ...”	NBC	1
“... area served by the sprinkler system ...”	NBC	1
“... sprinklers are installed in ...”	NBC	1
“... shall be equipped throughout with a sprinkler system ...”	NFC	1

Table 2 shows the different phrases used in the NBC and NFC to indicate where sprinklers are not mandated, along with their frequency.

**Table 2. Existing Phrases Indicating Where Sprinklers Are Not Mandated in the NBC and NFC**

Phrase	Code	Number of Occurrences
“... do not require the installation of an automatic sprinkler system ...”	NBC	1
“... in which an automatic sprinkler system is not required to be installed ...”	NBC	1
“... sprinklers are not required in ...”	NBC	1

**Table 2. Existing Phrases Indicating Where Sprinklers Are Not Mandated in the NBC and NFC (Continued)**

Phrase	Code	Number of Occurrences
"... that is not protected by an automatic sprinkler system ..."	NBC	1
"... in which sprinklers are not installed ..."	NBC	2
"... where a sprinkler system is not installed ..."	NBC	1
"... in which an automatic sprinkler system is not installed ..."	NBC	2
"... need not be equipped throughout with a sprinkler system ..."	NFC	2

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## EXISTING PROVISION

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### 3.2.2.18. Automatic Sprinkler System Required

- 1) Except as permitted by Sentence (2), an automatic sprinkler system conforming to the requirements of Articles 3.2.4.7., 3.2.4.8., 3.2.4.9. and 3.2.5.12. shall be installed throughout a *building* regulated by one or more of Articles 3.2.2.20., 3.2.2.21., 3.2.2.22., 3.2.2.23., 3.2.2.24., 3.2.2.26., 3.2.2.27., 3.2.2.29., 3.2.2.31., 3.2.2.33., 3.2.2.36., 3.2.2.37., 3.2.2.38., 3.2.2.39., 3.2.2.40., 3.2.2.41., 3.2.2.42., 3.2.2.43., 3.2.2.44., 3.2.2.45., 3.2.2.46., 3.2.2.47., 3.2.2.48., 3.2.2.49., 3.2.2.51., 3.2.2.52., 3.2.2.55., 3.2.2.56., 3.2.2.57., 3.2.2.59., 3.2.2.60., 3.2.2.61., 3.2.2.63., 3.2.2.65., 3.2.2.66., 3.2.2.67., 3.2.2.69., 3.2.2.71., 3.2.2.72., 3.2.2.73., 3.2.2.74., 3.2.2.76., 3.2.2.77., 3.2.2.79., 3.2.2.81., 3.2.2.82., 3.2.2.84., 3.2.2.86., 3.2.2.88. and 3.2.2.90.
- 2) If a *storey* in a *building* or a *floor area* is required to have an automatic sprinkler system installed throughout in accordance with one or more of Articles 3.2.2.20. to 3.2.2.92. or Section 3.3., the automatic sprinkler system shall also be installed throughout all lower *storeys* in the *building* notwithstanding permission in Articles 3.2.2.20. to 3.2.2.92. to construct one or more of those *storeys* without installing automatic sprinkler protection. (See Note A-3.2.2.18.(2).)

#### Note A-3.2.2.18.(2) Sprinkler Extent.

A literal interpretation of Article 3.2.2.6. and Sentences 3.2.2.4.(1) and (2) could require installation of an automatic sprinkler system throughout all storeys of a building regardless of options in Articles 3.2.2.20. to 3.2.2.92. to construct one or more storeys without installation of sprinklers. It is the intent of the Code that all storeys below a storey in which an automatic sprinkler system is installed should also be protected by an automatic sprinkler system to ensure that a fire in a lower storey does not incapacitate the automatic sprinkler system or overwhelm an automatic sprinkler system in an upper storey. Persons in an upper storey in which waivers or reductions of other fire safety systems are permitted would be exposed to an increased risk from a

fire on a lower storey. This concept also applies to situations in which an automatic sprinkler system has been installed within a floor area in order to modify other safety requirements applying within the floor area. If the uppermost storey or storeys of a building can be constructed without the installation of an automatic sprinkler system it is not necessary that an automatic sprinkler system required in a lower storey be extended into the upper storey or storeys.

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## PROPOSED CHANGE

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### **[3.2.2.18.] 3.2.2.18. Automatic Sprinkler System Required**

- [1] 2)** If a storey in a *building* or a *floor area* is required ~~to have an automatic sprinkler system installed throughout~~ to be sprinklered in accordance with one or more of Articles 3.2.2.20. to 3.2.2.92. or Section 3.3., ~~the automatic sprinkler system shall also be installed throughout~~ all lower storeys in the *building* shall also be sprinklered, notwithstanding permission in Articles 3.2.2.20. to 3.2.2.92. ~~to construct for~~ one or more of those storeys ~~without installing automatic sprinkler protection~~ to not be sprinklered. (See Note A-3.2.2.18.(2).)

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## Impact analysis

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This proposed change clarifies Code language by using the defined term for consistency. This proposed change would facilitate interpretation of the Code requirements and eliminate potential confusion. As a result, it is expected that a consistent and appropriate level of safety would be provided without any confusion. No additional costs are expected.

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## Enforcement implications

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This proposed change is intended to clarify the intent of the requirements, which should aid in the understanding and enforcement of the Code.

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## Who is affected

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Authorities having jurisdiction, designers and contractors.

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## OBJECTIVE-BASED ANALYSIS OF NEW OR CHANGED PROVISIONS

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[3.2.2.18.] 3.2.2.18. ([1] 2) [F02,F04-OS1.2,OS1.3]

[3.2.2.18.] 3.2.2.18. ([1] 2) [F02,F04-OP1.2,OP1.3]