

## Guide to Changes in the *Ontario Building Code*

### Key Points

Ontario Regulation 988/19 was filed on May 2, 2019. It amends various definitions in the *Ontario Building Code* (“OBC”) as well as sections of Division B, including:

- Part 3 (Fire Protection, Occupant Safety and Accessibility)
- Part 4 (Structural Design)
- Part 5 (Environmental Separation)
- Part 6 (Heating, Ventilating and Air-Conditioning)
- Part 7 (Plumbing)
- Part 8 (Sewage Systems)
- Part 9 (Housing and Small Buildings)

The purpose of these amendments is to make the *OBC* more consistent with the *National Building Code of Canada* and the *National Plumbing Code of Canada*. In addition, as part of *More Homes, More Choice: Ontario’s Housing Supply Action Plan*, the Provincial government has removed the requirement that all new homes include the infrastructure for an electric vehicle charging station.

The amendments are largely technical in nature, and are summarized in the chart below.

**Unless otherwise noted, the amendments come into effect on January 1, 2020. The amendment that removes the requirement for the installation of infrastructure for an electric vehicle charging station came into effect on May 2, 2019.**

A separate regulation - O. Reg 87/19 – was also filed on May 2, 2019. It addresses farm buildings with cannabis operations. Below are the highlights:

- New provisions address farm buildings containing hazardous extraction operations where flammable liquids, combustible liquids or flammable gases are used as extraction solvents related to cannabis processing; and
- These amendments are consistent with the amendments to the *Ontario Fire Code* set out in Ontario Regulation 33/19.

**These amendments come into effect July 1, 2019.**

Below is a full guide to the changes.

## Full Guide

<b>Part 3 (Fire Protection, Occupant Safety and Accessibility)</b>		
<b>Section</b>	<b>Subject</b>	<b>Note</b>
3.1.8.4., 3.1.8.5. and 3.1.8.7	Smoke Tightness of Closures in Fire Separations and Smoke Dampers	New requirements have been introduced for leakage rates of smoke dampers and combination smoke/fire dampers used as closures, as well as a leakage-rate for door assemblies installed in fire separation in specific areas.
3.1.4.2. and 3.1.5.5A	Factory-Assembled Panels	Addition of policies to protect factory-assembled panels containing foamed plastic insulation installed in walk-in coolers or freezers located in buildings of both combustible and non-combustible construction.
3.1.5.12A	Foamed Plastic Insulation	Re-organization of policies to address protection of foamed plastics insulation and combustible insulation separately.
3.2.3.6	Soffit Protection	Addition of policy to clarify and relax roof soffit protection when facing a street, lane or a public thoroughfare.
3.2.10.1	Integrated Fire Protection and Life Safety Systems	Addition of policy which requires the testing of the integration between fire protection and life safety systems, and other systems associated with fire protection and life safety functions. The testing is to be conducted based on the newly-developed CSA Standard.
3.2.4.22A	Residential Fire Warning System	Addition of policy to permit the use of a residential warning system in lieu of interconnected smoke alarm system. The new system allows the connection of heat detectors, CO alarms, other life safety devices and remote monitoring capabilities. The system is also required to have the capability of supervising the interconnected devices.
3.2.6.2	Smoke Movement in Residential High-Rise Buildings	New policy that requires air handling systems providing make-up air to a corridor serving residential suites to remain in operation after the activation of the fire alarm to maintain corridor pressurization.
3.3.2.8A., 3.3.5.9., 3.4.6.4., 3.4.6.5., 3.4.6.5., 3.4.6.6., 3.4.6.8., and 3.4.6.9	Stairs, Guards and Handrails	Policies have been amended and added that address: <ul style="list-style-type: none"> <li>• The installation of handrails in aisles with steps in assembly occupancies;</li> <li>• Guards located in industrial occupancies;</li> </ul>

		<ul style="list-style-type: none"> <li>• Handrail requirements to clarify where handrails are required and where they need to be continuous;</li> <li>• The rise and run dimensions of public stairs;</li> <li>• The tread and riser requirements to restrict open stair risers; and</li> <li>• The permitted configurations of exit stairs.</li> </ul> <p><b>Note: These amendments do not come into force until January 1, 2022.</b></p>
3.3.1.12. and 3.4.6.11	Door Threshold	A new requirement has been added that sets limits on the height of door thresholds, other than those in a required barrier-free path of travel.
3.7.4.2.11	Plumbing Fixtures, General	A change is made to provide additional clarification on manual control faucets that serve lavatories.
3.7.5.2	Medical Gas Piping	A change was made to the requirements for the design, construction, installation and testing of medical gas piping systems. Medical gas piping systems are also required to be in compliance with Ontario's <i>Fire Code</i> , or in the absence of such requirements, with the <i>National Fire Code of Canada</i> .
3.8.1.5	Accessibility – Controls	A change was made to clarify all common requirements for accessible controls related to the operation of building services and safety devices.
3.8.3.8.(1), 3.8.3.8.(7)(b), and 3.8.3.9	Accessibility – Water Closet Stalls and Enclosures	A change was made to provide additional accessibility requirements and clarification for water closets, water closet stalls and enclosures.
3.8.3.10, 3.8.3.11, 3.8.3.12, and 3.8.3.13	Accessibility – Urinals, Lavatories, Mirrors, Washroom Accessories, Universal Washrooms, Showers, and Bathtubs	A change was made to clarify provisions for accessibility requirements for: <ul style="list-style-type: none"> <li>• Urinals, lavatories, mirrors and washroom accessories within a barrier-free washroom;</li> <li>• Universal washroom doors; and</li> <li>• Showers and bathtubs including requirements for grab bars, clear floor spaces, shower heads and faucets, and individual bathtub requirements for Group B Division 2 or 3 occupancies.</li> </ul>
3.1.21	Electric Vehicle Charging	All requirements including transition provisions related to electric vehicle charging in non-residential buildings have been deleted. <p><b>Note: This amendment came into force on May 2, 2019.</b></p>

**Part 4 (Structural Design)**

Tables 4.1.3.2.A. and B	Limit States Design	A change was made to increase the companion load factor for live loads plus snow loads.
4.1.5.14	Guards Design	<p>A change was made to the existing provision that clarifies where point loads for guards are applied. The design must take into account the points of application that produce the most critical effect. Changes were also made to establish deflection limits for guard pickets as well as to clarify that guard loads do not need to be applied concurrently with vehicle guardrail loads.</p> <p><b>Note: These amendments do not come into force until January 1, 2022.</b></p>
4.1.6	Snow Loads	Provisions for snow loads have been updated, including the calculation of the basic roof snow load factor, specific weight of snow, calculation of the accumulation factor, and the calculation for loads due to sliding snow. Guidance on snow loads has been adopted from the <i>National Building Code</i> .
4.1.7	Wind Loads	Provisions for wind loads have been updated, including the introduction of a separate topographic factor and the introduction of specific requirements for wind tunnel testing. Guidance on wind loads has been adopted from the <i>National Building Code</i> .
4.1.8.1	Earthquake Load and Effects: Low Hazard Zones	Requirements that consider earthquake forces and effects have been extended to all locations in the province. A separate simple and easily applied methodology has also been provided for low hazard earthquake zones.
4.1.8.2., 4.1.8.4., 4.1.8.18. and Supplementary Standard SB-1	Earthquake Load and Effects: Seismicity	Values of seismic hazard in the seismic hazard model have been updated for various locations, and period-based foundation factors have been introduced. The method for the determination of design spectral acceleration has been revised such that the higher mode factors conform to the new hazard model. The hazard cap was also revised for both the static procedure and the dynamic procedure.
Table 4.1.8.9	Earthquake Loads and Effects: Structural Systems	Structural systems have been updated to be compatible with the material design standard referenced in Section 4.3. of Part 4, and the height restrictions for the seismic-force resisting systems (SFRS) in buildings have been clarified.

4.1.8.10.(5) and Table 4.1.8.6	Earthquake Load and Effects: Inclined Columns	New provisions have been added identifying buildings with inclined columns that are subjected to gravity-induced lateral demands as being structurally irregular buildings.
4.1.8.11.(4)	Earthquake Loads and Effects: Single Storey Buildings with Steel or Wood Diaphragms	New provisions have been added related to time period and diaphragm forces for single-storey buildings with steel or wood roof diaphragms.
4.1.8.16	Earthquake Loads and Effects: Foundation Provisions	A new requirement has been added to the calculation of displacements to include increases due to foundation movements.
Table 4.1.8.18	Earthquake Loads and Effects: Elevators, Escalators and Racking Storage Systems	New requirements have been added for anchorage design for elevators, escalators and steel pallet storage racks accounting for the seismic loads and effects.
4.1.8.19. and 4.1.8.20.	Earthquake Load and Effects: Seismically Isolated Structures	New requirements have been added for structures with seismically-isolated structures.
4.1.8.21. and 4.1.8.22	Earthquake Load and Effects: Supplemental Energy Dissipation	New requirements have been added for structures with supplementary energy dissipation systems.
4.3.6.1	Structural Glass Design	Specific requirements on structural glass design are added including reference to ASTM E1300, "Practice for Determining Load Resistance of Glass in Buildings".
<b>Part 5 (Environmental Separation)</b>		
5.1.4.1	Structural and Environmental Loads	A new requirement has been added to reflect where building materials, components or assemblies perform more than one function, they are required to satisfy the requirement of all of those functions.
5.2.2.2	Determination of Wind Load	A new requirement has been added to clarify that the wind uplift resistance of membrane roofing assemblies are required to conform with the requirements of CSA A123.21 "Dynamic Wind Uplift Resistance Membrane-Roofing Systems". However, the <i>OBC</i> also recognizes proven past performance.
5.6.1.2	Installation of Protective Materials	A requirement that includes a new referenced standard has been added which addresses the protective materials in a vegetative roofing system and their resistance to root and rhizome penetration by requiring testing of components in accordance

		with ANSI/GRHC/SPRI VR-1 standard.
5.7	Protection from Surface Water	Sections addressing “Surface Water” and “Moisture in the Ground” have been combined under the new Section 5.7. The new section also provides a description of the differences between waterproofing and damp-proofing, and addresses surface preparation and directing water away from buildings and assemblies.
5.8	Sound Transmission	A new sound transmission rating, apparent sound transmission class (ASTC), was introduced in order to consider contributions of flanking sound transmission. This is an alternative rating that can be used to meet the sound transmission requirements of the <i>OBC</i> . The existing rating sound transmission class which considers only direct sound transmission has also been maintained. This section also now includes detailed and simplified calculation methods for ASTC.
5.10	Referenced Standards	Standards applicable to environmental separators and assemblies exposed to the exterior have been updated. Standards that have been withdrawn were also removed and outdated standards replaced with current editions. New standards that reflect materials currently used by industry were also added.
5.10.4	Other Fenestration Assemblies	A new subsection has been added to address other fenestration assemblies which are assemblies that have not been explicitly covered by the previous editions of the <i>OBC</i> . It establishes minimum performance requirement as well as laboratory and in-situ standard test procedures for curtain walls, window walls, storefronts and glazed architectural structures (referred to as “other fenestration assemblies”). It also provides guidance on how to properly identify these products and their applications by clarifying the recognized industry terminology.

**Part 6 (Heating, Ventilating and Air-Conditioning)**

6.2.2.4	Indoor Air Contaminants	Clarifications have been made to the requirements that reduce the level of the indoor air contaminants of concern and growth and spread of bio-contaminants.
6.2.2.6	Grease Duct Enclosures	A new requirement has been added to clarify that the fire-resistance rating of factory-built and field-applied grease duct enclosures are to be determined in

		conformance with the CAN/ULCS144, "Standard Method of Fire-Resistance Test-Grease Duct Assemblies".
6.2.3.4	Foamed Plastic Insulation	A new requirement has been added to allow the use of foamed plastic insulation, under certain conditions, to insulate heating ducts in Part 9 residential buildings.
6.2.3.14. and 6.2.3.15	Air Washers, Evaporative Coolers, Cooling Towers and Evaporative Condensers	The requirements have been modified to clarify that air washers and evaporative cooling sections have different design considerations to that of towers and evaporative condensers. ASHRAE Guideline 12, "Minimizing the Risk of Legionellosis Associated with Building Water Systems," is referenced to minimize health risks with airborne legionella associated with HVAC equipment such as cooling towers, evaporative towers and evaporative condensers.
<b>Part 7 (Plumbing)</b>		
7.2.3.2.(3)	Selection and Installation of Grease Interceptors	A new provision has been added about the selection and installation of grease interceptors which are required to conform to new referenced standards.
7.2.6.1.(3)	Cast Iron Frames and Covers	Cast iron frames and covers for maintenance holes and catch basins are now required to conform to a new referenced standard.
7.2.6.10. to 7.2.6.15., 7.3.2.8. and 7.3.4.3.(2)	Stainless Steel Related Requirements	New requirements have been added for stainless steel pipes and fittings. The new requirements address applicable standards, welding and support of the stainless-steel piping and joints.
7.2.7.4.(5)	Copper Tube Limitation	A new restriction has been introduced for the use of copper tubing below the flood level rim of urinals.
7.2.10.2	Methods of Mounting and Attaching Water Closets	Revised provisions now permit alternative methods of mounting and attaching modern water closets.
7.6.2.10	Spill-resistant Pressure Vacuum Breakers	A new provision has been added to permit spill-resistant pressure vacuum breakers.
Table 7.6.4.1	Maximum Flow Rates for Lavatory Water Supply Fittings	Flow rate requirements have been revised and more efficient water supply fittings for lavatories are now required.
7.6.4.1.(3)	Automatic Shut-off for Lavatory Faucets	A new provision has been added for lavatory faucets located in public washrooms. They are required to be equipped with automatic shut-off when not in use.

7.6.4.1.(5)	Multiple Shower Heads in Public Showering Facilities	A new provision has been added that requires that where multiple shower heads are served by one temperature control, each shower head must be capable of automatically shutting off the flow of water when not in use.
<b>Part 8 (Sewage Systems)</b>		
8.7.3.2	Absorption Trenches	Provisions in the relevant sections of Part 8 have been revised to address pipe spacing for different types of installation for Type I and II leaching chambers.
<b>Part 9 (Housing and Small Buildings)</b>		
9.6.1.3	Structural Sufficiency of Glass	Changes have been made that removes the reference to an outdated CGSB standard and provides additional options for the design of glass to either Part 4 or to new Part 9 prescriptive tables based on various 1-in-50 hourly wind pressures and building location.
9.8.4.2	Dimensions for Runs and Rectangular Treads	The run dimension of stairs serving single-dwelling units have been increased.  <b>Note: These amendments do not come into force until January 1, 2022.</b>
9.8.4.5A	Stairs, Steps, Ramps, Landings, Handrails and Guards: Spiral Stairs	Spiral stairs are permitted in buildings under certain conditions.  <b>Note: These amendments do not come into force until January 1, 2022.</b>
9.8.7	Stairs, Steps, Ramps, Landings, Handrails and Guards: Handrails	New requirements have been added that increase the maximum height of a handrail and clarify ergonomic design provisions.  <b>Note: These amendments do not come into force until January 1, 2022.</b>
9.10.19.1. and 9.10.19.8	New Residential Fire Warning Systems (ULC-S 540)	A provision has been added to address the use and installation of residential fire warning systems.
9.11.1.1	Sound Transmission	A new ASTC rating has been introduced to take into account flanking sound transmission as an alternative method in addition to the Sound Transmission Class (STC) rating.
9.13.2., 9.13.3. and	Referenced Standards	Several out-o-date standards have been replaced

9.26.2	for Roofing, Damp-proofing, and Waterproofing Materials and Installation	with current and more applicable standards, covering a variety of material types and applications.
9.13.2.6	Damp-proofing of Floors on Ground	The existing requirements for damp-proofing of floors on ground have been revised and expanded to provide additional damp-proofing options.
9.23.13.11	Wood Roof Trusses	Existing roof truss design requirements have been updated to reflect current truss manufacturing processes.
9.26.1.1	Purpose of Roofing	The terms “roof” and “roofing” have been defined for the purposes of Section 9.26.
9.32.1.1.(5) and 9.32.1.4.	Venting of Laundry – Drying Equipment	Alternative methods for the venting of laundry drying equipment have been added .
9.35.3.1.(2)	Garages and Carports: Foundation Required	A new requirement has been added prescribing the types of foundations that may be used for small 1 storey detached garages less than 55 m <sup>2</sup> in floor area that are not of masonry or masonry veneer construction.
9.35.3.3.(1)	Garages and Carports: Small Garages	A new requirement has been amended to exempt small garages from complying with the foundation drainage requirements where the finished ground level is at or near the elevation of the garage floor
9.34.4	Electric Vehicle Charging	The current electric vehicle charging requirements pertaining to houses have been deleted.  <b>Note: This amendment came into force on May 2, 2019.</b>

### Definitions

<b>Added:</b> Apparent sound transmission class	A single number rating of the airborne sound attenuation of building assemblies separating two adjoining spaces, taking into account both the direct and flanking sound transmission paths, and “ASTC” has a corresponding meaning.
<b>Changed:</b> Closure	A device or assembly for closing an opening through a fire separation or an exterior wall, such as a door, a shutter, a damper, wired glass and glass block, and includes all components such as hardware, closing devices, frames and anchors.  <b>Note: Now includes “a damper”.</b>
<b>Changed:</b> Dangerous Goods	Those products or substances that are, a) regulated by the <i>Transportation of Dangerous Goods Regulations</i> made

	<p>under the <i>Transportation of Dangerous Goods Act, 1992</i> (Canada), or  b) classified as controlled products under the <i>Hazardous Products Regulations</i> made under the <i>Hazardous Products Act</i>(Canada).</p> <p><b>Note: Now includes controlled products under the <i>Hazardous Products Regulations</i>.</b></p>
<b>Added:</b> Flight	A series of steps between landings.
<b>Added:</b> Hazardous Extraction	A process to remove or separate a substance from a solution or mixture that involves the use of flammable liquids, combustible liquids or flammable gases as solvents in the process.
<b>Added:</b> Run	The horizontal distance between two adjacent tread nosings on a stair.
<b>Added:</b> Solid masonry	A single-wythe or multi-wythe construction made of solid masonry units or semi-solid, cored or hollow masonry units, the cells of which may or may not be filled with mortar or grout. In multi-wythe masonry construction, the space between the wythes consists of a mortar-filled collar joint or grout-filled space and the wythes may or may not be constructed of the same masonry materials.
<b>Added:</b> Solid masonry unit	A concrete block or brick unit, a clay brick unit or a calcium silicate brick unit, the net solid area of which is at least 75% of its gross area.
<b>Added:</b> Sound transmission class	A single number rating of the airborne sound attenuation of a building assembly separating two adjoining spaces, taking into account only the direct sound transmission path, and “STC” has a corresponding meaning.
<b>Added:</b> Tapered tread	A tread with non-parallel edges that increases or decreases its run uniformly over its width.