

Established in 1889, the Ontario Association of Architects (OAA) is the self-regulating body for the province's architecture profession. It governs the practice of architecture and administers the Architects Act in order to serve and protect the public interest.

Secretary, Canadian Board for Harmonized Construction Codes
1200 Montreal Road, Building M-20
Ottawa, ON K1A 0R6

Sent by email to: CBHCCSecretary-SecretaireCCHCC@nrc-cnrc.gc.ca

July 25, 2024

Re: CBHCC Spring 2024 Public Consultation

To Whom It May Concern:

The Ontario Association of Architects (OAA) continues to monitor and respond to proposals to harmonize Ontario's Building Code with the National Model Codes. In its role of serving the public interest, the Association is particularly watching the impact of harmonization on operational and embodied carbon, as well as other measures to address the climate crisis.

The OAA is encouraged that the Canadian Board for Harmonized Construction Codes (CBHCC) Spring 2024 consultation contemplates the addition of a new Part 10 in the National Building Code of Canada (NBC).

In the midst of the global climate emergency, policymakers ought to look toward reducing carbon emissions from buildings as a key factor in advancing climate action. Based on estimates from various sources, approximately one third of greenhouse gas emissions come from the built environments in which Canadians live, work, and play. Improving the energy efficiency of our existing buildings and accelerating our progress toward net zero carbon is critical if Canada and Ontario intend to meet their stated greenhouse gas emissions targets.

The new Part 10 is positioned to make a significant impact in advancing climate action, requiring building alterations to consider climate implications and to factor energy efficiency into changes made to the existing built environment across the country. In the [public review that CBHCC conducted in October 2023](#), it was noted that,

“The voluntary alteration of an existing building presents an opportunity to upgrade the energy performance of the building. When significant repairs or alterations need to be made, the energy performance of the building should be improved at the same time where it is cost-effective to do so, thereby minimizing the incremental cost of the upgrade.”

For the new Part 10, the OAA urges CBHCC to consider the inclusion of objective, tiered performance metrics within the context of significant repairs or alterations. These metrics help everyone understand energy use in buildings and can help position Canada to achieve its emissions reduction targets.

As such, Part 10 should contemplate objective targets based on Total Energy Use Intensity (TEUI) for a wide range of building occupancies as a best practice, which is demonstrated by the OAA's own [TEUI Calculator](#) tools. Tools like these can ultimately serve both designers and authorities having jurisdiction (AHJs) at the point of permit applications, helping streamline submissions and reduce the burden of red tape, while also enabling a more climate-prioritized built environment.

The OAA is steadfast in its position that Canada and its Building Codes must be concerned with the carbon emissions of the fossil fuels embodied in the construction and operation of buildings because of the carbon intensity of such sources. It is possible to easily and substantially reduce or eliminate fossil fuel loads through design. Ontario architects have shown these changes can be capital cost neutral, more durable, and demonstrably lower in operating costs for buildings over their life cycle.

Amid the global climate emergency, policymakers must look toward reducing and ultimately eliminating carbon emissions from buildings as a key factor in advancing climate action. It is imperative that sustainable practices be used in new building methods to ensure they are not inherently working against the public by compromising Canada's natural resources.

Buildings and their construction contribute significantly to the climate crisis, but they can also be instrumental in advancing climate action. CBHCC is uniquely positioned to make a meaningful contribution in this area. With the codes currently under review, the time to act is now.

Appended to this letter, please find the OAA's line-by-line review of the changes contemplated in this consultation. All the comments included in the attached document have been uploaded to the CBHCC online portal.

The OAA enjoys a longstanding, collaborative relationship with government and policymakers, and looks forward to continued work with CBHCC. Please do not hesitate to reach out should you have further questions or need clarification.

Sincerely,



Settimo Vilardi, Architect
M.Arch., OAA, FRAIC
President

CC to: James Ross, Manager, Building Code Policy Development Unit
Ministry of Municipal Affairs and Housing
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OAA's Submission - Spring 2024: Public Review of Proposed Changes to 2020 National Model Codes

Table: Potential Changes To the NFC 2020, NBC 2020, NPC 2020 and NECB 2020: _____

Background from CBHCC:

The proposed changes included in this public review address the following topics in the National Fire Code of Canada, the National Building Code of Canada, the National Energy Code of Canada for Buildings, and the National Plumbing Code of Canada: climatic loads, residential energy efficiency, adaptable and visitable dwelling units, alteration of existing buildings – housing and small buildings, new OS sub-objective for firefighter safety, identification of storm and sanitary drainage systems, protection of the potable water system and accessibility, amongst others.

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National Fire Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Division A			
Part 2 - Objectives			
2.1.1.2. Application of Objectives			
1919 - Introduction of the OP3 Sub-Objective for Large Farm Buildings in the NFC	1	I support this proposed change as is.	
2.2.1.1. Objectives			
1998 - Introduction of New OS Safety Sub-Objective for Firefighter Safety	1	I support this proposed change as is.	
Division B			
Part 4 - Flammable and Combustible Liquids			
4.3.5.2. Location of Vent Pipe Outlets			
1776 - Addition of the OH5 Sub-Objective to Relevant Provisions in NFC Part 4	6	Not Reviewed	
4.3.11.3. Installation			
1776 - Addition of the OH5 Sub-Objective to Relevant Provisions in NFC Part 4	6	Not Reviewed	
4.12.1. Scope			
1936 - OP3 Sub-Objective and Intent Statements for Large Farm Buildings in the NFC	1	I support this proposed change as is.	

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National Building Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Division A			
Part 2 - Objectives			
2.2.1.1. Objectives			
1998 - Introduction of New OS Safety Sub-Objective for Firefighter Safety	1	I support this proposed change as is.	
Division B			
Part 1 - General			
1.1.3.1. Climatic and Seismic Values			
Require a definition for air tightness and clarify role of bathroom fans.	2	I support this proposed change as is with comment(s).	Due to the variety of climatic conditions across Canada, future proposed changes may want to consider the role of humidity in relation to human comfort, risk of condensation to building components and poor indoor air quality due to inadequate air changes.
Part 2 - Farm Buildings			
2.1.1.1. Scope			
1918 - Introduction of the OP3 Sub-Objective for Farm Buildings in the NBC	1	I support this proposed change as is.	
2.2. Fire Protection and Occupant Safety			
1777 - Spatial Separation and Exposure Protection	2	I support this proposed change as is with comment(s).	Appropriate ventilation of liquid manure storage to the exterior may need to be addressed, if not already required elsewhere in the code.
Part 3 - Fire Protection, Occupant Safety and Accessibility			
3.2.1.4. Floor Assembly over Basement			
1994 - Exemptions List for Floor Assemblies over Basements	1	I support this proposed change as is.	
3.2.3.7. Construction of Exposing Building Face			
1939 - Clarification of the Requirement for Sprinklers in Combustible Attic or Roof Spaces	1	I support this proposed change as is.	
3.2.3.16. Protection of Soffits			
1938 - Removal of Redundant Sprinkler References	1	I support this proposed change as is.	

National Building Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
3.2.5.11. Hose Stations			
1938 - Removal of Redundant Sprinkler References	1	I support this proposed change as is.	
3.2.5.12. Automatic Sprinkler Systems			
1939 - Clarification of the Requirement for Sprinklers in Combustible Attic or Roof Spaces	1	I support this proposed change as is.	
3.3.1.17. Capacity of Access to Exits			
1938 - Removal of Redundant Sprinkler References	1	I support this proposed change as is.	
3.4.2.6. Principal Entrances			
1938 - Removal of Redundant Sprinkler References	1	I support this proposed change as is.	
3.8. Accessibility			
1882 - Reinforcing Stud Walls in Washrooms for the Future Installation of Grab Bars: Showers and Bathtubs	1	I support this proposed change as is.	
1884 - Paths of Travel Within a Visitable Dwelling Unit	3	I support this proposed change with modification(s).	To make an accessible unit consistent, the washroom doorway with would have to be 850mm - align prescriptive design requirements for accessible and visitable door widths.
1958 - Washrooms in Visitable Dwelling Units	3	I support this proposed change with modification(s).	To make an accessible unit consistent, the clearance at a lav. to a wall would also have to be min. 460mm - align prescriptive design requirements for accessible and visitable washrooms.
2031 - Reinforcing Stud Walls in Washrooms for the Future Installation of Grab Bars: Water Closets	1	I support this proposed change as is.	
3.8.3.9. Accessible Signs			
1766 - Accessible Safety Signage	1	I support this proposed change as is.	
Part 4 - Structural Design			
4.1.3.2. Strength and Stability			
1980 - Specified Wind and Snow Loads in Part 4	1	I support this proposed change as is.	
4.1.6.2. Specified Snow Load			
1980 - Specified Wind and Snow Loads in Part 4	5	I have reviewed this proposed change and I have no opinion on it.	
4.1.6.5. Multi-level Roofs			
1980 - Specified Wind and Snow Loads in Part 4	5	I have reviewed this proposed change and I have no opinion on it.	
4.1.6.7. Areas Adjacent to Roof Projections			
1980 - Specified Wind and Snow Loads in Part 4	5	I have reviewed this proposed change and I have no opinion on it.	

National Building Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
4.1.6.9. Gable Roofs			
1980 - Specified Wind and Snow Loads in Part 4	5	I have reviewed this proposed change and I have no opinion on it.	
4.1.6.10. Arch Roofs, Curved Roofs and Domes			
1980 - Specified Wind and Snow Loads in Part 4	5	I have reviewed this proposed change and I have no opinion on it.	
4.1.7.3. Static Procedure			
1980 - Specified Wind and Snow Loads in Part 4	5	I have reviewed this proposed change and I have no opinion on it.	
4.1.8.2. Notation			
1980 - Specified Wind and Snow Loads in Part 4	1	I support this proposed change as is.	
4.1.8.15. Design Provisions			
1900 - Clarification of the Use of the Importance Factor in the Determination of Design Forces	6	Not Reviewed	
Part 6 - Heating, Ventilating and Air-conditioning			
6.2.1. General			
2061 - Overheating in New Dwelling Units	2	I support this proposed change as is with comment(s).	Due to the variety of climatic conditions across Canada, future proposed changes may want to consider the role of humidity in relation to human comfort, risk of condensation to building components and poor indoor air quality due to inadequate air changes.
Part 9 - Housing and Small Buildings			
9.4.2. Specified Loads			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.6.1.3. Structural Sufficiency of Glass			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.9.11. Signs			
1766 - Accessible Safety Signage	1	I support this proposed change as is.	
9.23.3.4. Nailing of Framing			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.23.3.5. Fasteners for Sheathing or Subflooring			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.23.6.1. Anchorage of Building Frames			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	

National Building Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
9.23.13.1. Requirements for Low to Moderate Wind and Seismic Forces			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.23.13.2. Requirements for High Wind and Seismic Forces			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.23.13.3. Requirements for Extreme Wind and Seismic Forces			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.23.16.1. Required Roof Sheathing			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.23.16.5. Lumber Roof Sheathing			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.27.5.4. Size and Spacing of Fasteners			
2048 - Specified Wind and Snow Loads in Part 9	1	I support this proposed change as is.	
9.31.2.3. Grab Bars			
2030 - Reinforcing Stud Walls in Washrooms for the Future Installation of Grab Bars: Structural Strength	3	I support this proposed change with modification(s).	Prescriptive requirement illustrations need review for constructability.
9.33.2.1. Required Heating Systems			
2061 - Overheating in New Dwelling Units	2	I support this proposed change as is with comment(s).	Due to the variety of climatic conditions across Canada, future proposed changes may want to consider the role of humidity in relation to human comfort, risk of condensation to building components and poor indoor air quality due to inadequate air changes.
9.33.3. Design Temperatures			
2061 - Overheating in New Dwelling Units	2	I support this proposed change as is with comment(s).	Due to the variety of climatic conditions across Canada, future proposed changes may want to consider the role of humidity in relation to human comfort, risk of condensation to building components and poor indoor air quality due to inadequate air changes.
9.33.5. Heating and Air-conditioning Appliances and Equipment			
2061 - Overheating in New Dwelling Units	2	I support this proposed change as is with comment(s).	Due to the variety of climatic conditions across Canada, future proposed changes may want to consider the role of humidity in relation to human comfort, risk of condensation to building components and poor indoor air quality due to inadequate air changes.
9.36. Energy Efficiency			
2042 - Energy Performance Tier 1 of the Prescriptive Path	1	I support this proposed change as is.	

National Building Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Part 10 - (Alteration of Existing Buildings)			
10.9.			
2032 - Heat Transfer, Air Leakage and Condensation Control Requirements	1	I support this proposed change as is.	
2033 - Ventilation Systems in Existing Buildings Subjected to Alteration	3	I support this proposed change with modification(s).	We recommend reviewing the following 2 items: 1. Threshold for air tightness could be done by blower door testing, but should not be required for minor renovations. Perhaps the threshold is that the renovations are affecting over 50% of the building envelope (walls, roof, floors above grade), for example. Homeowners should not be dissuaded from improving air tightness when doing partial renovations. 2. Allowing the use of an exhaust fan when there is no other source of fresh air intake. It is still relying on a lack of air tightness to bring in fresh air. The use of exhaust fans should be permitted for renovations below the threshold only.
2051 - Explanatory Note 10.9.1.1. for Continuity of the Air Barrier System	2	I support this proposed change as is with comment(s).	Further guidance is needed to address conditions along the perimeter of the alterations and where unaltered building systems or elements pass through the extent of the alteration.
Appendix C			
1979 - Updated Climatic Data	1	I support this proposed change as is.	

For Information Only - Supporting Documents from CBHCC

- 1
[Impact Analysis for PCF 2061: Overheating in New Dwelling Units \(PDF 893 KB\)](#)
- 2
[Cost Analysis for PCF 1777 \(PDF 201 KB\)](#)
- 3
[Accessibility, Visitability and Adaptability of Dwelling Units \(PDF 1002 KB\)](#)
- 4
[Accessibility, Visitability and Adaptability of Dwelling Units-PCFs 1880, 1881, 1883, 1957 and 2028 \(PDF 2746 KB\)](#)
- 5
[Cost impact of climatic load changes on Part 9: Adopting Part 4 proposed new return periods in PCF 2048 \(PDF 745 KB\)](#)
- 6
[Alteration of Existing Buildings \(PDF 693 KB\)](#)
- 7
[Cost Impact of PCF 1979 \(PDF 1009 KB\)](#)

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National Plumbing Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Division A			
Part 1 - Compliance			
1.2.2.2. Used Materials and Equipment			
1959 - Replacement of the Defined Term "Fixture" with "Plumbing Fixture"	1	I support this proposed change as is.	
1.4.1.2. Defined Terms			
1706 - Definitions of "Washroom" and Related Terminology	3	I support this proposed change with modification(s).	Coordinate this proposed change throughout Code as needed: We recommend to make "washroom" consistent when referring to a bathroom grouping. Change to "washroom grouping" for fixture counts for clarity.
1959 - Replacement of the Defined Term "Fixture" with "Plumbing Fixture"			
Part 3 - Functional Statements			
3.2.1.1. Functional Statements			
1959 - Replacement of the Defined Term "Fixture" with "Plumbing Fixture"	1	I support this proposed change as is.	
Division B			
Part 2 - Plumbing Systems			
2.2.1.3. Identification			
1782 - Identification of Storm and Sanitary Drainage Systems	1	I support this proposed change as is.	
2.2.10.6. Valves, and Supply and Waste Fittings			
2007 - Automatic Shutoff of Lavatory Water Flow in Public Washrooms	6	Not Reviewed	
1731 - Protection of the Potable Water System	6	Not Reviewed	

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National Energy Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Division B			
Part 4 - Lighting			
4.1.1.2. Application			
1651 - Use of the Defined Term "Occupancy" in the NECB	1	I support this proposed change as is.	
Part 5 - Heating, Ventilating and Air-conditioning Systems			
5.1.1.2. Application			
1651 - Use of the Defined Term "Occupancy" in the NECB	1	I support this proposed change as is.	
Appendix C			
2018 - Updated Climatic Data	1	I support this proposed change as is.	
Division C			
Part 2 - Administrative Provisions			
2.2.1.1. Conformance with Administrative Requirements			
1721 - Use of the Defined Term "Occupancy" in Division C of the NECB	1	I support this proposed change as is.	
2.2.2.1. General Information Required			
1721 - Use of the Defined Term "Occupancy" in Division C of the NECB	1	I support this proposed change as is.	