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

April 26, 2024

Re: CBHCC Consultation Winter 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) continues to accommodate energy efficiencies by adding objective and functional statements in the National Model Codes.

Increasing design options by removing technical barriers is critical to ensuring the architecture profession can continue to offer responses that promote climate action. Architects have an important role to play in reducing the upfront carbon emissions of buildings as they are responsible for specifying the materials used in their construction. According to the Canada Green Building Council (CaGBC):

> Decarbonizing Canada's built environment will require decisive action on both operational carbon and embodied carbon. Embodied carbon must be treated with the same urgency as operational carbon [.]

The OAA is pleased its noted concerns and longstanding wishes for a more objective approach to building energy performance and operational carbon emissions have finally been addressed in this group of changes. On behalf of the Association, I applaud the movement away from the reference model approach, as this will reduce not only the design and energy modeling workload of professionals, but also the administration and review of buildings applying for permits.

Objective metrics like Total Energy Use Intensity (TEUI) and Greenhouse Gas Intensity (GHGI) have become the norm in the international architecture, engineering, and construction sector, and it is refreshing to see Canada align its codes with these globally recognized metrics. This bodes well for fostering both Canadian innovations (e.g. software development), as well as international trade and competitiveness in both the professional services and construction material manufacturing sectors.

The OAA's efforts to develop digital tools for its members, such as the TEUI Calculator and the TEUI2.0, take a similar approach in targeting TEUI and GHGI in the same units proposed in the new codes. 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.'

The OAA agrees that Canada and its Building Codes must be concerned with the carbon emissions of the fossil fuels used to power buildings because of the carbon intensity of such sources. It is possible to easily and substantially reduce fossil fuel loads through design. Ontario architects have demonstrated that these changes can be capital cost neutral, more durable, and demonstrably lower in operating costs over the life of the building.

Through improved envelopes and technologies such as heat pumps, architects are already substantially reducing thermal loads on buildings with heat pumps reducing the strain on the electricity supply system by delivering more energy to the building than they consume.

In addition to advancing climate action, updates to the Building Code must also consider additional ways to promote human health and life safety. The OAA applauds CBHCC's contemplated changes to radon mitigation. Consistent with the Health Canada guidelines, minimizing radon exposure in Part 9 buildings can be achieved by installing vertical radon stacks in dwelling units and home-type care occupancies that have a wall, roof, or floor assembly in contact with the ground. The OAA is pleased to learn the contemplated changes pertaining to radon also introduce a requirement to seal the overlapping seams of air barriers in contact with the ground.

Many of the additional housekeeping items—such as supplanting the outdated ACH50 metric with the NLA50 metric, and updating weather references to the new Environment Canada TMY weather files—will have a marked effect on the design of buildings. This will lead to greater thermal resiliency and, in many cases, lower costs.

Amid the global climate emergency, policymakers must look toward reducing carbon emissions from buildings as a key factor in advancing climate action. It is imperative 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.

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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:

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OAA's Submission - Winter 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: alterations to existing buildings, energy use intensity compliance path,operational GHG emissions, radon and soil gas mitigation, airtightness, adaptable and visitable dwelling units, screens and curtains used in farm buildings, maximum quantities of dangerous goods kept in laboratories, condensate drainage, pipe sizing and spacing, condensate drainage, water-use efficiency, 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 Fire Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Division B			
Part 2 - Building and Occupant Fire Safety			
1797 - Protection of Adjacent Buildings	1	I support this proposed change as is.	
Part 3 - Indoor and Outdoor Storage			
3.1.2.7. Fire Safety Plan			
2010 - Deletion of Redundant Provisions Pointing to the Fire Safety Plan in the NFC	1	I support this proposed change as is.	
3.2.2.5. Fire Safety Plan			
2010 - Deletion of Redundant Provisions Pointing to the Fire Safety Plan in the NFC	1	I support this proposed change as is.	
3.2.7.9. Fire Suppression Systems			
1934 - Standardization of Terminology in NFC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.7.14. Placards			
2010 - Deletion of Redundant Provisions Pointing to the Fire Safety Plan in the NFC	1	I support this proposed change as is.	
3.3.2. General			
2010 - Deletion of Redundant Provisions Pointing to the Fire Safety Plan in the NFC	1	I support this proposed change as is.	
Part 4 - Flammable and Combustible Liquids			
4.1.1.1. Application			
1805 - Reference to CSA B139:19 Series without Capacity Restriction	1	I support this proposed change as is.	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
4.1.6.3. Spills and Leaks			
1844 - Deletion of Reference to Withdrawn Document	1	I support this proposed change as is.	
4.3.13.1. Occupancy			
1805 - Reference to CSA B139:19 Series without Capacity Restriction	1	I support this proposed change as is.	
4.3.13.4. Maximum Quantities and Location			
1805 - Reference to CSA B139:19 Series without Capacity Restriction	1	I support this proposed change as is.	
4.3.13.5. Storage Tank Construction			
1805 - Reference to CSA B139:19 Series without Capacity Restriction	1	I support this proposed change as is.	
4.3.13.6. Piping Systems			
1805 - Reference to CSA B139:19 Series without Capacity Restriction	1	I support this proposed change as is.	
Part 5 - Hazardous Processes and Operations			
5.1. General			
2010 - Deletion of Redundant Provisions Pointing to the Fire Safety Plan in the NFC	1	I support this proposed change as is.	
5.2.3. Prevention of Fires			
2010 - Deletion of Redundant Provisions Pointing to the Fire Safety Plan in the NFC	1	I support this proposed change as is.	
5.5.3.1. Emergency Planning			
2010 - Deletion of Redundant Provisions Pointing to the Fire Safety Plan in the NFC	1	I support this proposed change as is.	
5.5.5.1. Maximum Quantities			
1914 - Maximum Quantities of Dangerous Goods Kept in Laboratories	1	I support this proposed change as is.	

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
5.6.1. General			
2010 - Deletion of Redundant Provisions Pointing to the Fire Safety Plan in the NFC	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
Division A			
Part 1 - Compliance			
1.4.2.1. Symbols and Other Abbreviations			
2016 - New Abbreviations Related to Operational GHG Emissions	2	I support this proposed change as is with comment(s).	Administrative change. New symbols and abbreviations were added. Minor suggested edit for consistency: Proper metric usage is C not ^{o}C.
1.4.1.2. Defined Terms			
1813 - "Existing Building" and "Heritage Building"	6	Not Reviewed	
Part 2 - Objectives			
2.1.1.2. Application of Objectives			
1880 - Expanding the Application of the Accessibility Objective to All Dwelling Units	1	I support this proposed change as is.	
Division B			
Part 1 - General			
1.1.3.1. Climatic and Seismic Values			
1976 - Update of Seismic Hazard in Northwestern Canada	1	I support this proposed change as is.	
Part 3 - Fire Protection, Occupant Safety and Accessibility			
3.1.4.2. Protection of Foamed Plastics			
1967 - New Standard for Testing of Protective Coverings over Foamed Plastic Insulation	2	I support this proposed change as is with comment(s).	Field applied protective coatings implies that the AHJ is responsible for evaluating the acceptability of a particular CAN/ULC application. One would think that there should be licensed applicators that would certify the application meeting the test criteria.

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
3.1.5.15. Foamed Plastic Insulation			
1967 - New Standard for Testing of Protective Coverings over Foamed Plastic Insulation	6	Not Reviewed	
3.1.11.5. Fire Blocks in Horizontal Concealed Spaces			
1922 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.1.11.6. Fire Blocks in Crawl Spaces			
1921 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.1.5. Fire Containment in Basements			
1924 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.2.15. Storeys below Ground			
1931 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.2.18. Automatic Sprinkler System Required			
1928 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.2.35. Group A, Division 4			
1926 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.3.14. Wall Exposed to Another Wall			
1933 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.3.20. Underground Walkway			
1932 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.4.1. Determination of Requirement for a Fire Alarm System			
1917 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.4.8. Annunciator and Zone Indication			
1910 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
3.2.4.10. Fire Detectors			
1925 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.5.10. Hose Connections			
1927 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.5.12. Automatic Sprinkler Systems			
1912 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.5.13. Combustible Sprinkler Piping			
1915 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.2.5.14. Sprinklered Service Space			
1929 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.3.3.7. Contained Use Areas			
1916 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.3.4.3. Storage Rooms			
1930 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
3.4.6.5. Handrails			
1772 - Minimum Width of Stairs or Ramps Between Handrails	1	I support this proposed change as is.	
3.5.4.1. Elevator Car Dimensions			
2005 - Rooftop Enclosures as a Storey for Determining Elevator Car Dimensions	1	I support this proposed change as is.	
3.8. Accessibility			
1881 - Application of Accessibility Requirements	1	I support this proposed change as is.	
1883 - Adaptable Dwelling Entrance	1	I support this proposed change as is.	
1957 - Reachable Controls in Dwelling Units	1	I support this proposed change as is.	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
3.8.1. Scope			
2028 - Expanding the Scope of the Accessibility Requirements	1	I support this proposed change as is.	
3.8.2.8. Plumbing Facilities			
1771 - Installation Height of Accessible Menstrual Product Dispensers	1	I support this proposed change as is.	
3.8.3.16. Lavatories and Mirrors			
1771 - Installation Height of Accessible Menstrual Product Dispensers	1	I support this proposed change as is.	
Part 4 - Structural Design			
4.1.8.1. Analysis			
1895 - Datum for the Determination of $\bar{N}60$ and $\bar{s}u$ in Article 4.1.8.1.	6	Not Reviewed	
1898 - Revisions to Article 4.1.8.1. (Simplified Method)	6	Not Reviewed	
4.1.8.3. General Requirements			
1996 - Clarification of Provisions for Structural and Non-Structural Elements Not Part of the SFRS	6	Not Reviewed	
4.1.8.4. Site Properties			
1896 - Clarification of the Scope of Article 4.1.8.4.	2	I support this proposed change as is with comment(s).	It would be helpful to add in the Appendix note that the local AHJ should be consulted relative to specialized conditions, if any, that might affect the building site such as thin dense clay layers overlying loosely consolidated saturated material like in parts of south Whitby and Oshawa, or buried peat bogs, etc.
1897 - Clarification of the Permission for Liquefiable Soils	1	I support this proposed change as is.	
4.1.8.18. Elements of Structures, Non-structural Components and Equipment			
1901 - Modification of the Requirements for Determining the Specified Lateral Earthquake Force	5	I have reviewed this proposed change and I have no opinion on it.	
4.1.8.23. Additional Performance Requirements for Post-disaster Buildings, High Importance Category Buildings, and a Subset of Normal Importance Category Buildings			
1899 - Clarification of the Performance Requirements for Post-disaster Buildings, High Importance Category Buildings, and a Subset of Normal Importance Category Buildings	5	I have reviewed this proposed change and I have no opinion on it.	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Part 9 - Housing and Small Buildings			
9.8.5.4. Ramp Slope			
1767 - Slope of Ramps Not Located in Barrier-Free Paths of Travel	6	Not Reviewed	
9.10.17.10. Protection of Foamed Plastics			
1969 - New Part 9 Provision with Cross-Reference to a Standard for Testing of Protective Coverings over Foamed Plastic Insulation	6	Not Reviewed	
9.10.18.2. Fire Alarm System Required			
1920 - Standardization of Terminology in NBC Sprinkler Requirements	1	I support this proposed change as is.	
9.13.2.2. Dampproofing Materials			
1427 - Replacement of an Outdated CGSB Standard	6	Not Reviewed	
9.13.4. Soil Gas Control			
1713 - Passive Vertical Radon Stack	4	I do not support this proposed change for the reason(s) stated to the right.	The proposal can be interpreted as requiring a zero exposure position. This is not achievable in practice and would not pass a cost benefit analysis, even with a very high value placed on human life. We support the limiting of exposure to Radon to levels at or below the Health Canada designated limits. We note that exposure to Radon is not solely from ground source which disproportionately affect low-rise housing, but also from concrete made with aggregates which offgas Radon, and from gypsum board. These sources affect high-rise residential and office buildings as well. The scenario of exposure to radon is only in limited areas. Proposing to address it in all areas is hard to justify. This proposal is an example of where a simple isometric diagram in the appendix illustrating a typical layout would be most helpful
9.18.6.2. Ground Cover in Heated Crawl Spaces			
1993 - Sealed Overlapping Seams for Air Barriers on the Ground	3	I support this proposed change with modification(s).	Proposal should be changed to accept sealing tapes as well as non-hardening sealants. Tapes are much easier to install and many appropriate products are now manufactured and distributed on North America.

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
9.25.2.2. Insulation Materials			
1964 - Introduction of References to New Material and Installation Standards for Light-Density, Open-Cell, Spray-Applied Polyurethane Foam	6	Not Reviewed	
9.25.2.5. Installation of Spray-Applied Polyurethane			
1964 - Introduction of References to New Material and Installation Standards for Light-Density, Open-Cell, Spray-Applied Polyurethane Foam	6	Not Reviewed	
9.25.3.6. Air Barrier Systems in Floors-on-ground			
1993 - Sealed Overlapping Seams for Air Barriers on the Ground	3	I support this proposed change with modification(s).	A non hardening sealant is not the only option. For example, Passive House practice recommends sealing tapes which are easier and faster to install. We recommend adding sealing tapes as an option. Many North American products are now available for the application.
9.25.4.2. Vapour Barrier Materials			
1427 - Replacement of an Outdated CGSB Standard	6	Not Reviewed	
9.26.2.1. Material Standards			
1467 - Introduction of a New Standard for Asphalt Core Boards	6	Not Reviewed	
9.29.5.2. Materials			
1845 - Introduction of References to Standards Related to Gypsum Board to Article 9.29.5.2.	6	Not Reviewed	
9.36. Energy Efficiency			
1830 - Energy Performance Tier 5 of the Prescriptive Path	1	I support this proposed change as is.	
1869 - Energy Use Intensity Compliance Path	2	I support this proposed change as is with comment(s).	Proposed formulas for calculating the Annual Gross Space Heat Loss Budget and the Reference Energy Use Budget (part 9.36.8.1 sentence 4 and 5) give Annual Gross Space Heat Loss Budget values larger than Reference Energy Use Budget values. Energy used to meet heating demand is typically understood as a sub-set of total energy use intensity. Please clarify.

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
2004 - Operational GHG Emissions: Tiered Performance Requirements in the NBC	1	I support this proposed change as is.	
2026 - Operational GHG Emissions: Tiered Prescriptive Requirements in the NBC	1	I support this proposed change as is.	
9.36.2.5. Continuity of Insulation			
1951 - Continuity of Insulation	2	I support this proposed change as is with comment(s).	Putting the priority on air sealing and drainage rather than insulation at window sills is appropriate. While the rationale is incorrect in asserting that the impact of not insulting below the sill is difficult to determine (It is standard Passive House practice.), the thermal bridge has significant negative impact on the reported window performance.
9.36.4.2. Equipment Efficiency			
2011 - Updated Performance Metric for Heat Pump Water Heaters	6	Not Reviewed	
9.36.5.5. Climatic Data			
2009 - Climatic Data for Energy Model Calculations	6	Not Reviewed	
9.36.5.10. Modeling Building Envelope of Proposed House			
1819 - Removing ACH50 and Harmonizing Airtightness Requirements in Section 9.36.	6	Not Reviewed	
9.36.5.14. Modeling Building Envelope of Reference House			
1819 - Removing ACH50 and Harmonizing Airtightness Requirements in Section 9.36.	6	Not Reviewed	
9.36.6.4. Determination of Airtightness Level			
1819 - Removing ACH50 and Harmonizing Airtightness Requirements in Section 9.36.	6	Not Reviewed	
9.36.7.3. Energy Performance Improvement Compliance Calculations			
1819 - Removing ACH50 and Harmonizing Airtightness Requirements in Section 9.36.	6	Not Reviewed	
9.36.8.2. Compliance			
1890 - Energy Conservation Points for Energy Performance Tiers 3, 4 and 5	6	Not Reviewed	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
9.36.8.5. Energy Conservation Measures for Above-Ground Opaque Building Assemblies			
1838 - Energy Conservation Points for HRVs/ERVs and the Building Envelope	6	Not Reviewed	
1923 - Energy Conservation Points for the Building Envelope	6	Not Reviewed	
9.36.8.7. Energy Conservation Measures for Opaque Building Assemblies Below-Grade or in Contact with the Ground			
1838 - Energy Conservation Points for HRVs/ERVs and the Building Envelope	6	Not Reviewed	
1923 - Energy Conservation Points for the Building Envelope	6	Not Reviewed	
9.36.8.9. Energy Conservation Measures for HVAC Systems			
1838 - Energy Conservation Points for HRVs/ERVs and the Building Envelope	6	Not Reviewed	
2000 - Energy Conservation Points for Oil-fired Furnaces	6	Not Reviewed	
2001 - Energy Conservation Points for Air-Source Heat Pumps	6	Not Reviewed	
9.36.8.10. Energy Conservation Measures for Service Water Heating Equipment			
2011 - Updated Performance Metric for Heat Pump Water Heaters	6	Not Reviewed	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Part 10 - (Alteration of Existing Buildings) Name Not Confirmed			
10.9.36.			
1825 - Alteration of Service Water Heating Systems	2	I support this proposed change as is with comment(s).	Domestic water heating is a major residential load, and properly insulating DHW piping helps energy efficiency. Replacing water heaters unless there is a major performance improvement such as with the installation of heat pump, will be an expense with little or no benefit, especially in th case of existing electric DHW heating. These systems are now recommended for replacement every 15 years, which is rather frequent. If the alteration has bad timing forcing replacment of a DHW heater would be a poor life-cycle choice. A statement should be included to clarify that the proposal is not intended to force the replacement of functioning equipment, but to prescribe minimum standards of performance when existing equipment is replaced. A minimum performance requirement is needed for pipe insulation to avoid increasing the heat loss as happens when the insulation value is not sufficient to compensate for the increased surface area for heat to be lost from.
1826 - Replacement of Fenestration, Doors and Skylights	1	I support this proposed change as is.	
1827 - Airtightness of Altered Air Barrier Systems	4	I do not support this proposed change for the reason(s) stated to the right.	An air barrier system can only be effectively understood in a whole building context and assessed based on in-situ performance. Testing a section of a partial air barrier is unhelpful. Clarify the wording so that testing is not required for piecemeal sections of air barriers, but only for whole buildings or significant portions thereof such as entire floors, wings or fire compartments.
1828 - Alteration of HVAC Systems	1	I support this proposed change as is.	
1829 - Thermal Characteristics of Above-Ground Opaque Building Assemblies	1	I support this proposed change as is.	
1850 - Thermal Characteristics of Building Assemblies Below-Grade or in Contact with the Ground	1	I support this proposed change as is.	
Appendix C			
1976 - Update of Seismic Hazard in Northwestern Canada	6	Not Reviewed	

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Appendix D			
1846 - Introduction of References to Standards Related to Gypsum Board to Sentence D-1.5.1.(2)	6	Not Reviewed	
Division C			
Part 2 - Administrative Provisions			
2.2.8.2. Information Required on Drawings and Specifications			
1954 - Using NLR50 in Administrative Documents	6	Not Reviewed	

National Plumbing Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Division A			
Part 1 - Compliance			
1.4.1.2. Defined Terms			
1690 - Condensate Drainage	6	Not Reviewed	
1707 - Macerating Toilet System	6	Not Reviewed	
Division B			
Part 2 - Plumbing Systems			
2.2.2. Fixtures			
992 - Standard for Wall Carriers for Water Closets	6	Not Reviewed	
2.2.5. Non-Metallic Pipe and Fittings			
1692 - Small Diameter Piping in Condensate Drainage Systems	6	Not Reviewed	
2.2.10.4. Mechanical Couplings			
1729 - Mechanical Couplings	6	Not Reviewed	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
2.3.4.5. Support for Horizontal Piping			
1693 - Support for Nominally Horizontal Piping	6	Not Reviewed	
2.4.1.1. General			
1692 - Small Diameter Piping in Condensate Drainage Systems	6	Not Reviewed	
2.4.2.1. Connections to Sanitary Drainage Systems			
1692 - Small Diameter Piping in Condensate Drainage Systems	6	Not Reviewed	
2.4.2.3. Direct Connections			
1692 - Small Diameter Piping in Condensate Drainage Systems	6	Not Reviewed	
2.4.3. Location of Fixtures			
1692 - Small Diameter Piping in Condensate Drainage Systems	6	Not Reviewed	
2.4.4.4. Neutralizing and Dilution Tanks			
1727 - Neutralization Tanks	1	I support this proposed change as is.	
2.4.5. Traps			
1692 - Small Diameter Piping in Condensate Drainage Systems	6	Not Reviewed	
2.4.6. Arrangement of Drainage Piping			
1790 - Emergency Roof Drainage	3	I support this proposed change with modification(s).	Generally the emergency overflow for roof drains is via roof scuppers that drain out from the building perimeter on to the ground around the building. There is no requirement that this emergency flow be directed to a drainage system or the site storm drainage system be designed to these emergency flows. This sentence only speaks to "if" the emergency overflow is connected into the building storm drainage system "the" design based on 200% of the normal design flow. The additional requirements do not address the majority of instances, but only a small percentage of the installation designs and even then says to double the flow and you'll be OK.
2.4.9. Size of Drainage Pipes			
1692 - Small Diameter Piping in Condensate Drainage Systems	6	Not Reviewed	

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
2.4.9.1. No Reduction in Size			
1370 - Size of Storm Drainage Pipes	6	Not Reviewed	
2.4.10.4. Hydraulic Loads from Roofs or Paved Surfaces			
1790 - Emergency Roof Drainage	3	I support this proposed change with modification(s).	Generally the emergency overflow for roof drains is via roof scuppers that drain out from the building perimeter on to the ground around the building. There is no requirement that this emergency flow be directed to a drainage system or the site storm drainage system be designed to these emergency flows. This sentence only speaks to "if" the emergency overflow is connected into the building storm drainage system "the" design based on 200% of the normal design flow. The additional requirements do not address the majority of instances, but only a small percentage of the installation designs and even then says to double the flow and you'll be OK.
2.6.1.6. Flushing Devices			
2024 - Clarification of Maximum Water Usage for Dual-Flush Water Closets	1	I support this proposed change as is.	

National Energy Code 2020

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Division A			
Part 1 - Compliance			
1.3.3.1. Application of Parts 1, 3 to 8 and 10			
1989 - Application of a New Part on Operational Greenhouse Gas Emissions	1	I support this proposed change as is.	
1.4.1.2. Defined Terms			
1990 - Addition of the Defined Term "Alteration"	1	I support this proposed change as is.	
1.4.2.1. Symbols and Other Abbreviations			
2016 - New Abbreviations Related to Operational GHG Emissions	6	Not Reviewed	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Division B			
Part 1 - General			
1.1.2.1. Prescriptive, Trade-off or Performance Compliance			
1868 - Energy Use Intensity Compliance Path	2	I support this proposed change as is with comment(s).	While it is true that the Reference vs Proposed comparison typical in current energy codes becomes less useful with higher levels of performance, the rationale shows considerable confusion with the comparison process. I support the introduction of "absolute performance metrics" and the proposed change, but recognize that the aproach can also be gamed, just in different areas than the comparative aproach. Extensive training for both architects and mechanical engineers will be required for smooth adoption of the new method. Training and /or supportive forms and templates would be beneficial.
Part 3 - Building Envelope			
3.2.1.1. Protection of Insulation Materials			
1962 - Use of the Term "Grade" in the NECB	1	I support this proposed change as is.	
3.2.3.2. Thermal Characteristics of Roofs in Contact with the Ground			
1653 - Use of the Term "Grade" in the NECB	1	I support this proposed change as is.	
Part 5 - Heating, Ventilating and Air-conditioning Systems			
5.1.1.2. Application			
1859 - Alteration of HVAC Systems_1	1	I support this proposed change as is.	
Part 6 - Service Water Systems			
6.2.2.1. Equipment Efficiency			
2011 - Updated Performance Metric for Heat Pump Water Heaters	1	I support this proposed change as is.	
Part 8 - Building Energy Performance Compliance Path			
8.4. Performance Path			
1868 - Energy Use Intensity Compliance Path	2	I support this proposed change as is with comment(s).	Similar comments to NBC 9.36. Substantial training for professionals will be needed for speedy adoption. AHJ's will need to be aware of new ways of gaming the system. Priority will have to go to the treatment of operational schedules. Training and/or updates templates and forms would be beneficial.
8.4.2.3. Climatic Data			
2009 - Climatic Data for Energy Model Calculations	6	Not Reviewed	

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
Part 11 - Existing Buildings			
2003 - Operational GHG Emissions: Tiered Performance Requirements in the NECB	3	I support this proposed change with modification(s).	The requirement should be for Architects or "Licensed Professional Engineers". Architects have mandatory education in environmental design and carbon reduction strategies in the accredited schools of architecture and in practice through mandatory continuing education requirements. In Ontario this is augmented through mandatory climate centred continuing education , as well as support from tools for carbon intensity accounting (TEUI and TEUI2). In many cases, architects may be MORE qualified than engineers. When the NBC/NECB refers to Qualified Persons and defines engineers but leaves other designations up to AHJs, it creates confusion at the point of permit submissions about who is qualified to do energy/carbon models. We recommend an absolute performance target for GHGI, similar to the targets introduced for TEUI. In support of a compliance path using absolute numbers it is not helpful to return to a comparison based modelling approach for GHGI. A reference table with appropriate GHGI ranges by building archetype and climate zone is required. The granularity of improvement does not reflect the means by which it is achieved. In Ontario moving heating to the electricity meter has a dramatic impact on GHG emissions that removes the typical connection between building performance and GHG reduction. BC, Manitoba, and Quebec have different balances. Alberta, Saskatchewan, Nova Scotia and New Brunswick have different profiles again. As a result, GHGI reductions may not show up as anticipated. Clarification is required.
Part 13 - New Part (No Name)			
13.1.			
1991 - Scope and Application of Proposed Part 13	1	I support this proposed change as is.	
13.2.			
1991 - Scope and Application of Proposed Part 13	1	I support this proposed change as is.	
13.3.			
1857 - Alteration of the Building Envelope	1	I support this proposed change as is.	

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

Proposed Code Reference and Title	Ranking 1-6	Status	Comments - Ontario Association of Architects
13.4.			
1858 - Alteration of Lighting Systems	1	I support this proposed change as is.	
13.5.			
1859 - Alteration of HVAC Systems	1	I support this proposed change as is.	
13.6.			
1860 - Alteration of Service Water Systems	4	I do not support this proposed change for the reason(s) stated to the right.	Supporting material shows a very marginal advantage to most building types. The measures need to be coordinated to the replacement cycles of existing equipment rather than just a renovation to avoid negative impacts on life cycle costing and GHG emissions increasing due to premature replacement of functioning equipment. This measure may not be economically feasible.
13.7.			
1861 - Alteration of Electrical Power Systems and Motors	1	I support this proposed change as is.	
Division C			
Part 1 - General			
1.2.1.1. Non-defined Terms			
1862 - Alteration of the Building Envelope	1	I support this proposed change as is.	
Part 2 - Administrative Provisions			
2.2. Administration			
1862 - Alteration of the Building Envelope	1	I support this proposed change as is.	
1863 - Alteration of Lighting Systems	1	I support this proposed change as is.	
1864 - Alteration of HVAC Systems	1	I support this proposed change as is.	
1865 - Alteration of Service Water Systems	1	I support this proposed change as is.	
1866 - Alteration of Electrical Power Systems and Motors	1	I support this proposed change as is.	
2.2.2.3. Documentation on the Building Envelope			
1840 - Use of the Term "Grade" in the NECB	1	I support this proposed change as is.	