

*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.*

The 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](mailto:CBHCCSecretary-SecretaireCCHCC@nrc-cnrc.gc.ca)

December 13, 2024

**Re: CBHCC Fall 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 interested in potential impacts on operational and embodied carbon, as well as other measures to address the climate crisis.

The OAA encourages CBHCC to consider the creation of harmonized codes that reduce complexity and circumvent long calculations for illustrating compliance. The Association believes the inclusion of objective, tiered performance metrics can clarify energy use in all buildings and can help position Canada to achieve its emissions reduction targets.

Recent code revisions have made the distinction less clear between Part 3 and Part 9 requirements, particularly in the realm of heating and cooling systems. While prescriptive methods aim to streamline compliance, they often fail to account for site-specific factors like orientation and exposure. Further, given that energy efficiency requirements are already captured in the building code, having increasingly complex prescription-based demands are yielding smaller returns.

As such, the OAA recommends CBHCC consider a more flexible approach using objective, tiered performance metrics. This would empower homeowners and building operators to make informed decisions about energy efficiency. Additionally, the OAA emphasizes the importance of electrification and clean energy sources to reduce greenhouse gas emissions and achieve long-term sustainability goals.

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 demonstrated that these changes can be capital cost neutral, more durable, and have demonstrably lower operating costs over the buildings' life cycles.

Amid the global climate emergency, policymakers must look toward neutralizing carbon emissions from buildings as a key factor in advancing climate action. It is imperative that sustainable practices be used in new construction 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,

*S. T. Vilardi*

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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Mansoor Mahmood, Director  
Building and Development Branch  
Ministry of Municipal Affairs and Housing  
Email: [mansoor.mahmood@ontario.ca](mailto:mansoor.mahmood@ontario.ca)

**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: Fenestration, Building Envelope, GHG emissions, Performance compliance – Energy modeling software requirements, Performance compliance – Exceptional calculation methods, Encapsulated Mass Timber Construction, amongst others. The purpose of this public review is to provide code users, the Codes community, and the public with a detailed look at proposed technical changes, and seek comment on each proposed technical change as to whether it should be approved, altered or withdrawn.

**Legend for Rankings:** **1.** I support this proposed change as is. | **2.** I support this proposed change as-is with comment(s). | **3.** I support this proposed change with modification(s). | **4.** I do not support this proposed change for the reason(s) stated to the right. | **5.** I have reviewed this proposed change and I have no opinion on it. | **6.** Not Reviewed

**National Building Code 2020**

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
<b>Division B</b>			
<b>Part 1 - General</b>			
<b>1.3.1.2. Applicable Editions</b>			
<a href="#">2096 - Updates to Referenced Documents</a>	1	I support this proposed change as is.	No Comments
<b>Part 9 - Housing and Small Buildings</b>			
<b>9.7.6.1. Installation of Windows, Doors and Skylights</b>			
<a href="#">1950 - Protection from Precipitation of the Rough Opening Sills for Windows and Doors</a>	1	I support this proposed change as is.	No Comments
<b>9.27.2. Required Protection from Precipitation</b>			
<a href="#">1950 - Protection from Precipitation of the Rough Opening Sills for Windows and Doors</a>	1	I support this proposed change as is.	No Comments
<b>9.27.3. Second Plane of Protection</b>			
<a href="#">1950 - Protection from Precipitation of the Rough Opening Sills for Windows and Doors</a>	1	I support this proposed change as is.	No Comments
<b>9.36. Energy Efficiency</b>			
<a href="#">2026 - Operational GHG Emissions: Tiered Prescriptive Requirements in the NBC</a>	3	I support this proposed change with modification(s).	The OAA supports the goal of Proposed Change 2026 to reduce operational greenhouse gas emissions (GHG) to zero or near zero by 2050 by incorporating the type or quality of energy sources used by buildings and houses into the codes. However, the complexity and far-reaching nature of the proposal makes demonstrating compliance very difficult for a prescriptive path. The proposal would be more effective if it were associated with the performance compliance path. Here are some other suggested edits for review/considerations: electricity use for lighting and motors should be added to the assessments, adding appendices that link the performance tables with climate zones, and adding appendices that link the performance tables with the relevant electricity grids.
<b>9.36.2.7. Thermal Characteristics of Fenestration, Doors and Skylights</b>			
<a href="#">1823 - Thermal Characteristics of Fenestration and Doors</a>	4	I do not support this proposed change for the reason(s) stated to the right.	The OAA understands that Proposed Change 1823 adds a new parameter to limit the solar heat gain coefficient (SHGC) to avoid overheating. Overheating is not caused by solar heat gain alone, and the discussion in the proposal pulls it out of the realm of a prescriptive solution. Adjustments to the tables presenting maximum SHGC would be reasonable on their own, without the discussion of peak cooling loads. Simpler prescriptive approaches are preferred even if the occasional house sneaks into compliance or is "unfairly" blocked from compliance.

## National Building Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
<b>Division B</b>			
<b>9.36.5.3. Compliance</b>			
<a href="#">1823 - Thermal Characteristics of Fenestration and Doors</a>	4	I do not support this proposed change for the reason(s) stated to the right.	The OAA understands that Proposed Change 1823 adds a new parameter to limit the solar heat gain coefficient (SHGC) to avoid overheating. Overheating is not caused by solar heat gain alone, and the discussion in the proposal pulls it out of the realm of a prescriptive solution. Adjustments to the tables presenting maximum SHGC would be reasonable on their own, without the discussion of peak cooling loads. Simpler prescriptive approaches are preferred even if the occasional house sneaks into compliance or is "unfairly" blocked from compliance.
<b>9.36.7.3. Energy Performance Improvement Compliance Calculations</b>			
<a href="#">1823 - Thermal Characteristics of Fenestration and Doors</a>	4	I do not support this proposed change for the reason(s) stated to the right.	The OAA understands that Proposed Change 1823 adds a new parameter to limit the solar heat gain coefficient (SHGC) to avoid overheating. Overheating is not caused by solar heat gain alone, and the discussion in the proposal pulls it out of the realm of a prescriptive solution. Adjustments to the tables presenting maximum SHGC would be reasonable on their own, without the discussion of peak cooling loads. Simpler prescriptive approaches are preferred even if the occasional house sneaks into compliance or is "unfairly" blocked from compliance.

### Supporting Documents

#### Footnote 1

[PCF 1951](#)

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**National Fire Code 2020**

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
<b>Division B</b>			
<b>Part 1 - General</b>			
<b>1.3.1.2. Applicable Editions</b>			
<a href="#">2096 - Updates to Referenced Documents</a>	1	I support this proposed change as is.	No Comments
<b>Part 2 - Building and Occupant Fire Safety</b>			
<b>2.8.2.11. Construction and Demolition Sites</b>			
<a href="#">1872 - Revisions to Protection Requirements for EMTC During Construction</a>	2	I support this proposed change as is with comment(s).	The OAA supports the measures noted in this Fire Code change and the efforts to align the Building and Fire Codes. These requirements are likely going to increase the need for additional safety monitoring during construction. To minimize jurisdictional confusion between Fire Officials and Building Officials, education may be beneficial, or a mechanism could be developed to review on a case-by-case basis. Care should be taken to avoid inappropriate extension of responsibility to parties not involved in the contractor's means and methods of construction.
<b>Part 5 - Hazardous Processes and Operations</b>			
<b>5.6.4. Additional Requirements for Buildings of Encapsulated Mass Timber Construction</b>			
<a href="#">1872 - Revisions to Protection Requirements for EMTC During Construction</a>	2	I support this proposed change as is with comment(s).	The OAA supports the measures noted in this Fire Code change and the efforts to align the Building and Fire Codes. These requirements are likely going to increase the need for additional safety monitoring during construction. To minimize jurisdictional confusion between Fire Officials and Building Officials, education may be beneficial, or a mechanism could be developed to review on a case-by-case basis. Care should be taken to avoid inappropriate extension of responsibility to parties not involved in the contractor's means and methods of construction.

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**National Energy Code 2020**

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
<b>Division B</b>			
<b>Part 1 - General</b>			
<b>1.3.1.2. Applicable Editions</b>			
<a href="#">2096 - Updates to Referenced Documents</a>	1	I support this proposed change as is.	No Comments
<b>Part 3 - Building Envelope</b>			
<b>3.1.1.5. Thermal Characteristics of Building Assemblies</b>			
<a href="#">2056 - Energy Modeling Software Requirements</a>	4	I do not support this proposed change for the reason(s) stated to the right.	The OAA supports the adoption of more recent standards. Updating references to the latest version of ASHRAE Standard 140 is worthwhile, as is adopting references to NECB 2020, which is clearer about elements and processes than were its predecessors. However, the suggested implementation approach may require some additional refinement as it pertains to software validation. Testing the energy modelling software itself is the province of software providers and the relevant testing agencies. It is outside the scope and abilities of building designers and authorities having jurisdiction. Requiring designers or AHJs to test software is redundant after the software providers have the software assessed for release. The proposal to add 8.4.2.11 and 8.4.2.12 is likely to result in complexity for designers and AHJs alike.
<b>3.1.1.7. Calculation of Overall Thermal Transmittance</b>			
<a href="#">2056 - Energy Modeling Software Requirements</a>	4	I do not support this proposed change for the reason(s) stated to the right.	The OAA supports the adoption of more recent standards. Updating references to the latest version of ASHRAE Standard 140 is worthwhile, as is adopting references to NECB 2020, which is clearer about elements and processes than were its predecessors. However, the suggested implementation approach may require some additional refinement as it pertains to software validation. Testing the energy modelling software itself is the province of software providers and the relevant testing agencies. It is outside the scope and abilities of building designers and authorities having jurisdiction. Requiring designers or AHJs to test software is redundant after the software providers have the software assessed for release. The proposal to add 8.4.2.11 and 8.4.2.12 is likely to result in complexity for designers and AHJs alike.

## National Energy Code 2020

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<b>Part 8 - Building Energy Performance Compliance Path</b>			
<b>8.4.2. Compliance Calculations</b>			
<a href="#">2056 - Energy Modeling Software Requirements</a>	4	I do not support this proposed change for the reason(s) stated to the right.	The OAA supports the adoption of more recent standards. Updating references to the latest version of ASHRAE Standard 140 is worthwhile, as is adopting references to NECB 2020, which is clearer about elements and processes than were its predecessors. However, the suggested implementation approach may require some additional refinement as it pertains to software validation. Testing the energy modelling software itself is the province of software providers and the relevant testing agencies. It is outside the scope and abilities of building designers and authorities having jurisdiction. Requiring designers or AHJs to test software is redundant after the software providers have the software assessed for release. The proposal to add 8.4.2.11 and 8.4.2.12 is likely to result in complexity for designers and AHJs alike.
<b>8.4.3.9. Ice Plants</b>			
<a href="#">2056 - Energy Modeling Software Requirements</a>	4	I do not support this proposed change for the reason(s) stated to the right.	The OAA supports the adoption of more recent standards. Updating references to the latest version of ASHRAE Standard 140 is worthwhile, as is adopting references to NECB 2020, which is clearer about elements and processes than were its predecessors. However, the suggested implementation approach may require some additional refinement as it pertains to software validation. Testing the energy modelling software itself is the province of software providers and the relevant testing agencies. It is outside the scope and abilities of building designers and authorities having jurisdiction. Requiring designers or AHJs to test software is redundant after the software providers have the software assessed for release. The proposal to add 8.4.2.11 and 8.4.2.12 is likely to result in complexity for designers and AHJs alike.
<b>Division C</b>	4	I do not support this proposed change for the reason(s) stated to the right.	The OAA Supports the adoption of more recent standards. Updating references to the latest version of ASHRAE Standard 140 is worthwhile as is adopting references to NECB 2020, which is clearer about elements and processes than its predecessors. However, the suggested implementation approach may require some additional refinement as it pertains to software validation. Testing the energy modelling software itself is the province of software providers and the relevant testing agencies. It is outside the scope and abilities of building designers and authorities having jurisdiction. Requiring designers or AHJs to test software is redundant after the software providers have the software assessed for release. The proposal to add 8.4.2.11 and 8.4.2.12 is likely to result in complexity for designers and AHJs alike.

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**National Plumbing Code 2020**

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<b>Division B</b>			
<b>Part 1 - General</b>			
<b>1.3.1.2. Applicable Editions</b>			
<a href="#">2096 - Updates to Referenced Documents</a>	1	I support this proposed change as is.	No comments.