Edmonton (St. Albert)

AMA Regional Meeting

Electrical, Plumbing, Gas, Private Sewage, Building and Fire
AGENDA

8:30 am
Call to Order and Introductions
Joe Healy, AMA

8:35 am – 9:00 am
AMA General Updates
Q & A
Geoff Brownlie, AMA

9:00 am – 9:45 am
Planning 202 B and the Safety Codes Permit
Q & A
Jeff Laurien, Municipal Services
David Ramsay, AMA

COFFEE BREAK 9:45 am – 10:00 am
Sponsored by the Safety Codes Council

10:00 am – 11:15 am
Safety Codes Council
Q & A
Danielle Paradis, Safety Codes

11:15 am – 11:30 am
Sea-Can Construction - Bruderheim Hotel
Ryan Nixon, Inspections

LUNCH 11:30 am – 12:30 pm
Sponsored by the Safety Codes Council
AMA Updates – Joint Session

 Builders Licencing
 Ensuring that builders are held accountable for the integrity and safety of their construction is a key component of the safety system in Alberta. However, even with the existing systems in place, we still hear complaints from homeowners and the construction industry about poor construction resulting in repair costs and other negative impacts to Albertans. A builders licensing program could address gaps such as:
• Anyone can be a builder,
• No mechanisms to remove poor builders,
• Data and information to research a builder is lacking,
• Low levels of consumer awareness and knowledge, and
• Blurred accountability and track record.

Several other provinces have implemented builders licensing programs, including British Columbia, Columbia, Ontario, and Quebec. AMA is currently seeking feedback on how to develop a builder licensing program in Alberta which supports the needs of consumers and builders to fill the gaps in our current safety system.
AMA Updates – Joint Session

Administrative Penalties
No new updates. Program is awaiting approval from Cabinet to have Administrative Penalties come into proclamation.
AMA Updates – Joint Session

Reorganization of Public Safety
Our Public Safety Division recently completed a restructuring, with the Office of the Fire Commissioner, Safety Services, and Central Operations branches being reorganized into two key branches: Community and Technical Support, and Strategic and Systems Support.
The reorganization was designed to meet several outcomes over the next few years. Those include the development of data and information systems and enhancement of accountability frameworks, including developing agreements with delegated administrative organizations and re-thinking those relationships to enhance public safety.
It was also meant to strengthen compliance systems, including the introduction of administrative penalties, and the introduction of builder licensing. Finally, it is aimed at providing more integrated support to communities, focusing on consistency and proactive response.
The division continues to review the effectiveness of the restructured units and make adjustments as needed. The reorganization will help position PSD to respond to new and existing challenges for years to come.
There would not be any changes in the services we currently administer. Our Branch will be Community and Technical Support

Previously the disciplines were in separate groups such as:
Building-Technical Advisors/ Professionals and Building Administrator- Codes & Standards-Building, Fire Barrier Free & Energy under Director James Orr and Building Field Inspectors, Senior Field Inspector and Senior Code Analyst- Safety Codes Application under Director Chris Contenti.
Similarly, for the other disciplines Administrators and Technical Advisors working group were under a different director than the “Field Inspectors”
AMA Updates – Joint Session

Moving forward under the Director James Orr - Building, Fire, and Barrier-Free Administrators, Technical Advisors (Professionals), Senior Technical Advisors, and Technical Advisors. No longer referred to as “Field Inspectors”.

James Orr
Director, Standards Development & Technical Support
Building/Fire, Energy & Accessibility
Community & Technical Support, Public Safety Division
Alberta Municipal Affairs

Moving forward under the Director Harry Li - Electrical, Elevating Devices, Passenger Ropeways & Amusement Rides, Plumbing and Gas, and Private Sewage Administrators, Senior Technical Advisors, and Technical Advisors. No longer referred to as “Field Inspectors”

Harry Li, P.Eng
Director, Standards Development & Support - Mechanical
Community and Technical Support
Public Safety Division
Alberta Municipal Affairs
AMA Updates – Joint Session

Visual Signals
The intent of the changes made within the 2014 ABC Code through the BFSC, the BSC and AMA was to recognize that the hard of hearing population may be everywhere.

The thought process that has been discussed by this office is:
Sentence 3.2.4.20.(1) is applicable generally to all buildings with a fire alarm system, and Sentence 3.2.4.20.(2) is applicable to residential suites only.

Fire alarm systems required within sentence (1), including their visual signal devices should be installed in conformance with the CAN/ULC-S524 “Installation of Fire Alarm Systems” standard. An appropriate number and location(s) of visual signal devices should be installed so that the signal is visible throughout normally occupied floor areas and areas of high ambient noise (exceeds 87 dBA).

For residential suites, a minimum of one visual signal device per unit which is visible within the principle living area should be required. Conformance to the S524 standard and the area design limitations may require additional devices to be installed within larger suites or suites where the layout does not permit the visual signal to be seen through-out the normally occupied floor area. Lighting intensities throughout the floor area should be designed to follow the S524 requirements.
2. For buildings required to have a fire alarm system, Sentence 3.2.4.20.(2) is interpreted as requiring a minimum of one device to be located within a residential suite. The visual signal shall be visible within the residential suite’s principal living area (i.e. living room), which is intended for use by all occupants of the suite.

This INTERPRETATION is applicable throughout the province of Alberta.
AMA Updates – Joint Session

Persons with Developmental Disabilities (PDD)
A new Ministerial Order was issued and has become effective as of December 30, 2016. The
government recognizes the importance of the home, and supporting individuals to live safe
inclusive lives in their communities. With these principles in mind, PDD sites with 3 or less
occupants can be reviewed under the fire code safety requirements that normally apply to a
residence; such as smoke alarms.
Re: Application of Safety Codes for Residences under the Persons with Developmental Disabilities (POD) Program

To Whom It May Concern:

Earlier this year, in response to concerns raised by the POD community and stakeholders about the POD Safety Standards Regulation, an eight-member external consultation team composed of disability and broader community representatives led the development and implementation of a consultation on how to support the safety and inclusion of persons with developmental disabilities. The consultation took place from February to July of this year, and heard from over 2,000 individuals, family members, service providers, and advocates for persons with developmental disabilities about what safety and inclusion mean for them.

During this consultation, our government repealed the POD Safety Standards Regulation. As a result, Municipal Affairs placed a pause-period on inspections of accommodations of individuals receiving services from the POD program. Municipal Affairs also issued a temporary exemption of these standards under the Safety Codes Act until December 31, 2016. The exemption also applied to the August 2015 Approved Guideline (STANDATA) for residences of adults with developmental disabilities. The pause period on inspections and temporary exemption allowed for the continued work of the consultation team and government on the appropriate assessment of these accommodations in place of the repealed regulation.

On October 26, 2016, Human Services released the POD Safety Standards Consultation Team’s final report, “Supporting Safe and Inclusive Lives.” This report is guiding the Government of Alberta’s actions to enable Albertans with developmental disabilities to live safely, inclusively, and with dignity at home and in their communities.

The POD Safety Standards Consultation Team recommended principles that reflect a respectful, inclusive approach to the interpretation and application of safety codes. This includes that the starting point of any safety code assessment of housing where adults with developmental disabilities live will be from a residential standard, regardless of how services are funded, as is the case with any other home.

With these principles in mind, the August 2015 STANDATA is withdrawn and no longer in force or effect. Through a Ministerial Exemption Order, the Exemption Regulation under the Safety Codes Act has been amended effective December 31, 2016, to ensure that a residential standard is applied to the homes of adults with developmental disabilities. Municipal Affairs is, therefore, advising that no further inspections should take place in these homes unless there is a request, an incident, or complaint, as with any other home.

The Ministerial Exemption Order continues to support safety for persons receiving POD services in their homes. The building and fire code safety requirements that normally apply to residences will continue to apply to homes where individuals with developmental disabilities live. For example, smoke alarms will be required, as is the case in all homes.

The Ministerial Exemption Order does not apply to POD services or other buildings that fall under the Supportive Living Accommodation (SALA) Act. The Ministerial Exemption Order also does not apply to homes where the person is defined as part of a service plan for their own protection or public safety. In these cases, the risk to life safety is unacceptable, and the building and fire codes apply in full, including sprinklers. POD service providers under Human Services will continue to assess and identify situations to the municipality or authority responsible to assume the Safety Codes Act. Deliberate situations make up a very small percentage of these accommodations and can be managed on a case-by-case basis with Municipal Affairs and health.

Our government recognizes that it will take collective action to support safety and inclusion. This includes Human Services, Municipal Affairs, Health, and Advanced Education. Most importantly, it means listening to and working with Albertans who are receiving support and services from the POD program and their family members or guardians.

We know that nobody knows about these issues facing persons with developmental disabilities better than those who face them every day. That's why we are pleased to have the opportunity to move forward with solutions proposed by the disability community. We want to build on the goodwill and spirit of collaboration from the POD Safety Standards public consultation this past year. We will continue to pursue open, meaningful communication between our government and the disability community that will build trust as we work to support the safety and inclusion of Albertans with disabilities.

Our government recognizes the importance of the home and wants to support individuals to live safe inclusive lives in their communities. With these principles in mind, we will work with municipalities and the community to ensure the health and safety of Albertans.

[Signature]
Hon. Danielle Larivee, Minister of Municipal Affairs

[Signature]
Hon. Ofie Sobir, Minister of Human Services
AMA Updates – Joint Session

Harmonization of the Alberta Code

This is a priority ongoing process between Code update and Harmonization using the NBC 2015 as a Base document. The comparison review and analysis between the NBC 2010 – NBC 2015, as well as comparing to the ABC 2014 for Alberta specifics and where we can update and Harmonize towards the National Codes. We are intending to have the initial review analysis available to the Building Sub-Council in the next few months.

At this time, we are planning to publish one more version of the ABC prior to the goal of automatic code adoption of the NBC 2020 with a supplement to address the retained Alberta Specific requirements. However, a suggestion has been made by the Building Sub-Council that a discussion be held regarding the merit of deferring the adoption of the 2015 National model until the 2020 National Code adoption.

The NBC 2020 expected publication date may be around December 2020 or January 2021. Automatic code adoption in Alberta would come into effect one year after publication.

Section 3.8 and Part 7 has a number of Alberta Specifics and at this time is being retained, such differences would go into the supplement.

Administrative requirements have Alberta Specifics that will be retained.

There is a ULC standards committee currently drafting up a National Standard for Relocatable Structures, using ABC Part 10 as the seed document. This should address ABC specific Part 10.

Only the Edmonton Airport Vicinity is currently affected by ABC Part 11 and there is currently a review in process for the AVPA, this may address the retention of Part 11 in the ABC.

This is a brief overview of the extensive review process and all items may not have been captured, but to give you an idea of our direction towards updating and Harmonization.
Afternoon Breakout Session Locations

Electrical Meeting – Lacombe Room
Plumbing, Gas & PSDS Meeting – Pineview Room
Fire Meeting – Oakmont Room
Building Meeting – Grandin Room
Alberta Municipal Affairs  Electrical Safety Codes Officers

1. Chief Electrical Inspector – Clarence Cormier, Community and Technical Support (Edmonton)

2. Electrical Technical Advisor – Bob Hall, Community and Technical Support (Edmonton)

3. Senior Electrical Inspector – Kevin Glubrecht, Community and Technical Support (Red Deer)

4. Electrical Inspector – Cameron Doram, Community and Technical Support (Red Deer)

5. Electrical Inspector – David Phillips, Community and Technical Support (Edmonton)

6. Electrical Inspector – Gregg Marshall, Community and Technical Support (Calgary)

7. Electrical Inspector – Steve Eagles, Partnership Support (Red Deer)
Staying Current in the Electrical Loop
How to Stay Current in the Electrical Industry


- EIAA - Electrical Inspectors Association Alberta [https://www.eiaa.ca/](https://www.eiaa.ca/)


- ECAA - Electrical Contractors Association [http://www.ecaa.ab.ca/](http://www.ecaa.ab.ca/)

- Contact City / town inspections and permitting department – local Authority Having Jurisdiction (AHJ) [http://www.municipalaffairs.alberta.ca/permits](http://www.municipalaffairs.alberta.ca/permits)
How to Stay Current in the Electrical Industry Cont.

• Alberta Municipal Affairs  
  [http://www.municipalaffairs.alberta.ca/](http://www.municipalaffairs.alberta.ca/)
  Call Center: 1.866.421.6929
  Email safety.services@gov.ab.ca

• Safety Codes Council  [http://www.safetycodes.ab.ca/](http://www.safetycodes.ab.ca/)
EIAA MISSION STATEMENT

• The Electrical Inspectors Association of Alberta will promote the uniform understanding and application of the Rules and Regulations adopted under the Safety Codes Act. This shall be done without bias and with fairness. We will assist in the formulation of standards, technical, professional knowledge and procedures upon well-grounded information, in achieving safe electrical installations, in the interest of safety, to life and property.

• How to get involved: https://www.eiaa.ca/
Safety Codes Act

Responsibilities
The Safety Codes Act established a unifying administration to ten safety disciplines with each have their own safety codes to keep the public safe in the places they live, work and play.

For more information on a particular discipline, click one of the links below:

- Building
- Fire
- Electrical
- Gas (Natural and Propane)
- Plumbing
- Private Sewage
- Boilers and Pressure Vessels
- Elevators
- Amusement Rides
- Passenger Ropeways
Safety Codes Act Cont.

Province of Alberta

SAFETY CODES ACT

Part 1

Responsibilities

Owners, care and control

5 The owner of any thing, process or activity to which this Act applies shall ensure that it meets the requirements of this Act, that the thing is maintained as required by the regulations and that when the process or activity is undertaken it is done in a safe manner.

1991 cS-0.5 s5

Design duties

6 A person who creates, alters, has care and control of or owns a design or offers a design for use by others shall ensure that the design complies with this Act and that it is submitted for review or registered if required by this Act, and if the design is deregistered, the person shall provide notice of its deregistration in accordance with the regulations.

1991 cS-0.5 s6
Manufacturers’ duties
7 A person who manufactures any thing or undertakes a process or activity to which this Act applies shall ensure that the thing, the process or the activity complies with this Act.
1991 cS-0.5 s7

Contractors’ duties
8 A contractor who undertakes construction, operation or maintenance of or builds or installs any thing to which this Act applies shall ensure that this Act is complied with.
1991 cS-0.5 s8

Vendors’ duties
9(1) A person who is a vendor in the ordinary course of business, other than as an employee or an agent, shall not advertise, display or offer for sale, for lease or for other disposal, or sell, lease or otherwise dispose of, any thing to which this Act applies unless that thing complies with this Act.

(2) A person who sells, leases or otherwise disposes of a thing referred to in subsection (1) shall provide any warnings or instructions required by this Act.

(3) No person shall advertise, display or offer for sale, for lease or for other disposal, or sell, lease or otherwise dispose of, any thing that is prohibited from being sold by the regulations.
1991 cS-0.5 s9
Electrical Code

New Electrical Codes Already In Force Under the Regulation
SAFETY CODES ACT

ELECTRICAL CODE REGULATION

Alberta Regulation 209/2006
With amendments up to and including Alberta Regulation 128/2015

Office Consolidation

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Shop online at www.qpg.gov.ab.ca
Electrical Code

Go back, we're not ready for change
NOTICE

ELECTRICAL CODE REGULATION

This notice is intended for all Albertans who may have cause to use the Electrical Code Regulation.

Codes in Force under the Regulation
The Electrical Code Regulation was recently amended by Alberta Regulation 126/2015. Changes will take effect January 1, 2016, at which time the following codes will be in force:

- **CSA-C22.1-15 – Canadian Electrical Code, Part 1** – This code provides the minimum safety standards for the installation and maintenance of electrical equipment.
- **Code for Electrical Installations at Oil and Gas Facilities – 5th Edition, 2015** – This code applies to electrical installations used in the search, transmission or production of oil, natural gas and related hydrocarbons, and it provides area classification guidelines.

Information on Purchasing the Codes
The Canadian Electrical Code may be purchased directly from the Canadian Standards Association at [www.shop.csa.ca](http://www.shop.csa.ca), or from applicable electrical wholesalers and post-secondary institutions.

The Code for Electrical Installations at Oil and Gas Facilities and the Alberta Electrical Utility Code will be available for purchase from the Alberta Queen’s Printer at [www.qp.alberta.ca](http://www.qp.alberta.ca).

The Electrical Code Regulation 209/2006, with amendments up to and including Alberta Regulation 126/2015, will be available for purchase or download from the Alberta Queen’s Printer at [www.qp.alberta.ca](http://www.qp.alberta.ca).

October 16, 2015

For more information, please call 1-800-421-6929, or visit [www.energialberta.ca](http://www.energialberta.ca).

New Electrical Code

- Codes can be ordered online from CSA at: http://shop.csa.ca/
New Electrical Code

• The Alberta Electric Utility Code is published and it was announced September 1, 2016. A copy can be purchased from the Alberta Queens Printer.

• The date the code will come into effect according to section 65 in the Safety Codes Act and the new automatic adoption policy will be May 1, 2017. The 2015 overhead and underground standards will also apply as they are referenced in the 5th edition of the AEUC.
What is a STANDATA?

• Electrical STANDATA, developed jointly by Alberta Municipal Affairs and the Safety Codes Council. These information bulletins contain interpretations, clarifications, recommended practices or province-wide variances on Codes and Standards matters related to the Safety Codes Act.

• STANDATA is a living document that is constantly changing. It is recommended to subscribe.
How do you receive STANDATA’s?

• To receive STANDATA notifications, please go to: http://municipalaffairs.alberta.ca/am_list_subscription_services.cfm and complete the posted subscription form.

• Once the form is submitted you will be automatically notified when new STANDATA or other related information is posted on the Safety Services site.

• Links to currently posted STANDATA’s can be viewed at: http://www.municipalaffairs.alberta.ca.cp_index.cfm
How to Subscribe for an Electrical STANDATA:

• Go to the website: http://www.municipalaffairs.alberta.ca/1840
STANDATA’S’S Cont.

- Select the discipline you are wanting to subscribe to http://www.municipalaffairs.alberta.ca/cp_gas
• Fill out the required information
• Click subscribe when completed
http://www.municipalaffairs.alberta.ca/am_list_subscription_services
2017 Submissions
Question
• Is a permit required to build the product in Alberta if the product is to be sold outside Alberta?

STANDATA/Electrical Code Regulation
– Section 2 - Electrical Systems Equipment
  • (2) No person shall manufacture, install, sell or offer for sale any equipment related to electrical systems for use in Alberta unless the equipment has been
    – (a) certified by a certification body in accordance with the certification body’s terms of accreditation with Standards Council of Canada, or
    – (b) inspected by an inspection body in accordance with the inspection body’s terms of accreditation with Standards Council of Canada
PERMIT REGULATION

• Exemptions

  2 This Regulation does not apply to the following:
  
  a) an accredited corporation operating within the scope of its terms of accreditation;
  
  b) equipment and materials regulated under the Elevating Devices, Passenger Ropeways and Amusement Rides Permit Regulation (AR 28/2012);
  
  c) equipment, materials and systems regulated under the Pressure Equipment Safety Regulation (AR 49/2006). AR 204/2007 s2;17/2015

• Permit required

  3 (1) Subject to subsection (2), a person shall not start any undertaking for which a permit is required under this Regulation unless a permit has been issued.
Answer

• An SCO could ask the person(s) manufacturing the product for a proof of sale. This would indicate and prove the product is intended to be sold/used outside of Alberta.

• If a receipt can not be produced, then all applicable codes and standards in Alberta would have to be followed. It is the responsibility of the contractor, or accredited corporation to provide this information upon request. It is also advised these parties and local AHJ have a working relationship. This working relationship will aid in ensuring there is no confusion with this process.

• For further information on this item contact Alberta Municipal Affairs at 1-866-421-6929 or email safety.services@gov.ab.ca and ask to speak to our partnership expert David Ramsay.
Question

• Are hanging luminaires permitted to be installed over a bathtub? What code rule allows or doesn’t allow this installation?

Code rule:

Section 0 Definitions

– **Damp location** — an exterior or interior location that is normally or periodically subject to condensation of moisture in, on, or adjacent to electrical equipment and includes partially protected locations under canopies, marquees, roofed open porches, and similar locations.

– **Wet location** — a location in which liquids may drip, splash, or flow on or against electrical equipment.

30-318 Luminaires in damp or wet locations

1) Luminaires installed in damp or wet locations shall be approved for such locations and be so marked.

2) Luminaires suitable for use in wet locations shall be permitted to be used in damp locations as well.
30-606 Lampholders in wet or damp locations

1) Where lampholders are installed in wet or damp locations, they shall be of the weatherproof type.

**Building Code (reference only, please consult with a Building Duty Officer for further information)**

– The following is for protection of the walls around the bathtub and may help in determining “wet location”

9.29.2. Waterproof Wall Finish

• 9.29.2.1. Where Required

1) Waterproof finish shall be provided to a height of not less than

a) 1.8 m above the floor in shower stalls,

b) 1.2 m above the rims of bathtubs equipped with showers, and

c) 400 mm above the rim of bathtubs not equipped with showers
Bathroom Luminaires Cont.

https://www.youtube.com/watch?v=r3oHNRY6JvE
(Need an internet connection to work, but could change your mind)

Answer
• The fixture shall be approved for location and if installed in wet or damp locations, they shall be of the weatherproof type as per 30-606 and other rules such as GFCI protection may apply
Question

• Is a NuTek outlet box considered a Rigid a PVC outlet box?

Code Rules

30-302 Supports

4) Where the weight of a luminaire does not exceed 23 kg, the luminaire shall be permitted to be supported by a ceiling outlet box attached directly to the building structure or by a ceiling outlet box attached to a bar hanger.

6) Rigid PVC boxes shall not be used for the support of luminaires unless they are marked as being suitable for the purpose.
Certificate of Compliance

Certificate: 1390394 (LR, 5043-2205)
Project: 70015879
Issued to: Thomas & Berre Limited

500 Thomas Ave
St-Jean-de-Richelieu, QC J2X 2M9
Canada
Attention: Mr. Pierre Aubin

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Michael Chung
Issued by: Michael Chung

PRODUCTS
CLASS 4411 01 - OUTLET BOXES AND FITTINGS - Boxes
Non-metallic outlet boxes with integral clamps:
Cat Nos. W-OCT, W, WSW, WSWW for use with non-metallic sheathed cables Nos. 14/2, 14/3, 12/2, 12/3, 10/2, 10/3 AWG.
Cat Nos. W-OCT, F-W-OCT, 2-FWSW, 3-FWSW, 3-FWSW for use with non-metallic sheathed cables Nos. 14/2, 14/3, 12/2, 12/3 AWG.
Cat Nos. WRD, W-FRD for use with non-metallic sheathed cable Nos. 10/3, 8/3 AWG.
Cat Nos. WSWBX, FWSWBX for use with armored cables Nos. 14/2, 14/3, 12/2, 12/3 AWG.
Cat Nos. 4-FWSW, 4-FWSW for use with non-metallic sheathed cables Nos. 14/2, 14/3, 12/2, 12/3 AWG.
NuTek outlet box Cont.

Certificate: 1590394 (LR 5032-2205)  Master Contract: 163305
Project: 70015870  Date Issued: December 24, 2014

CLASS 4411 B1 - OUTLET BOXES AND FITTINGS - Boxes - Certified to US Standards
Non-metallic outlet boxes with integral clamps:
- Cat Nos. WOCN, WSN, WSSN, FWSW for use with non-metallic shielded cables Nos. 14/2, 14/3, 12/2, 12/3, 10/2, 10/3 AWG.
- Cat Nos. W-OCIC, W-OCIC, W-OCIC, W-FWSW, W-FWSW for use with non-metallic shielded cables Nos. 14/2, 14/3, 12/2, 12/3 AWG.
- Cat Nos. WRD, F-WRD for use with non-metallic shielded cables Nos. 10/2, 8/2 AWG.
- Cat Nos. WSWXN, FWSWXN for use with armored cables Nos. 14/2, 14/3, 12/2, 12/3 AWG.

APPLICABLE REQUIREMENTS
- CSA Std. C22.2 No. 18.2 - Non-metallic Outlet Boxes
- UL Std. 514C - Non-metallic Outlet Boxes, Flush-Device Boxes and Covers.
NuTek outlet box Cont.

Answer

• NuTek outlet boxes are not considered Rigid PVC as per manufacturer’s specifications. They are classified as non-metallic outlet boxes as per CSA certificate of compliance. Therefore 30-302(6) does not apply to NuTek brand non-metallic outlet box;

• 30-302(4) might be useful to installers and is provided as a courtesy.
In-situ Modification

Question(s)

• What are the requirements when converting fluorescent fixtures to LED fixtures?
• Are Permits required?
• Are the fixtures required to be re-certified?

• STANDATA

• Retrofitting Luminaires for Energy Conservation or Similar Programs
  – As indicated above, repairs or alterations to certified equipment, if not done properly, may void certification.

  – REMOVED FOR MODIFICATION When all luminaires are removed from the ceiling and modified either on site or at a remote location, these locations can be termed a 'defined factory location'.
IN-SITU MODIFICATION It may be more practicable to modify the luminaires without removing them from the ceiling.

A suitable label showing the following information is to be placed on each luminaire:

a) Identification of the party responsible for the modifications
b) New Electrical Ratings
c) New Bulb Type and Size (if applicable)
d) Date Code
e) Reference to the Certification Body’s File Number
• **Permit Regulation**
  
  [**Electrical Discipline**](#)
  
  *Electrical permit*
  
  • 8 (1) A permit in the electrical discipline is required to install, alter or add to an electrical system.
  
  • (2) *Despite subsection (1), a permit is not required for the following:*

    » (e) the replacement of electrical equipment with units of a similar type if the replacement is made for the purpose of maintaining the system and does not modify the ratings or characteristics of the electrical installation.

• It is important to note the permit issuer can set additional requirements as explained in Part 2 - 22 of the Permit Regulation. For this reason you must always consult with the local AHJ.
In-situ Modification Cont.

Answer

- Converting a luminaire from fluorescent to LED is known as in-situ modification. Contractors should always contact the local AHJ before performing or quoting jobs to find out additional requirements that are specific to each area. In addition to the job requiring a permit, the fixtures may be required to be recertified and this is determined by the C.B.
  - Example 1: Replacing existing fluorescent tubes with LED tubes that utilize the existing ballast, no re-wiring. Contact your local AHJ, as permitting requirements vary from municipality to municipality. Fixture certification is a different matter handled by C.B’s/I.B’s.
    - In the above scenario it is Municipal Affairs opinion the fixture would not require re-certification or permits.

  - Example 2: Removing the ballast and connecting the tombstone directly to line voltage. Contact your local AHJ, as permitting requirements vary from municipality to municipality. Fixture certification is a different matter handled by C.B’s/I.B’s.
    - In the above scenario it is Municipal Affairs opinion the fixture would require re-certification and permits.
Example 3: Using an approved kit to modify the fluorescent to use LED lamps. Contact your local AHJ, as permitting requirements vary from municipality to municipality. Fixture certification is a different matter handled by C.B’s/I.B’s.

- In the above scenario it is Municipal Affairs opinion the fixture would require permits, however because an approved kit was used and compatible with the existing fixture re-certification most likely not required.

The above examples are Municipal Affairs opinions only. In all cases of in-situ modification contact your local AHJ, C.B, and I.B/s to ensure all requirements are met.
Cannabis Extraction Facilities

These slides are to get you thinking of the near future if the federal government goes ahead with Marijuana Legalization.

Question

• What electrical requirements will be required in the facilities?
• Zoning?

Recommendation

• Currently we have NEC for reference. Based on the Class I Division I location, all equipment in the extraction room must be rated for use in Class I Division I locations. Depending on the type of exhaust system provided, this could be the entire room or the area inside of a hood or booth.
Cannabis Extraction Facilities Cont.

• Comments

• Questions

• Thoughts

• Concerns
Wireless Switches

Question

• Does the CE Code permit the typical wired wall switch be eliminated and replaced with a wireless switch?
Code Rules

• 30-500 Lighting equipment at entrances (see Appendix G)
  – An exterior luminaire controlled by a **wall switch** located within the building shall be provided at every entrance to buildings of residential occupancy.

• 30-502 Luminaires in dwelling units (see Appendix G)
  – (1) Except as provided in Subrule (2), a luminaire controlled by a **wall switch** shall be provided in kitchens, bedrooms, living rooms, utility rooms, laundry rooms, dining rooms, bathrooms, water closet rooms, vestibules, and hallways in dwelling units.
  – (2) Where a receptacle controlled by a **wall switch** is provided in bedrooms or living rooms, such rooms shall not be required to conform to the requirements in Subrule (1).
• 30-504 Stairways (see Appendix G)
  – (1) Every stairway shall be lighted.
  – (2) Except as provided for in Subrule (3), three-way wall switches located at the head and foot of every stairway shall be provided to control at least one luminaire for stairways with four or more risers in dwelling units.
  – (3) The stairway lighting for basements that do not contain finished space nor lead to an outside entrance or built-in garage, and that serve not more than one dwelling unit, shall be permitted to be controlled by a single switch located at the head of the stairs.

• 30-506 Basements (see Appendix G)
  – (1) A luminaire shall be provided for each 30 m² or fraction thereof of floor area in unfinished basements.
  – (2) The luminaire required in Subrule (1) that is located nearest the stairs shall be controlled by a wall switch located at the head of the stairs.
• 30-510 Garages and carports (see Appendix G)
  – (1) A luminaire shall be provided for an attached, built-in, or detached garage or carport.
  – (2) Except as provided in Subrule (3), luminaires required in Subrule (1) shall be controlled by a **wall switch** near the doorway.
  – (3) Where the luminaire required in Subrule (1) is ceiling-mounted above an area not normally occupied by a parked car, or is wall-mounted, a luminaire with a built-in switch accessible to an adult of average height shall be permitted to be used.
  – (4) Where a carport is lighted by a luminaire at the entrance to a dwelling unit, additional carport lighting shall not be required.
Answer - This item was reviewed by the ESC (Electrical Sub Council) for their input.

- Municipal Affairs opinion is that although these devices are approved equipment, they do not meet the intent of Rules 30-500 – 30-510 as a minimum prescriptive requirement.
  - These devices could be use in addition to the requirements of Rules 30-500 – 30-510, however, not as a replacement.

- Wireless “switches” are transmitters. These “switches” (transmitters) are also re-locatable, therefore the CE Code requirement of where switches are to be located cannot be considered enforceable. Therefor they do not meet the minimum requirements as stated in the code.

- It was decided at this time that a STANDATA will not be issued. Persons not agreeing with Municipal Affairs opinion’s are advised to go directly to Part one with a submission.
Cable Ampacity for Cables 5KV +

Question
• Is there a regulatory expectation of how ampacities of 5KV + Shield Cables will be determined?

Code Rules
• **4-004 Ampacity of wires and cables**
  – (1) The maximum current that a **copper** conductor of a given size and insulation is permitted to carry shall be as follows:
    • (g) shielded cables rated 5 kV to 46 kV in sizes No. 2 AWG to 1000 kcmil, as specified in Tables D17A to D17N for the configurations described therein and the conditions described in Table D17, or as calculated by the IEEE 835 calculation method.
  – (2) The maximum current that an **aluminum** conductor of a given size and insulation is permitted to carry shall be as follows:
    • (g) shielded cables rated 5 kV to 46 kV in sizes No. 2 AWG to 1000 kcmil, as specified in Tables D17A to D17N for the configurations described therein and the conditions described in Table D17, or as calculated by the IEEE 835 calculation method.
Cable Ampacity for Cables 5KV +

Cont.

Answer

• IEEE 835 could be used, a computer program exists that uses this standard. Variables are entered including; elevation, temperature and other criteria from the tables. Information is entered and a number is generated regarding the required ampacity.

• Table D17A to D17N could be used if all conditions of use for the tables are met.

• Both could be accepted. It is worthy to note on pg 575 in the CE Code and in most locations, elevations in Alberta are above the 300 m requirement as stated in Table D17 which states the conditions of use for Tables D17A to D17N.
EMT Luminaire Support

Question
• Can EMT be used as a luminaire support?

Code Rules
• CE Code 2015
  • 12-3012 Boxes, cabinets, and fitting supports
    1) Boxes, cabinets, and fittings shall be fastened securely in place.
    2) Boxes and fittings having a volume of less than 1640 mL shall be permitted to be attached to a firmly secured exposed raceway by threading or other equally substantial means.
12-1110 Support of luminaires

- Rigid PVC boxes shall not be used for the support of luminaires unless they are marked as being suitable for the purpose.

30-302 Supports

1) Every luminaire shall be securely supported.

2) Where a luminaire weighs more than 2.7 kg or exceeds 400 mm in any dimension, it shall not be supported by the screwshell of the lampholder.

3) Where the weight of a luminaire does not exceed 13 kg, the luminaire shall be permitted to be supported by a wall outlet box attached directly to the building structure or by a wall outlet box attached to a bar hanger.

4) Where the weight of a luminaire does not exceed 23 kg, the luminaire shall be permitted to be supported by a ceiling outlet box attached directly to the building structure or by a ceiling outlet box attached to a bar hanger.
EMT Luminaire Support Cont.

5) Where the weight of a luminaire prohibits the installation methods specified in Subrule (3) or (4), the luminaire shall be supported
   a) independently of the outlet box; or
   b) by a fixture hanger provided with an integral outlet box suitable for the purpose.

6) Rigid PVC boxes shall not be used for the support of luminaires unless they are marked as being suitable for the purpose.
Answer

• 2-024, 30-302(5)(b) state equipment is to be used for its specific purpose. If the contractor can prove by showing an ESCO the manufacturers specifications and prove the connector / coupling / EMT can support the weight of the fixture being installed, the installation could be accepted. If this information cannot be supplied, the installation should not be accepted.

• Threaded equipment exists; therefore threaded pipe is one method that could be used to suspend a fixture.

• It is worthy of note and in such cases, the responsibility should be put on the installer to demonstrate the equipment is suitable for the purpose. The code is written in the permissive, while some rules tell us what not to do, generally the code outlines what is acceptable, not what is unacceptable.
EMT Luminaire Support Cont.

- Could be Acceptable
EMT Luminaire Support Cont.

- Not Acceptable

12-3004 Terminal fittings
(3) The fittings shall not be used at outlets for luminaires.
EMT Luminaire Support Cont.

• May not be Acceptable
Residential Receptacles

Question
• Is an outdoor receptacle located on a 3rd story balcony required to be on a dedicated branch circuit?

Code Rule
• Canadian Oxford Dictionary
  – Porch — a covered shelter projecting in front of the entrance of a building.
  – Balcony — a platform enclosed by a wall or balustrade on the outside of a building, with access from an upper-floor window or door
• CE Code 2015
  Definitions
  – Dwelling unit — one or more rooms for the use of one or more persons as a housekeeping unit with cooking, eating, living, and sleeping facilities.
  – Single dwelling — a dwelling unit consisting of a detached house, one unit of row housing, or one unit of a semi-detached, duplex, triplex, or quadruplex house.
Residential Receptacles Cont.

- **Receptacles**

  **26-712 Receptacles for dwelling units**
  
  - This Rule applies to receptacles for dwelling units (including single dwellings) as follows:
    - (a) except as otherwise provided for in this Code, in dwelling units duplex receptacles shall be installed in the finished walls of every room or area, other than bathrooms, hallways, laundry rooms, water closet rooms, utility rooms, or closets, so that no point along the floor line of any usable wall space is more than 1.8 m horizontally from a receptacle in that or an adjoining space, such distance being measured along the floor line of the wall spaces involved;
    - (b) at least one duplex receptacle shall be provided in each area, such as a balcony or porch, that is not classified as a finished room or area in accordance with Item (a)

  **26-714 Receptacles for single dwellings**
  
  - This Rule applies to receptacles for single dwellings only as follows:
    - (a) for each single dwelling, at least one duplex receptacle shall be installed outdoors so as to be readily accessible from ground or grade level for the use of appliances that need to be used outdoors;
Residential Receptacles Cont.

26-726 Branch circuits for single dwellings

- This Rule applies to branch circuits for single dwellings only as follows:
  - (a) outdoor receptacles readily accessible from ground level and installed in accordance with Rule 26-714(a) shall be supplied from at least one branch circuit dedicated for those outdoor receptacles

Answer

- The balcony receptacle could be on with a general house circuit due to being inaccessible from ground level.

- **Example:** If you have a deck 3 feet off the ground, and the deck railing is built in such a way you could reach through the railing to access the receptacle.

- In the above example it is our opinion this receptacle could be considered as being readily accessible from ground level. Rule 26-726 could apply.
Hotels/Motels with Cooking Facilities

Question

- Is a hotel room with cooking facilities considered a dwelling unit? Could the following apply; 26-710, 26-712, 26-720, and 26-724?

**Canadian Oxford Dictionary**
- **Hotel** — an establishment providing accommodation, meals, and other services for travellers and tourists.
- **Motel** — a roadside hotel designed primarily for motorists, typically having the rooms arranged in low blocks with parking directly outside.
Hotels/Motels with Cooking Facilities Cont.

**CE Code**

- **Definitions**
  - *Dwelling unit* — one or more rooms for the use of one or more persons as a housekeeping unit with cooking, eating, living, and sleeping facilities.

**Answer:**

- A hotel/motel room with cooking facilities could fit the definition of a dwelling unit, therefore rules regarding receptacle locations for dwelling units could apply.

- With added cooking facilities in a hotel/motel room, considerations should be made when performing the service calculation.

- **Appendix B**
  - **Rule 8-208**
    - For the purpose of this Rule, a motel unit with cooking facilities may be considered an apartment.
Grounding Electrodes

Question
• When installing a ground plate in frozen ground, what should be considered to ensure an effective ground?

CE Code 2015
• Definitions
   – **Grounding electrode** — a buried metal water-piping system or metal object or device buried in, or driven into, the ground to which a grounding conductor is electrically and mechanically connected.
• Code Rule

Grounding electrodes

10-700 Grounding electrodes (see Appendix B)

2) Manufactured grounding electrodes shall
b) in the case of a plate electrode, be
   (i) in direct contact with exterior soil at no less than 600 mm below grade level; or
   (ii) encased within the bottom 50 mm of a concrete foundation footing in direct contact with the earth at not less than 600 mm below finished grade.

5) Where a local condition such as rock or permafrost prevents a rod or a plate grounding electrode from being installed at the required burial depth, a lesser acceptable depth shall be permitted.
Answer

• The CE Code 2015 is clear on how plate electrodes are to be installed. If the SCO is of the opinion an effective ground can not be established they should request a test be done to ensure continuity.

• If this test fails a better grounding system would be required and possible engineer involvement.

• Options exist; Many different methods are available in industry to achieve effective grounding, even in frozen ground.
Grounding Electrodes Cont.

Canadian Electrical Code Handbook reference

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**Rod electrode driven into the earth**
- At least 3 m
- At least two rods

**Plate electrode direct buried in the earth**
- Minimum 600 mm below finished grade level
- 0.2 m² total surface area

**Plate electrode in a concrete foundation footing**
- Concrete footing installed a minimum of 600 mm below finished grade level
- Minimum 600 mm
- Attachment of grounding conductor to the plate

---

Sized by Rule 10-812
### AFCI Summary Sheet in dwelling units for 15A/20A Receptacles

<table>
<thead>
<tr>
<th>AFCI protection required</th>
<th>AFCI protection NOT required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>15A/20A receptacles</strong></td>
<td></td>
</tr>
<tr>
<td>- Washer/Microwave/Hallway</td>
<td>- Refrigerator/Freezers and located in Kitchen 26-712(d)(i)</td>
</tr>
<tr>
<td>- Out door receptacles attached to dwelling</td>
<td>- Receptacle located within 1 m of a wash basin, in a bathroom or washroom, 26-710(f) (see STANDATA on 26-724(f)(i))</td>
</tr>
<tr>
<td>- Receptacle <strong>not</strong> located within 1 m of a wash basin, in a bathroom or washroom, 26-710(f) (see STANDATA on 26-724(f)(i))</td>
<td>- Detached garage/carport (does not fit definition of dwelling unit)</td>
</tr>
<tr>
<td>- Family room / Living Room/Bedrooms</td>
<td>- Sump and required to be a single receptacle 26-724(f)(ii)(A)</td>
</tr>
<tr>
<td>- Undeveloped basement</td>
<td>- Out door receptacle not attached to dwelling, could include a sewer receptacle (i.e. on a post and not attached structurally)</td>
</tr>
<tr>
<td>- Attached garage/car port</td>
<td>- Kitchen Counter 26-712(d)(v)</td>
</tr>
<tr>
<td>- Built in appliances (could be dishwasher or cappuccino maker)</td>
<td>- Island/peninsula 26-712(d)(iv)</td>
</tr>
<tr>
<td>- Utility room/Hot water tank</td>
<td>- Gas range adapter - a device fed by a 40A 220v branch circuit.</td>
</tr>
<tr>
<td>- Sewer receptacle (i.e. attached to dwelling)</td>
<td></td>
</tr>
<tr>
<td>- Central Vacuum</td>
<td></td>
</tr>
<tr>
<td>- Gas range</td>
<td></td>
</tr>
<tr>
<td>- Refrigerator/Freezer not in Kitchen</td>
<td></td>
</tr>
</tbody>
</table>
AFCI Protection Required

Question:

• Are fridges, freezers required to be AFCI protected?

Code Rule:

26-712 Receptacles for dwelling units
   (d) in dwelling units there shall be installed in each kitchen
   (i) one receptacle for each refrigerator;
26-724 Branch circuits for dwelling units (see Appendix B)
   (f) each branch circuit supplying 125v receptacles rated 20A or
      less shall be protected by a combination-type arc-fault circuit
      interrupter, except for branch circuits supplying
      (i) receptacles installed in accordance with
         (B) Rule 26-712(d)(i)

Answer:

• If located in the kitchen AFCI not required, if located outside the kitchen
  AFCI required.
AFCI Protection Cont.

Question:

• Does a detached garage fit the requirements under 26-724 requiring AFCI protection?

Code Rule:

26-724 Branch circuits for dwelling units (see Appendix B) This Rule applies to branch circuits for dwelling units (including single dwellings) as follows:…

Definitions:

• **Dwelling Unit** — one or more rooms for the use of one or more persons as a housekeeping unit with cooking, eating, living, and sleeping facilities.

• **Single Dwelling** — a dwelling unit consisting of a detached house, one unit of row housing, or one unit of a semi-detached, duplex, triplex, or quadruplex house
AFCI Protection Cont.

Answer:

• Dwelling unit and single dwelling is a defined term in the Canadian Electrical Code, Part I this is the definition that must be used when interpreting this rule.

• Municipal Affairs Opinion
  – an attached garage is attached structurally to the dwelling. AFCI protection is required.
  – Detached garage – AFCI Not required
General Discussion Items

• What are other regions doing, or asking for from houses that are moved from one location to another?

• The Residential No-Charge Energy Savings Program offers direct, no-charge installation of energy efficient products across the province, in rural and urban houses, apartments and condos.
  – [https://www.efficiencyalberta.ca/residential-no-charge/](https://www.efficiencyalberta.ca/residential-no-charge/)
General Discussion Items

- **Non-Certified Products**
  - What are you doing in your area?
  - We receive quite a few calls on companies selling non-certified products

- **Accessibility to Electrical equipment**
  - **2-122 Installation of electrical equipment** (see Appendix G)
    - Electrical equipment shall be installed so as to ensure that after installation there is ready access to nameplates and access to parts requiring maintenance.
  - **2-312 Accessibility for maintenance** (see Appendix G)
    - Passageways and working space around electrical equipment shall not be used for storage and shall be kept clear of obstruction and arranged to give authorized persons ready access to all parts requiring attention.
General Discussion Items

• Multi-Family Services
  – SCO’s looking for consensus for across Alberta
Questions
The End

Thank you
AMA Regional SCO Meeting
Building, Fire, Electrical, Plumbing, Gas
& Private Sewage

April 25, 2017
8:30 am – 4:00 pm

Edmonton (St. Albert)
St. Albert Inn & Suites
156 St. Albert Trail
Grandin Room
AMA Regional SCO Meeting
Building Break-Out Session
12:30pm - 4:00 pm
Grandin

Facilitator: Geoff Brownlie, AMA

AGENDA

12:30 pm – 2:00 pm  Energy Code Implementation Implementation to Date
David Flanagan, Technical Advisor, Edmonton
Juan Monterrosa, Senior Engineer of Green Building and Energy Codes, Edmonton

COFFEE BREAK
2:00 pm – 2:15 pm
Sponsored by Safety Codes Council

2:15 pm – 2:45 pm  General Updates from AMA
• Chief Building Administrator
• Mobile Cooking Operations (MCO’s) Standdata
• 2014 New Standdata
• Q & A

2:45 pm – 4:00 pm  Discussion Topics / Questions
• Fire Separations for Vertical Service Spaces
• Fire stopping installations in Senior’s Complex
• Permit Extensions
• Professional Schedules
• Barrier-Free Gender Neutral Washrooms
• Washroom Privacy
• Compliance to Energy Efficiency
• Smoke Alarm Installations
• Commissioning
• Attached Garages and RSI Values
• A440.4 Window Installations
• DC 315 Update
• Tiny Homes
• Sprinkler Systems in Attic Spaces
• Micro-Breweries
• Professional Technologists
• Section 9.36 Air Change Requirements

*** MEETING AJOURNED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***

- NFPA 33 - Why removed
- Fire blocking - Part 9

6.2.2.7(5) Canopies & Hoods

AAA - P626

Alberta Municipal Affairs (AMA)
Phone: 1-866-421-6929
Email: safetyservices@gov.ab.ca
AMA UPDATES – Building Session

Chief Building Administrator
AMA has a new Chief Building Administrator in place; Paul Chang.

Paul has an extensive background in the building, plumbing and gas disciplines as both a journeyman and safety codes officer and more recently attained safety codes officer levels in the fire discipline. Paul was a Building & Mechanical Inspector for the City of Yellowknife for 18 years when he joined Municipal Affairs in 2006 as a Building Inspector for Field Services, Safety Services Branch. Since 2009, Paul has worked in Edmonton as a senior building technical advisor in Codes & Standards unit, alternated as the Chief Building Administrator and been instrumental in a wide range of projects and issues not only in the building discipline but across several disciplines regulated under the Safety Codes Act.

Paul has held a wide range of code committee responsibilities including past member of the former National Sub-Committee on Plumbing under the Provincial/Territorial Policy Advisory Committee on Codes (16 years), the National Standing Committee on Building & Plumbing Services for the development of the National building and plumbing codes (17 years), the Canadian Advisory Council on Plumbing (16 years) and the Canadian Standards Association Strategic Steering Committee on Plumbing Products and Materials (3 years).

Buildings Used for Growing, Processing, or Handling of Marijuana
Growing marijuana inside a building can present hazards to building occupants. Growing operations can have higher humidity levels which can cause damage to building materials and result in excessive mold growth. Workers may also be exposed to pesticides and fertilizers used to keep the crops healthy.

Buildings used for the growing, processing or handling of marijuana should be categorized as F1, F2, or F3 occupancies depending on the type of operations being carried out within the building or portion of the building. The Alberta Building Code is applicable to these buildings and these buildings should not be classified as “agricultural”.

Other considerations which should also be reviewed are the ventilation systems, which should be in conformance with Part 6, and any other compliance related regulations including those identified within Part 3 and Part 5 of the ABC.

Application of Energy Efficiency Requirements to Existing Buildings
The National Energy Code of Canada specifically states that the energy code is applicable to new buildings and additions. The application of ABC Section 9.36 was enacted on November 1, 2016.

Applying energy codes to existing buildings which were not constructed according to ABC Section 9.36 requires that the work being done be evaluated because each project presents a unique set of economic conditions or constraints.
In some renovations, the installation of new equipment or renovations using current Energuide products and construction practices would be more energy efficient that the existing building conditions.

The installation of building equipment and materials less efficient than required for Energy Codes could be acceptable for:
- the replacement of existing building services (i.e. SWH, or A/C units),
- services installed at a later date (e.g. A/C units), and
- relocation of service equipment within the building.

The installation or construction of building envelope components with lower efficiencies could be permitted for:
- maintenance or repair of envelope components (i.e. broken panes, failed sealed units, roof boards), and
- components installed for renovations where the in-place roof, wall and floor framing remain unaltered, and the in-place windows and doors remain unaltered.

Building envelope components installed during a renovation should be insulated and made airtight to 9.36. to the greatest extent reasonably practical.

Where a renovation generates a requirement for Alberta New Home Buyer Protection in obtaining a building permit, Section 9.36 of the 2014 ABC should be applicable.

Wind Data for Low-Rise Buildings Guideline
The STANDATA accepting the values within the “Guideline for Specifying the Required NAFS Rating of Fenestration in Low-rise Buildings Applicable to Part 9 of Division B of the Alberta Building Code 2014” as prepared by Berkeley Vadocz Engineering Inc. which was issued on May 11, 2016 is going forward to accept the use of the document as written.

Link to document:

ABC 2014 Table 9.36.4.2. Formula Correction
The formula from Table 9.36.4.2. for service water heater performance requirements has an error. The placement of the brackets in the formula is incorrect and should have been stated as such:

\[
\text{Rated input of Watts} \leq \frac{\text{rated input}}{800} + 16.57 \times vV
\]
CSA-A277-16 Procedure for Certification of Prefabricated Buildings, Modules, and Panels
The CSA-A277 standard referenced within the ABC is the 2008 edition. This standard has recently been updated regarding the scope and content to align with the requirements of the 2014 ABC. Updated information is areas such as energy performance, thermal performance, trade-offs related to thermal resistance performance, Occupancy classifications, and Part 10 of the ABC have been made.

To utilize the requirements of the new 2016 edition of the CSA-A277 standard, legislation must be changed through the issuance of a STANDATA.

Professional Schedules
Revised professional schedules are being looked at to incorporate additional references for energy code application, and other aspects of a design. The current schedules still apply to the NECB as each Professional of Record would have the responsibility within their discipline in coordinating the applicable NECB documentation from any sub-consultants on the project. The Coordinating Professional also has the oversight as related to professional schedules and involvement.

Tall Wall Generic Engineering Details
This Standata is being updated to recognize the acceptability of the values within the "Guidelines for the Construction of Residential Tall Walls" (Revised January 2016) (Amendment 1 – June 29, 2016) prepared by: Grubb Engineering Corporation, published by: The Alberta Housing Industry Technical Committee (AHITC)

Spans for Joints, Rafters, and Beams
This Standata is being updated to recognize the acceptability of the values within the "The Span Book" 2009 Edition published by the Canadian Wood Council.

Oil and Gas Processing Facilities
This Standata is currently being reviewed in conjunction with Industry. AMA is in consultation with the Association of Accredited Corporations of Alberta (ACCA).

Interior Stairways for Roof Access
AMA is consulting with Occupational Health and Safety for any updated information or to address any possible inconsistencies between our acceptable alternative solution and OHS requirements. The standata will provide information on differing types of ladders which will meet the intent of the ABC for roof access.

Roof Anchors - Changing to a Bulletin as this is identifying a code requirement which is Alberta Specific.
AMA is consulting with Occupational Health and Safety for any updated information or to address any possible inconsistencies between this bulletin and OHS requirements.
Barrier-Free Design Requirements: Relaxations
This STANDATA is developed to clarify questions regarding when a request for relaxation of barrier-free requirements is deemed appropriate.

A non-inclusive list of examples of various occupancy types where people with disabilities are unemployable for reasons of safety, and may be exempt from providing barrier-free design requirements.

Bonnyville Revised HDD Value
Recent testing by Environment Canada has changed the HDD value for the Town of Bonnyville to 5910 instead of the currently referenced value of 6050 in Appendix C of the 2014 ABC. Additional reviews were completed on the surrounding areas, but because of their higher elevations, changes to other locations were not completed. This change now means that the Town of Bonnyville will now fall within Zone 7A rather than 7B as it previously did. However, an Alternative Solution proposal will be required until a Standata or an ERATTA is issued.

Joint STANDATA Development
The Building Administrator is working in conjunction with Administrators of other disciplines related to Joint Standatas which are cross-discipline related.

Food Trucks
A STANDATA has been proposed to address all portable/temporary food service and cooking equipment (including but not limited to food trucks, vending trucks, chip trucks, burger wagons, doughnut shacks, mobile/portable food vending units, hot dog carts etc. installations in Alberta which utilize electricity, wood charcoal, propane or natural gas as energy for cooking.

The thought process being that all mobile cooking operations (MCO's) once stationary and used to produce, cook or sell and or distribute food, become a temporary facility supporting an occupancy and containing equipment within the scope of a relevant code, are subject to the Safety Codes Act for the time that it is stationary and in use for a purpose(s) noted above.

Although these structures may not be classified as a “building” in the traditional sense, there are provisions within the ABC for commercial cooking equipment, ventilation and fire suppression which should be reviewed under the ABC; as well as other requirements falling under the Fire, Electrical, Gas, and Plumbing Codes.

The STANDATA is currently out for possible comment by all the relevant Sub-Councils.
Canadian Construction Materials Centre Launches

BUILDING OFFICIAL HELPDESK

Canadian Construction Material Centre (CCMC) has launched the Building Official HelpDesk in Alberta. The Helpdesk is only for Building Officials and is designed to meet their needs.

CCMC is available to answer building official enquiries during the hours of 8:30AM to 4:30PM (Eastern), Monday to Friday.

Questions from building officials should relate to construction products evaluated by CCMC that are published on our On-line Registry. CCMC would also be pleased to hear about any concerns or challenges you might be experiencing on construction sites.

Phone: 1-613-993-6189
Email: CONST.CCMCBuildingOfficialHelpdesk@nrc-cnrc.gc.ca

CCMC REGISTRY

Canada's Official Evaluation Service for building officials and the construction industry since 1988

Initiative supported by ACBOA and ABOA

Canadian Construction Materials Centre
1200 Montreal Rd., Ottawa, ON
Building M24
Tel: 613-993-6189
Fire Separation for Vertical Service Space

Question 1?
Should the service shaft be closed off before the service room/parkade with a fire stop?
Vertical service spaces are shafts that penetrate storeys of a building and have building services installed in them, including heating and ventilating ducts, plumbing pipes, and electrical cables. In order for vertical service spaces to function effectively, it is necessary to have openings leading from them into the storeys. These openings must be effectively fire stopped and ducts must have function fire dampers at locations where they penetrate rated fire separations.

The primary requirements that affect vertical service spaces are for fire separations with fire-resistance ratings based on the fire-resistance rating of the floors through which the service space passes. In this manner, the walls of the shaft are protected from the effects of a fire in an adjacent floor area based on the expected fire load in that floor area. In the same manner, the adjacent floor areas are protected from a fire in the service space, which could expose a number of storeys simultaneously.

A vertical service space or shaft is not required to be separated from the room in which the building services are located. Therefore, if the bottom of the shaft opens into the service room, a separation with a FRR is not required at this location. If the service room is not on the lowest level of the building, and the service shaft extends to floors below, then the bottom of the service shaft must be enclosed with a fire separation and rating meeting that of the shaft walls.

Question 2?
Does any of the venting or ductwork in a service space need to be individually shafted in a fire rating?
Venting or ductwork within the same service space is not required to be separated from each other, or individually shafted. Heating and ventilating ducts, plumbing pipes, and electrical cables are all permitted to be within the same service shaft.

Background Information:
2014 Alberta Building Code
3.6.3.1. Fire Separations for Vertical Service Spaces
3) A vertical service space that does not extend to the bottom of a building shall be enclosed at the lowest level with construction having a fire-resistance rating not less than that required for the vertical service space walls.

5) Only openings that are necessary for the use of the vertical service space shall be permitted through a vertical service space enclosure.
*Vertical service space* means a shaft oriented essentially vertically that is provided in a *building* to facilitate the installation of *building* services including mechanical, electrical and plumbing installations and facilities such as elevators, refuse chutes and linen chutes.

*Service room* means a room provided in a *building* to contain equipment associated with *building* services. (See Appendix A.)

**Appendix A Service Room**

Typical examples of service rooms include boiler rooms, furnace rooms, incinerator rooms, garbage handling rooms and rooms to accommodate air-conditioning or heating appliances, pumps, compressors and electrical equipment. Rooms such as elevator machine rooms and common laundry rooms are not considered to be service rooms.

**Section 3.6. Service Facilities**

**3.6.1. Scope**

1) The provisions of this Section apply to *horizontal service spaces, vertical service spaces, attic or roof spaces, ducts, crawl spaces, shaft spaces, service rooms,* and mechanical penthouses, and facilities contained therein.

**3.6.2. Fire Separations around Service Rooms**

1) Except as permitted by Sentences (2), (8), (9) and (10), fuel-fired *appliances* shall be installed in *service rooms* separated from the remainder of the *building* by *fire separations* having a *fire-resistance rating* not less than 1 h.

**3.6.3. Fire Separations for Vertical Service Spaces**

1) Except as required by Section 3.5., a *vertical service space* shall be separated from all other portions of each adjacent *storey* by a *fire separation* having a *fire-resistance rating* conforming to Table 3.6.3.1. for the *fire-resistance rating* required by Subsection 3.2.2. for:
   a) the floor assembly above the *storey,* or
   b) the floor assembly below the *storey,* if there is no floor assembly above.

(See Appendix A.)

<table>
<thead>
<tr>
<th>Fire-Resistance Rating of Fire Separation Required for Floor Assembly</th>
<th>Minimum Fire-Resistance Rating of Vertical Service Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 45 min</td>
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<tr>
<td>45 min</td>
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<tr>
<td>1 h</td>
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<td>1.5 h</td>
<td>1 h</td>
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<tr>
<td>2 h or more</td>
<td>1 h</td>
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</table>

7) The room into which a linen chute discharges shall be separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than 1 h.

9) A refuse chute shall discharge only into a room or bin separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than 2 h.
Compartments and Fire Separations

Question?
Sprinkler installation in retro Seniors Complex’s. Is fire stopping between individual sleeping rooms and the remainder of the floor area required (separation with or without a fire rating)?
Walls between patients’ or residents’ sleeping rooms and the remainder of the floor areas as identified in 3.3.3.5., although not required to have a fire resistance rating, shall be constructed as fire separations. It is intended that fire separations be constructed as a barrier to the spread of smoke or fire, and should include the installation of a form of fire stopping around penetrations.

Background Information:
2014 Alberta Building Code 3.3.3.5.
3.3.3.5. Compartments and Fire Separations
9) Except as provided in Sentences (10) to (14), walls between patients’ or residents’ sleeping rooms and the remainder of the floor areas shall be constructed as fire separations but are not required to have a fire-resistance rating unless one is required by other provisions in this Part. (See A-3.1.8.1.(1)(b) in Appendix A.)

3.1.8. Fire Separations and Closures
3.1.8.1. General Requirements
1) Any wall, partition or floor assembly required to be a fire separation shall a) except as permitted by Sentence (2), be constructed as a continuous element, and b) as required in this Part, have a fire-resistance rating as specified (see Appendix A).

A-3.1.8.1.(1)(b) Barrier to Control Smoke Spread. Although a fire separation is not always required to have a fire-resistance rating, the fire separation should act as a barrier to the spread of smoke and fire until some response is initiated.
When choosing products for fire stopping, the physical characteristics of the material used at the joints as well as the nature of the assembly and its potential movement should be taken into consideration.
If the fire-resistance rating of a fire separation is waived on the basis of the presence of an automatic sprinkler system, it is intended that the fire separation will be constructed so that it will remain in place and act as a barrier against the spread of smoke for a period of time until the sprinklers have actuated and controlled the fire.

Fire separation means a construction assembly that acts as a barrier against the spread of fire. (See Appendix A.)

A - Fire Separation A fire separation may or may not have a fire-resistance rating.

Fire stop means a system consisting of a material, component and means of support used to fill gaps between fire separations or between fire separations and other assemblies, or used around items that wholly or partially penetrate a fire separation.
3.1.8.3. Continuity of Fire Separations

4) The continuity of a fire separation shall be maintained where it abuts another fire separation, a floor, a ceiling, a roof, or an exterior wall assembly. (See Appendix A.)

A-3.1.8.3.(4) Fire Separation Continuity. The continuity of a fire separation where it abuts against another fire separation, a floor, a ceiling or an exterior wall assembly is maintained by filling all openings at the juncture of the assemblies with a material that will ensure the integrity of the fire separation at that location.

3.1.9.1. Fire Stops

1) Except as required by Sentences (2) and (3), and permitted by Sentences (4) and (5), penetrations of a fire separation or a membrane forming part of an assembly required to have a fire-resistance rating shall be

a) sealed by a fire stop that, when subjected to the fire test method in CAN/ULC-S115, "Fire Tests of Firestop Systems," has an F rating not less than the fire-protection rating required for closures in the fire separation in conformance with Table 3.1.8.4., or

b) cast in place (see Appendix A).

(See also Article 3.1.9.4. for requirements regarding penetrations by combustible drain, waste and vent piping.)

3.1.9.4. Combustible Piping Penetrations

1) Combustible sprinkler piping is permitted to penetrate a fire separation provided the fire compartments on each side of the fire separation are sprinklered. (See also Article 3.2.5.13.)

2) Combustible water distribution piping is permitted to penetrate a fire separation that is required to have a fire-resistance rating without being incorporated in the assembly at the time of testing as required by Article 3.1.9.2., provided the piping is protected at the penetration with a fire stop in conformance with Sentence (4).

3) Except as permitted by Sentences (4) to (5), combustible piping shall not be used in a drain, waste and vent piping system if any part of that system penetrates

a) a fire separation required to have a fire-resistance rating, or

b) a membrane that forms part of an assembly required to have a fire-resistance rating.


In the application of Subsection 3.1.9., a building service is considered to penetrate an assembly if it passes into or through the assembly. In some situations, a service item enters an assembly through a membrane at one location, runs within the assembly, and then leaves the assembly through a membrane at another location. The term "membrane penetration" usually designates an opening made through one side (wall, floor or ceiling membrane) of an assembly, whereas the term "through-penetration" designates an opening that passes through an entire assembly. Fire stopping of membrane penetrations involves installing a material, device or construction to resist for a prescribed time period the passage of flame and heat through openings in a protective membrane caused by cables, cable trays, conduit, tubing, pipes or similar items. Fire stopping of a through-penetration involves installing an assemblage of specific materials or products that are designed, tested and fire-resistance rated to resist for a prescribed period of time the spread of fire through penetrations. Products for fire stopping within a barrier are required to address movement of the assembly and to control smoke spread; as such, the flexibility of the material used at the flexible joints as well as the nature of the assembly and its potential movement must be taken into consideration.
ULC S115:

**FIRESTOP SYSTEM COMPONENT** - a component that has been tested as a part of a firestop system.

NOTE: The components of a firestop system include the firestop material, as well as any penetrating items, and their means of support and the surrounding wall or floor.

**FIRESTOP SYSTEM(S) (FIRE STOP)** - a system consisting of a material, component and means of support used to fill gaps between fire separations or between fire separations and other assemblies, or used around items that wholly or partially penetrate a fire separation. (Refer to Clause 1.7.)

1. 7 For the purpose of this Standard, a firestop system (fire stop) refers to a specific construction consisting of:

A) Any device intended to close off an opening or penetration during a fire;

B) Material(s) that fill an opening in a wall or floor assembly where penetration is by cables, cable trays, conduits, ducts and pipes along with their means of support through the wall or floor opening;

C) Material(s) that fill an opening in a wall assembly where penetration is by electrical and nonelectrical outlet boxes along with their means of support in the wall assembly; NOTE: Examples of non-electrical outlet boxes are for the supply and waste water to/from washing machines, the air exhaust from dryers, gas outlet boxes, or other devices that create an opening in the assembly.

D) Material(s) and construction intended for use in linear openings between adjacent fire resistive structures.
Permit Extensions

Question?
Can a permit Issuer overlap disciplines to extend a permit?

The Safety Codes Act also allows non-Safety Codes Officers to issue permits when authorized by the Safety Codes Council. Non-SCO Permit Issuers are granted Designations of Power (DoP) to issue certain permits under the authority of an accredited agency or municipality.

When issues concerning these codes arise, Permit Issuers are expected to turn to Safety Codes Officers who have expertise in the technical areas of these codes. A Designation of Power authorizes a person to engage in certain activities under the Safety Codes Act. In the case of non-SCO Permit Issuers, the Designation of Power connects them to a specific jurisdiction and allows them to issue permits under the authority of that jurisdiction. The types of permits a Permit Issuer may issue can be restricted by any of the following:

- the Permit Issuer’s Designation of Power;
- the scope of accreditation of the jurisdiction they work for;
- the Permit Issuer’s terms of employment.

PERMIT EXTENSIONS
Permit Issuers and Safety Codes Officers have the authority under the Safety Codes Act and Permit Regulation to extend permit terms, although this authority may be restricted by their jurisdictions’ policies. Permit Issuers may grant extensions in response to requests from permit holders. Safety Codes Officers are likely to be in more regular contact with permit holders, and may agree to grant an extension during a site inspection or a discussion of inspection results.

Permit extensions should be documented in writing.

Background Information:
Safety Codes Act/Permit Regulations
Terms and conditions of permit
22 A permit issuer may issue a permit for an undertaking, or part of the undertaking, and may, without limiting the generality of section 44(2) of the Act and subject to the applicable policies of the Minister and of the accredited municipality or accredited regional services commission, impose terms and conditions on the permit that are consistent with the purpose and intent of the Regulation, including, but not limited to,
(a) requiring that permission be obtained from the permit issuer before the occupancy or use of the construction, process or activity under the permit,
(b) setting the date on which the permit expires,
(c) setting a condition that causes the permit to expire,
(d) setting the period of time that the undertaking may be occupied, used or operated,
(e) setting out the scope of the undertaking being permitted,
(f) setting the location or locations of the undertaking being permitted,
(g) setting the qualifications of the person responsible for the undertaking,
(h) requiring an identification number or label to be affixed to the undertaking, and
(i) requiring the approval of a safety codes officer before any part of the building or system is
covered or concealed.

Term of a permit
25(1) In the absence of a different term set under section 22, a permit expires if the undertaking
to which it applies
(a) is not commenced within 90 days from the date of issue of the permit,
(b) is suspended or abandoned for a period of 120 days, or
(c) is in respect of a seasonal use residence and the undertaking is suspended or abandoned
for a period of 240 days after the undertaking is started.

(2) Despite subsection (1), when the term of a permit has not expired, a permit issuer may, in
writing, and on the request of the permit holder, extend the permit for an additional fixed period
of time that the permit issuer considers appropriate.

"permit issuer" means a safety codes officer or a person designated to issue permits pursuant
to section 44 of the Act;
Registered Professionals & Schedules

Question?
Can schedules be provided by more than one Registered Professional of Record for each element of a design within the same discipline? ie Architectural, Electrical, Mechanical etc.

Permit applications for projects requiring professional involvement, including the submittal of professional schedules, should include a single set of schedules from the registered professional of record where professional schedules are deemed necessary.

The intent behind having one schedule per discipline is to ensure that all aspects of the specific discipline have been reviewed by a single entity. Without one overseer, there is potential for overlap of items, or items being missed.

There are some situations where the registered professional of record for a project will not feel competent or qualified to take responsibility for every aspect of the design. In these situations, a specialty engineer can become involved with the design for this or any portion of a design they feel competent in. An example of this type of situation would be the mechanical plans. Quite often a separate engineer takes responsibility for the design of the sprinkler system specifically while leaving the remaining portions of the mechanical designs under the responsibility of another registered professional.

In situations like these, the SCO should not be accepting separate schedules from each professional for their portion of the work. A single set of schedules provided from a single registered professional of record who is taking responsibility for coordination of the design and review to ensure every aspect of the project under that discipline (ie mechanical) have been reviewed, is what is required. The registered professional of record is not taking responsibility for the work of the other registered professionals, rather they are responsible for the coordination of the project and take on the role of the overseer, and coordinator to ensure all areas of the design and site review have been covered.

To ensure compliance has been achieved through design and field reviews, the registered professional of record can ask the specialty professional(s) for assurances for their portion of the work. Assurance can be provided to the registered professional of record through documentation such as a “Letter of Commitment, or a Letter of Compliance”. These documents could take the form of a B-1 or B-2, or a C-1 or C-1
schedule and are submitted to the Registered Professional of Record and not to the
SCO.

Background Information:
2014 Alberta Building Code
2.4.3. Schedules of Professional Involvement

2.4.3.1. Owner
1) Before beginning construction, the owner shall
   a) retain a coordinating registered professional to coordinate all design work and field reviews of
      the registered professionals required for the project in order to ascertain that
         i) the design will comply with this Code and other regulations made pursuant to the
            Safety Codes Act, and
         ii) the construction of the project will substantially comply with this Code and other
             regulations made pursuant to the Safety Codes Act, (see Appendix A),
   b) retain registered professionals of record to complete design work and field review required for
      the project, and
   c) provide the authority having jurisdiction with letters in the forms set out in Schedules A-1, A-2,
      B-1 and B-2 (see Appendix A).

1.4.1.2. Defined Terms
Registered professional of record means a registered professional retained to be responsible for
the integrity and completeness of the design and field reviews of one or more of the following
elements of a project:
(a) architectural,
(b) structural,
(c) mechanical,
(d) electrical, and
(e) geotechnical.

Registered professional means an individual who qualifies as a
(a) registered architectural professional,
(b) registered engineering professional, or
(c) licensed interior designer.

Responsibilities for Engineering Services for Building Projects - March 2009
3 GENERAL PROJECT REQUIREMENTS AND ORGANIZATION
Professional services may be performed by engineers and architects employed by different
organizations or by separate departments within a large organization.

Coordination of the engineering work and construction activities requires special care and
attention. To produce quality engineering work, members of a project team need to understand
and accept their respective responsibilities for integrity and completeness in the design and
construction process. They must participate in the established quality control procedures for the
specific assignment and communicate with other members of the project team. Finally, they
must document their actions to provide a record for checking purposes or audit by their
professional peers.

1. Allocation of responsibilities on building projects is not always well defined.
2. On any particular building project, there are several engineering disciplines and many contractual parties involved.

3. There can be various contractual parties and many potential types of contractual arrangements. For example, a design professional could be a prime consultant or a sub-consultant, and could be engaged by an owner, constructor or sub-constructor.

4. In addition, there are many types of "project delivery methods", each with its peculiarities (e.g. traditional design-bid, fast-tracked, design-build, etc.).

5. Some aspects of professional responsibilities are not always clearly defined – they may not be specifically attached to a particular discipline or to a particular registered professional of record.

6. Certain aspects of design for building construction are sometimes undertaken without involvement of design professionals where, in fact, there should have been such involvement.

Consequently, there is a potential for some responsibilities to be unassigned or to be unclear.

3.7 GENERAL RESPONSIBILITIES OF ORGANIZATION PARTICIPANTS
Organization participants have different responsibilities, as outlined below.

3.7.3 All Registered Professionals of Record
As defined in the Alberta Building Code, the registered professional of record in each discipline is:

- Responsible for coordinating the design and field reviews; and
- Responsible for integrity and completeness of the design and field review in their respective discipline.

"Integrity and Completeness" is considered to mean:

- Responsibility is assigned or delegated for all aspects within the discipline;
- The divisions between the respective areas of responsibilities are clearly defined and avoid overlaps;
- The design criteria or assumptions are consistent among the different areas within the discipline;
- Work is delegated to specialty professionals as required; and
- Reviews are made where required to determine if delegation was understood.

The registered professional of record may rely on a specialty professional to be responsible for design and field review of elements in the respective disciplines. Nevertheless, the registered professional of record has the overall responsibility to ensure that all design is undertaken as is necessary to achieve a system that meets acceptable engineering standards. In addition, the registered professional of record must require the other members of the design team to sign and seal the documents for such elements.

A professional engineer, as required under the Code of Ethics, must only undertake work for which he or she is competent or qualified. Therefore, a registered professional of record is entitled to assume that if a professional engineer undertakes an assignment
for a portion of the work within the discipline then the specialty professional is assumed to be competent and qualified. However, if evidence arises that suggests the specialty professional is not competent or qualified, then the registered professional of record must undertake such additional work to ascertain whether the person is competent.

G-2 LETTERS OF COMMITMENT AND COMPLIANCE FROM COORDINATING REGISTERED PROFESSIONAL, REGISTERED PROFESSIONAL OF RECORD AND SPECIALTY PROFESSIONALS
The coordinating registered professional coordinates all the registered professionals of record providing services on the specific project. The coordinating registered professional does not take responsibility for work that the registered professionals of record are covering.

The coordinating registered professional may also coordinate and rely on the specialty professionals, such as a civil engineer, if they do not come under one of the registered professionals of record.

Similarly, the registered professionals of record do not take responsibility for the work of other registered professionals working in the specific discipline for which he or she is responsible. However, the registered professional of record is responsible for coordination to ensure all areas are covered (in regard to design and site review). Attachment of qualifying letters to the schedules explaining the inter-relationship with other professionals in the specific discipline may be acceptable to the authority.

Often the specialty professional is appointed during the construction phase. In this case, Schedule C and accompanying letters would give closure to the responsibility of the applicable aspects. It would indicate who is the specialty professional, whether field reviews were needed and certify that they were done.

The coordinating registered professional and the registered professional of record should establish with the various specialty professionals a clear written understanding of the respective areas of responsibility. Often this is done through the applicable contract documentation. For example, the responsibility of a specialty professional responsible for design and field review of a pre-engineered building could be specified in contract documents prepared by the structural engineer of record.

If the coordinating registered professional or registered professional of record is relying on design or field review of a specialty professional, the coordinating registered professional and/or registered professional of record should attach supporting documentation to Schedules C-1 and C-2. This would not only establish the responsibility of the coordinating registered professional and registered professional of record. It also would help to clarify what is expected of the specialty professional and would help ensure that all areas of responsibility are covered.

For example, the coordinating registered professional and registered professionals of record could ask the specialty professional to provide:
- A “Letter of Commitment” addressed to the coordinating registered professional or registered professional of record as appropriate, in a form similar to Schedule B-1 or B-2, to acknowledge responsibility for design by the specialty professional. If required by the coordinating registered professional or registered professional of record, the letter should also confirm that the specialty professional is undertaking responsibility for field review of the applicable aspects of the project.
• A "Letter of Compliance", addressed to the coordinating registered professional or registered professional of record as appropriate, in a form similar to Schedule C-1 or C-2, to confirm that the specialty professional has performed the necessary field review and that the applicable aspects of the project substantially comply with the specialty professional's design. (This letter would only be required in cases where the specialty professional is required to perform field review).

Links to Reference Material

Responsibilities for Engineering Services for Building Projects - March 2009
https://www.apega.ca/assets/PDFs/building-projects.pdf

Guideline for Relying on Work Prepared by Others – March 2013
https://www.apega.ca/assets/PDFs/others-work.pdf

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Barrier-Free & Gender Neutral Washrooms

Question 1?
How do we deal with regulations requiring gender neutral washrooms with regard to male/female washroom counts/occupant loads? Do these washrooms need to be extra washrooms or can they be counted in the required washroom count?
The Alberta Building Code requires that water closets be provided for each sex (see Sentence 3.7.2.2.(1)).
The Appendix note to this Sentence, however, better clarifies the intent: “it is deemed that rooms each containing a single water closet available for both males and females would satisfy the intent of the Code. The total number of water closets must be adequate for the total number of occupants.”

So while the wording of Sentence 3.7.2.2.(1) itself suggests that dedicated washroom facilities exclusive to each sex are required, the Appendix note qualifies that a gender-neutral washroom (washroom available for both females/males) containing a single water closet would satisfy the intent of the requirement as well. (A room containing multiple water closets would not meet the intent of a gender-neutral washroom). An establishment could therefore install individual gender-neutral water closet rooms in lieu of sex-specific washroom facilities.

Another option when considering water closet counts for assembly occupancies, primary schools, daycare centers, places of worship and undertaking, business and personal services, mercantile and industrial occupancies is to utilize Sentence (2) and to reduce the total occupant load by 10 for every single universal toilet room installed, which could be labelled as a gender neutral washroom.

Where a room containing a single water closet (such as a gender-neutral washroom) is provided, a lockable, full-height door is required (See Clause 3.7.2.2.(17)(a)). Sentence 3.7.2.2.(17) is an Alberta-specific requirement not contained within the National Building Code.

A room containing multiple water closets not separated into individual rooms with full height doors etc. as per Sentence (17), would not meet the intent of a gender-neutral washroom.

Question 2?
Would two universal washrooms; one meeting barrier-free requirements and labelled as gender neutral, the other also labelled as gender neutral but not meeting barrier-free requirements, comply with the requirement for a male and
female barrier-free washroom facilities under the ABC where more than 1 washroom facility is required based on occupant load?
For new construction, where a single universal toilet room is provided, as per Sentence (3), this water closet room shall not be taken into consideration as part of the total number of water closets required by the 2014 ABC. Therefore, the additional number of water closets for each sex should still be provided in addition to the barrier-free gender neutral washroom.

In existing construction, where space within the building does not permit two barrier-free universal toilet rooms to be constructed, a Barrier-Free Relaxation could be proposed to the Barrier-Free Administrator for two gender neutral washrooms; one meeting barrier-free requirements and one not.

Background Information:
2014 Alberta Building Code
3.7.2.2. Water Closets
1) Except as permitted by Sentence (4), water closets shall be provided for each sex assuming that the occupant load is equally divided between males and females, unless the proportion of each sex expected in the building can be determined with reasonable accuracy. (See Appendix A.)

2) If a single universal toilet room is provided in accordance with the requirements of Section 3.8., the total number of persons in the building used to determine the number of water closets to be provided, is permitted to be reduced by 10 before applying Sentences (6), (7), (8), (12), (13) or (14).

3) Except as permitted by Sentence (2), if only one universal toilet room is provided in accordance with Section 3.8., the water closet in this room shall not be taken into consideration in determining the number of water closets required by this Article, unless a single water closet is permitted in accordance with Sentence (4).

4) Both sexes are permitted to be served by a single water closet if the occupant load in an occupancy referred to in Sentence (6), (10), (12), (13), (14) or (16) is not more than 10.

17) If a room contains
a) not more than 1 water closet, the doorway to the room shall be provided with a full-height door that is capable of being locked from the inside, or
b) no fewer than 2 water closets or at least 1 water closet and 1 urinal, the room shall be designed so that water closets, urinals and lavatories are not visible from the entrance to the room.

A-3.7.2.2.(1) Water Closets. Sentence 3.7.2.2.(1) assumes that there will be a sufficient number of persons in the building to justify the provision of separate water closet facilities for both males and females. In some circumstances overall low occupant loads would not require more than one water closet for males and one water closet for females and yet the building has more than one storey. It is deemed that rooms each containing a single water closet available for both males and females would satisfy the intent of the Code. The total number of water closets must be adequate for the total number of occupants. Requirements for barrier free
accessibility also need to be considered. If the entrance storey is accessible and the upper storeys are not required to be accessible, a room in the accessible storey must meet the requirements of Section 3.8. and can serve both males and females. If provided, a nonaccessible room, designed to serve both males and females, in each nonaccessible upper storey would be acceptable. Sentence 3.7.2.2.(4) permits a single water closet to serve both males and females if the total occupant load is low.

3.8.3.12. Universal Toilet Rooms
(See Appendix A.)
1) A universal toilet room shall
a) be served by a barrier-free path of travel,
b) have a door capable of being locked from the inside and released from the outside in case of emergency and having
   i) a latch-operating mechanism that is operable with a closed fist, located not less than 900 mm and not more than 1 000 mm above the floor,
   ii) if it is an outward swinging door, a door pull not less than 140 mm long located on the inside so that its midpoint is not less than 200 mm and not more than 300 mm from the hinged side of the door and not less than 900 mm and not more than 1 000 mm above the floor (see A-3.8.3.8.(1)(b)(iv) in Appendix A), and
   iii) if it is an outward swinging door, a door closer, spring hinges or gravity hinges, so that the door closes automatically,
c) have one lavatory conforming to Article 3.8.3.11.,
d) have one water closet conforming to the requirements of Article 3.8.3.9. that has a clearance to the walls of
   i) not less than 285 mm and not more than 305 mm on one side, and
   ii) not less than 875 mm on the other side,
e) have grab bars conforming to Clause 3.8.3.8.(1)(d),
f) have no internal dimension between the walls that is less than 1 700 mm,
g) have a coat hook conforming to Clause 3.8.3.8.(1)(e) and a shelf located not more than 1 200 mm above the floor,
h) be designed to permit a wheelchair to back in alongside the water closet in the space referred to in Subclause (d)(ii), and
i) be designed to permit a wheelchair to turn in an open space not less than 1 500 mm in diameter.

A-3.8.3.12. Universal Toilet Rooms. Unobstructed areas in front of the lavatory, in front of the water closet, and on one side of the water closet are necessary for manoeuvrability of a person using a wheelchair. Although outward swinging doors are preferable for accessibility, inward swinging doors are also permitted.
Washroom Privacy

Question 1?
If a toilet room(s) is fully separated by full height walls and doors, therefore providing protection from unwanted visual surveillance in the toilet area(s), is there still a need to provide privacy for the lavatories?

Sentence 3.7.2.2.(17) is Alberta specific and as of the 2014 ABC cycle, has included the wording for privacy to include the lavatories as well as the water closets and urinals within a washroom.

The proposal suggests an option to remove the requirement for a door to the entrance of a washroom area if privacy for the water closet(s), urinal(s) and lavatory(s) is maintained. Under this thought process, it appears that the intent of the ABC is to provide a “room” where those utilizing any of these components would maintain privacy from others.

However, where full height walls and doors are provided for the water closet(s) or urinal(s), is there still a need for privacy strictly for the lavatory area? Further review and research on the Code change as well as on the intent of the wording, is required.

Background Information:
2014 ABC
3.7.2.2. Water Closets
17) If a room contains
   a) not more than 1 water closet, the doorway to the room shall be provided with a full-height door that is capable of being locked from the inside, or
   b) no fewer than 2 water closets or at least 1 water closet and 1 urinal, the room shall be designed so that water closets, urinals and lavatories are not visible from the entrance to the room.

2006 ABC
7.2.2.2. Privacy
2) A room providing separate water closets or urinals for more than one male or female shall be designed so that the water closets or urinals are not visible when the door to the room opens onto a place where persons of the other sex work or pass.
Compliance to Energy Efficiency

Question 1?
Existing building/addition coming under new permit for past construction. How is compliance to 9.36. being handled (e.g. sunroom, addition, etc constructed in past without permits)?

The National Energy Code of Canada for Buildings 2011 denotes within Division A, its application as being to new buildings and additions. The application of Section 9.36. comes from within the existing statement of the ABC at the time the ABC was enacted. Article "9.36.1.1. Scope", must be used in conjunction with the application sentence of the ABC 2014.

The intent of Section 9.36., falls in line with the application of the NECB as applying to new buildings and additions, therefore all new additions would be required to meet the energy efficiency requirements.

From NECB:  Addition means any conditioned space that is added to an existing building and that increases the building's floor surface area by more than 10 m².

Applying building codes to existing buildings involves to some degree the same analytical process as is required to assess alternate design proposals; in both cases the alternatives need to be evaluated. In most cases, the installation or replacement of one piece of equipment or renovation of a building would not adversely affect the overall energy usage of the building as a whole; the installation of new equipment or renovations using current Energuide products and construction practices would be more energy efficient than the existing building conditions.

When an existing building constructed prior to the application of NECB 2011, or Section 9.36. of ABC 2014, for which Permits were issued before November 1, 2016, is undergoing renovations etc. the installation of building equipment and materials with an efficiency rating less than that required by NECB 2011 and Section 9.36. of ABC 2014 is acceptable for the items such as:

- a. replacing existing building services equipment (i.e. service water heater, heating appliance, A/C unit),
- b. building services equipment is being installed in an existing building at a later date (i.e. A/C unit),
- c. relocation of building service equipment within the building.

However, the replacement equipment efficiencies shall not be less than those found in Canada’s Energy Efficiency Regulations, see link provided below.
The installation, construction or use of building envelope components or assemblies with lower efficiencies than those required by 2014 ABC Section 9.36 can be permitted for items such as:

a. maintenance or repair of building envelope components or assemblies (i.e. broken panes; failed sealed units; water-damaged plaster, studs, roof boards or rafters, foundation crack repair and dampproofing),

b. components or assemblies being installed in rehabilitation, refurbishment, renovation or alteration (except additions) where:
   i. in-place roof, wall and floor framing structure remains unaltered,
   ii. in-place fenestration and doors remain unaltered, and
   iii. insulation is installed to the greatest extent reasonably practical, and made airtight in conformance with 9.36.2.9.(1) where accessible and applicable.

Additionally, where the renovation generates a requirement for home warranty coverage under the New Home Buyer Protection Act, Section 9.36 of ABC 2014 and the energy efficiency requirements would also apply.

Background Information:
9.36.1.3. Compliance and Application
(See Appendix A.)
2) Subsections 9.36.2. to 9.36.4. apply to
a) buildings of residential occupancy to which Part 9 applies,
b) buildings containing business and personal services, mercantile or low-hazard industrial occupancies to which Part 9 applies whose combined total floor area does not exceed 300 m², excluding parking garages that serve residential occupancies, and
c) buildings containing a mix of the residential and non-residential occupancies described in Clauses (a) and (b),
3) Subsection 9.36.5. applies only to
a) houses with or without a secondary suite, and
b) buildings containing only dwelling units and common spaces whose total floor area does not exceed 20% of the total floor area of the building.
(See Appendix A.)

A-9.36.1.3.(5) Exemptions. Examples of buildings and spaces that are exempted from the requirements of Section 9.36. include seasonally heated buildings, storage and parking garages, small service buildings or service rooms and unconditioned spaces in buildings. However, note that, where a building envelope assembly of an exempted building is adjacent to a conditioned space, this assembly must meet the requirements of Section 9.36.

Federal Energy Efficiency Act and Regulations
http://www.nrcan.gc.ca/energy/regulations-codes-standards/6845

Canada’s Energy Efficiency Regulations
Smoke Alarms

Question?
What we are finding is smoke alarms improperly installed or sometimes faulty. Sometimes the backup batteries are not installed (or have been taken out), sometimes not all the interconnections are functional. We test smoke alarms as we go room to room then test with the main breaker turned off to see what happens under battery power. This is an easy way to determine if the batteries have been installed.

The S553 standard requires the installer test and document the test. This is what I think we need to put back on the builder (electrical contractor) – to test them all and provide signoff that they have been tested. What are other jurisdictions doing?
The 2014 Alberta Building Code provides direction on where smoke alarms are required to be installed, to what standard smoke alarms must conform (CAN/ULC-S531 which references the CAN/ULC-S552 standard for Maintenance and Testing of Smoke Alarms), and to what standard the installation must meet (CAN/ULC-S553).

Within the CAN/ULC-S552 standard, specific installation and maintenance requirements are specified which requires the alarms to be tested in accordance with the manufacturers installation instructions (which should meet the S-553 standard), that each interconnected smoke alarm must be individually tested, that testing must be conducted under 120V power and in power off battery back-up conditions, and that the testing must be documented.

Background Information:
2014 Alberta Building Code
9.10.19. Smoke Alarms
9.10.19.1. Required Smoke Alarms
1) Smoke alarms conforming to CAN/ULC-S531, “Smoke-Alarms,” shall be installed in
a) each dwelling unit,
b) each sleeping room not within a dwelling unit, and
c) ancillary spaces and common spaces not in dwelling units in a house with a secondary suite.

9.10.19.3. Location of Smoke Alarms
2) A smoke alarm required by Article 9.10.19.1. and Sentence (1) shall be installed in conformance with CAN/ULC-S553, “Installation of Smoke-Alarms.”
9.10.19.7. Instructions for Maintenance and Care
1) Where instructions are necessary to describe the maintenance and care required for smoke alarms to ensure continuing satisfactory performance, they shall be posted in a location where they will be readily available to the occupants for reference.

CAN/ULC-S531-2002 Standard for Smoke Alarms
6. INSTRUCTIONS
6.1 Each smoke-alarm shall be provided with installation instructions which shall include the following information in both English and French:
A) Typical installation drawing layouts for the unit(s) indicating recommended locations and wiring methods. Wiring methods detailed shall be in accordance with CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations. Locations where smoke-alarm installations are not recommended shall also be included. The instructions shall be in accordance with CAN/ULC-S553, Standard for the Installation of Smoke-Alarms;
B) Conspicuous description of the operation, testing, and proper maintenance procedures for the unit(s). Testing and maintenance procedures shall be in accordance with CAN/ULC-S552, Standard for the Maintenance and Testing of Smoke-Alarms;

CAN/ULC-S553-02
3.1.9 Upon completion of the installation, all installed smoke-alarmshall be tested in accordance with CAN/ULC-S552, Standard for the Maintenance and Testing of Smoke-Alarms.

CAN/ULC-S552-2002 Standard for Maintenance and Testing of Smoke Alarms
3. MAINTENANCE AND TESTING OF SMOKE-ALARMS
3.1 GENERAL
3.1.1 Each smoke-alarm shall be visually inspected to ensure that the smoke-alarm is securely fastened to the ceiling or wall.
3.1.2 Each smoke-alarm shall be visibly inspected to ensure that it is not obstructed in a manner that would prevent smoke from reaching or entering the smoke-arm. The ventilation holes of the smoke-alarm shall be kept clean.
3.1.3 When interconnected smoke-alarmshall be tested either in accordance with Clause 3.2.2 or by means of the test button. all smoke-alarmshall sound when any one of the smoke-alarmshall be tested. Each interconnected smoke-alarm shall be individually tested.
3.1.4 Testing and inspections shall be carried in accordance with the manufacturer's recommendations (refer also to Clause 3.1.5), or where the manufacturer's instructions are not available, testing shall be performed in accordance with Subsection 3.2, Annual Maintenance and Testing. Additionally, testing and inspections shall be performed in accordance with Subsection 3.3, Replacement; and Subsection 3.4, Additional Testing.
Note More frequent testing provides a greater assurance of operability. More frequent cleaning by vacuuming keeps the smoke-arm cleaner and less prone to nuisance alarms.
3.1.5 The results of inspections and tests shall be documented.
Question?
What does the commissioning of Fire alarm and Life Safety Systems mean for SCO's? Who is asking for commissioning documentation and at what time during the inspection process?
Although not specifically referenced within the 2014 ABC, the CAN/ULC-S1001 standard, which is referenced within the 2015 NBC, would be an acceptable piece of reference material to use when meeting the requirements of the ABC legislation.

Background Information:
2014 Alberta Building Code requirements
3.2.4.6. Commissioning of Life Safety and Fire Protection Systems
1) Where life safety and fire protection systems are installed to comply with the provisions of this Code or the Alberta Fire Code 2014, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship between the systems. (See Appendix A.)

A-3.2.4.6.(1) Commissioning of Life Safety and Fire Protection Systems. When commissioning a building, the owner must ensure that the life safety systems and their components (i.e. fire alarm systems, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting, etc.) are functioning according to the intent of their design. The commissioning provides the documented confirmation that building systems satisfy the intent of the Code. Ultimately, someone will have to ensure that the interconnected operation of all life safety systems within the building has been confirmed: this responsibility may fall on the designer, owner, contractor or a commissioning body. The Alberta Building Code does not specify who must fulfill this role as this is an administrative issue.

2014 Alberta Fire Code
(Reference the same as the ABC and Appendix note)

2015 NBC
3.2.9. Integrated Fire Protection and Life Safety Systems
3.2.9.1. Testing
1) Where fire protection and life safety systems and systems with fire protection and life safety functions are integrated with each other, they shall be tested as a whole in accordance with CAN/ULC-S1001, "Integrated Systems Testing of Fire Protection and Life Safety Systems," to verify that they have been properly integrated. (See Note A-3.2.9.1(1).)
A-3.2.9.1(1) Testing of Fire Protection and Life Safety Systems. Building owners should verify that fire protection and life safety systems and their components (i.e. fire alarm systems, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting, fire pumps, generators, etc.) including their interconnections with other building systems, are functioning according to the intent of their design. CAN/ULC-S1001, “Integrated Systems Testing of Fire Protection and Life Safety Systems,” provides the methodology for verifying and documenting that interconnections between building systems satisfy the intent of their design and that the systems function as intended by the Code.

Clause 6.1.5 of CAN/ULC-S1001 allows the Integrated Testing Coordinator to accept documented evidence of any tests that have been performed on a system as part of its acceptance testing for the purpose of demonstrating compliance with the integrated testing requirements of that standard, so as to avoid duplication of work.

2010 NBC Intent Statements

Intent 1:
To limit the probability that integrated life safety and fire protection systems will not meet proper standards, which could lead to such systems not performing in the way intended in a fire situation, which could lead to an inadequate water supply to fire suppression systems or a fire not being suppressed or controlled, which could lead to the spread of fire to other parts of the building, which could lead to harm to persons.

Intent 2:
To limit the probability that integrated life safety and fire protection systems will not perform as originally intended in a fire situation, which could lead to persons not being promptly notified of the fire situation, which could lead to delays in the evacuation or movement of persons to a safe place, which could lead to harm to persons.


QUALIFICATIONS
Participants in the Integrated Testing Plan
- Design Professionals, Installing Contractors, Verifying Parties
- Knowledge and experience in the design, installation, and operation of their relevant systems
- Regulations may exist for licensing and/or certification of these individuals

Integrated Testing Coordinator
The integrated testing coordinator must be:
- Knowledge and experience of integrated systems, operation under normal and fire conditions, and methods of validation
- Licenses and Certifications?
  - Standard can’t dictate professional qualifications
  - Only required IF required by federal, provincial, territorial or other regulations,
  - Could also be in Owner’s contractual requirements

TESTING REQUIREMENTS
Systems Considered
- Fire Alarm System
- Mass Notification Systems
- Elevators
- Emergency Generators
- A/V and Lighting Control Systems
- Notification Systems
- Sprinkler Systems
- Standpipe Systems
- Fire Pumps
- Water Supplies
- Water Supply Control Valve
- Freeze Protection Systems
- Fixed Fire Suppression Systems

- Cooking Suppression Systems
- Hold-Open Devices
- Electromagnetic Locks
- Smoke Control Systems
- Hazardous Protection Monitoring
- Smoke Alarms

DOCUMENTATION
Integrated Systems Testing Report
Final Integrated Testing Report consists of the
- Integrated Testing Plan
- Documentation collected during Implementation Phase
- Integrated Testing Forms for Initial Test
- Integrated Testing Forms for Re-Tests

LIFE CYCLE TESTING
Periodic Integrated Systems Testing
- Routine Integrated Systems Testing throughout the building’s life cycle
- Ensure system integrations are maintained
- 1 Year Confirmation Test
- 5 Year Periodic Testing
Insulation in Attached Garage
Under ABC Section 9.36

Question 1?
To what insulation value are the external walls of an attached garage required to be insulated to?

Under the prescriptive requirements within 9.36.2., the exterior walls of an attached garage, whether the garage is heated or unheated, are required to be insulated to the same values as that of the remaining house. This is an Alberta specific requirement found within STANDATA 06-BCI-023 which was intended to reference the pre-existing HIRF requirements for an attached garage, and the requirement for the exterior walls of an attached garage to be constructed with insulation, poly and drywall to ensure moisture concerns would not be present should a homeowner wish to heat an attached garage at a later date.

Where a house has been installed with an HRV, the RSI values specified for buildings with HRV's should be used for the RSI values in the attached garage. For buildings without HRV's, the RSI values specified in Table 9.36.2.6.A for non-HRV installations should be used in the attached garage.

Question 2?
Performance modeling under HOT2000 does not include design considerations for attached garages. When omitted from modeling design, how should these areas of an attached garage be constructed?

The intent of sentence (8) is to ensure protection is provided under the HIRF requirements, and to ensure future development or heating of the attached garage does not create moisture concerns. This protection should be installed on all residential dwelling units whether designed under the prescriptive or performance method.

When a house utilizes performance modeling for the design, the construction of the attached garage walls should be equal to the design of the remaining house walls. This could mean that walls could be installed with R-22 or values lower or higher depending on the model design.
Question 3?
Does a below grade attached garage need to be installed with the building envelope requirements as stated in 9.36.2.1.(8)?
The intent behind providing a complete building envelope within an attached garage was to ensure the protection requirements under HIRF were maintained. Where an attached garage is located below grade, the same HIRF considerations would not be a concern, and therefore, the garage should not be required to provide a building envelope along the exterior walls.

Question 4?
The ABC requirements seem to mandate that a wall must be insulated where there is exterior air. Where municipalities are enforcing 9.36. for the garage, are they enforcing the requirements around the foundation wall?
As noted in question #1 above, the building envelope is an Alberta specific requirement which was added to the ABC to address the Alberta specific requirement for insulation, and vapour barrier within an attached garage as per STANDATA 06-BCI-023. The requirement for the building envelope was not intended to include the foundation wall construction, as the STANDATA was developed to address possible moisture concerns which could occur because the walls were covered by drywall in heated garages, rather than a need for the garage to be considered as a conditioned space.

Attached garages, even when heated, should still be reviewed as unconditioned spaces, and therefore should not be required to provide a building envelope along the foundation wall.

Background Information:
2014 Alberta Building Code
9.36.2. Building Envelope
9.36.2.1. Scope and Application
1) Except as provided in Sentences (2) and (6) to (8), this Subsection is concerned with the loss of energy due to heat transfer and air leakage through materials, components and assemblies, including their interfaces, forming part of the building envelope where it separates conditioned space from unconditioned space, the exterior air or the ground.
8) The requirements of this Subsection also apply to components of a building envelope assembly that separate a heated or unheated attached garage from unconditioned space or the exterior air, where the attached garage serves
a) not more than one dwelling unit, or
b) a house with a secondary suite.

9.36.5.4. Calculation Methods
5) The energy model calculations shall account for the following space-heating temperature set-points:
a) 21°C in all living spaces above the basement,
b) 19°C in basements and common spaces, and
c) 15°C in crawl spaces intended to be conditioned spaces.

11) The energy model calculations shall account for heat transfer through elements separating conditioned space from unconditioned space, the exterior or the ground.

STANDATA 06-BCI-023
DISCUSSION
The amendments to the Alberta Building Code 2006 addressing high-intensity residential fires include a requirement to provide a drywall finish (or other similar performing material), along with insulation and vapour barrier to the interior of attached garages.

The requirement for the interior finish was added to delay the spread of a fire originating in an attached garage and to give occupants extra time to evacuate the associated dwelling unit. The requirement for insulation and a vapour barrier was added to the amendments as a precautionary measure due to the presence of the interior finish. It was felt that homeowners who purchase a house with a finished garage may be unaware that there was no insulation in the walls. If that homeowner were to then provide heat to the garage, thinking that it was in fact insulated, condensation would form within the exterior wall assembly which could lead to deterioration of the garage structural supports and the potential for the formation of mould and mildew.

Sentence 9.25.2.1.(1) and Table 9.25.2.1. contain requirements for insulating heated garage, but does not contain any requirements for an unheated garage. This STANDATA has been developed to clarify what minimum insulation values are to be supplied in unheated attached garages.

INTERPRETATION
Due to the possibility of the attached garage being heated after the homeowner takes occupancy, the walls and ceilings of unheated attached garages shall be insulated to the same minimum insulation values in Table 9.25.2.1. as a heated garage.

If the fire protection of the garage walls and ceiling is provided by a material meeting the criteria of Clause 9.35.4.1.(2)(c) and the material does not create a concealed space between the wall studs or roof trusses, the insulation and vapour barrier described in Article 9.35.4.4. would not be required.
CSA A440.4 Window Installations

Question 1?
Does the ABC regulate the installation of windows?
The 2014 ABC mandates, with a couple exemptions, that the installation of windows, doors and skylights shall conform to the CAN/CSA-A440.4 – 2007 “Window, Door and Skylights Installation” standard. The two exemptions noted are the ability to use treated plywood as a shim, and that the installation must also conform to the window manufacturers instructions.

The standard speaks to installation requirements regarding components such as fasteners, flashing and capping, insulation materials, shims, general installation practices regarding anchorage and continuity of the wall, clearances, thermal breaks, air leakage control, vapour diffusion control, precipitation ingress control, and sealing.

Question 2?
What is an acceptable method of connecting an air barrier and vapour barrier to windows and doors to meet the Code, Sentence 9.7.6.1.(3)?
Sentence (3) requires windows and doors to be sealed to the air and vapour barrier. The ABC references window installations within the CSA-A440.4 standard, which identifies some acceptable methods for sealing of the air barrier to these openings.

Options provided in the standard are:
1) **Interior sealant method**
   This method involves sealing the window, door, or skylight frame to the rough opening framing.

2) **Polyethylene-wrap method**
   This method involves applying a polyethylene skirt around the perimeter of the window, door, or skylight frame before it is installed into the rough opening and then folding back and sealing the skirt to the polyethylene in the wall when the window, door, or skylight is installed.

3) **Drywall method**
   This method involves sealing drywall (gypsum board) to the window, door, or skylight frame.

4) **Foam method**
   This method involves the injection of polyurethane foam into the rough opening gap. It is recommended for use as an air barrier as well as an insulation material.
5) Exterior sealant method
This method involves sealing the window or door frame to the exterior finish.

Background Information:
2014 Alberta Building Code
9.7.6. Installation
9.7.6.1. Installation of Windows, Doors and Skylights
1) The installation of windows, doors and skylights shall conform to CAN/CSA-A440.4, "Window, Door, and Skylight Installation," except that
a) shims used to support windows, doors and skylights are permitted to be made of treated plywood, and
b) protection from precipitation for walls incorporating windows or doors and for roofs incorporating skylights, and the interfaces of these walls with windows or doors and of roofs with skylights, shall conform Section 9.27.

2) The installation of manufactured and pre assembled windows, doors and skylights and the field assembly of manufactured window and door combination units shall conform to the manufacturer's instructions.

3) Windows, doors and skylights shall be sealed to air barriers and vapour barriers.

9.25.4. Vapour Barriers
9.25.4.2. Vapour Barrier Materials
1) Vapour barriers shall have a permeance not greater than 60 ng/(Pa·s·m2) measured in accordance with ASTM E 96/E 96M, "Water Vapor Transmission of Materials," using the desiccant method (dry cup).

2) Where the intended use of the interior space will result in high moisture generation, the assembly shall be designed according to Part 5. (See Appendix A.)

3) Where polyethylene is installed to serve only as the vapour barrier, it shall comply with Clause 4.4, Thermal Stability, and Clause 5.7, Oxidative Induction Time, of CAN/CGSB-51.34-M, "Vapour Barrier, Polyethylene Sheet for Use in Building Construction."

4) Membrane-type vapour barriers other than polyethylene shall conform to them requirements of CAN/CGSB-51.33-M, “Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction.”

6) Where foamed plastic insulation functions as the vapour barrier, it shall be sufficiently thick so as to meet the requirement of Sentence (1).

CAN/CSA A440.4 Window, Door and Skylight Installations
4.7 Insulating materials
4.7.1 Foams
Foam used as insulation around a window shall be a commercially available one- or two-component polyurethane foam.
One-component polyurethane foams shall comply with the requirements of CAN/ULC-S710.1, and two-component polyurethane foams shall comply with CAN/ULC-S711.1.

4.7.2 Fibrous-type insulation
Mineral- or glass-fibre insulation shall comply with the requirements of CAN/ULC-S702.

4.8 Polyethylene
4.8.1 Polyethylene installed to serve as the airtight element of the air barrier system shall comply with the requirements of CAN/CGSB-51.34.

4.8.2 Polyethylene installed to serve only as the vapour barrier shall comply with the requirements of CAN/CGSB-51.34 or with Article 9.25.4.2 of the NBCC. (See Annex A.)

5 General principles
5.1.1 General requirements
The general requirements for the practice of installing windows, doors, and skylights include health and safety considerations in order to provide satisfactory structural performance and control of air leakage, condensation, and rain penetration, for
(a) thermal comfort (in the occupied interior space); and
(b) the prevention of indoor air quality problems caused by pollutants released from biological growth or decomposition of building materials.

These requirements shall apply to the installation of new and retrofit windows, doors, and skylights.

The concept of critical barriers, terrain, moisture index, and exposure is discussed in Annex A. Guidance on the application of these concepts to determine an appropriate moisture penetration control strategy and examples of appropriate details for each exposure rating are provided in Annex A.

5.1.2 The completed installation of windows, doors, and skylights shall control the following:
(a) moisture flow (liquid and vapour);
(b) condensation;
(c) insect entry;
(d) thermal transmission;
(e) air flow;
(f) rain penetration; and
(g) movement due to wind pressure differentials.

5.3 Continuity with the wall
Continuity shall be maintained between elements in the window, door, or skylight and the wall to provide resistance to rain penetration, air leakage, heat transfer, and vapour diffusion.

6 Preparation of openings and mounting procedures
6.1.3 The sheathing membrane shall be folded into the rough opening at the top and sides, and corner inserts shall be installed at the top corners to lap under the membrane at the top of the opening and over the membrane at the sides.
6.1.4
Except as provided in Clause 9.3, the sheathing membrane shall be folded into the rough opening at the bottom, and corner inserts shall be installed at the bottom corners to lap under the membrane at the sides of the opening and over the membrane at the sill.

7 Insulating at the frame-to-wall or frame-to-roof junction (thermal barrier)
7.1 Insulation placement
After the window, door, or skylight is mounted in the rough opening, the gap between the unit and the rough opening shall be filled with insulation around the full perimeter, from the interior to at least the plane of the exterior glazing, so that cold air is not allowed to bypass the thermal break and the effects of convection are minimized. Special care shall be taken at shim locations to ensure continuity of the insulation.

7.3 Foam insulation
Where polyurethane foams are used, they shall be installed in a manner that hinders distortion of the frame and facilities its smooth operation. Materials shall remain compressible and shall allow for differential movement without separation.

7.4 Glass- or mineral-fibre insulation
Where glass- or mineral-fibre insulation is used, it shall be loosely packed in the gap and shall not be forced into the gap. The insulation shall not be compressed into the gap in a manner that lessens its insulation effectiveness, or in a manner that exerts pressure on the frame, distorting it or impeding its operation.

8 Air leakage control at the frame-to-wall or frame-to-roof junction (air barrier)
8.1.1
The plane of air tightness in the wall or roof assembly shall be sealed to the air tightness plane in the window, door, or skylight assembly.

8.2 Interior sealant method
Note: This method involves sealing the window, door, or skylight frame to the rough opening framing.
8.2.1
This method shall be used only where the airtight element of the air barrier system in the wall is sealed to the rough opening framing.

8.3 Polyethylene-wrap method
Note: This method involves applying a polyethylene skirt around the perimeter of the window, door, or skylight frame before it is installed into the rough opening and then folding back and sealing the skirt to the polyethylene in the wall when the window, door, or skylight is installed.
8.3.1
This method shall be used only where
(a) polyethylene is installed in the wall and is intended to serve as the airtight component of the air barrier system; and
(b) the window, door, or skylight frames are wood.

8.5 Drywall method
Note: This method involves sealing drywall (gypsum board) to the window, door, or skylight frame. (See Figures in Annex A for examples.)
8.5.1
This method shall be used only where the interior wall finish is drywall and is intended to serve as the airtight component of the air barrier system.

8.6 Foam method
Note: This method involves the injection of polyurethane foam into the rough opening gap. It is recommended for use as an air barrier as well as an insulation material. (See Figures in Annex A for examples.)

8.6.1
This method shall be used only where the airtight component of the air barrier system in the wall or roof is sealed to or turned into the rough opening. The foam shall make contact with both the air barrier and the window, door, or skylight frame to ensure continuity of the air barrier system.

8.7 Exterior sealant method
Note: This method involves sealing the window or door frame to the exterior finish.

8.7.1
This method shall be used only where the exterior finish is intended to serve as the airtight element of the air barrier system, as in the case of a face-sealed assembly.
Figure 2
Shimming and anchoring a horizontal sliding window
(See Clauses 6.4.3.1 and 6.4.4.1.)
Figure 13
Shimming and anchorage of nailing flange windows
(See Clauses 6.4.3.1 and 6.4.4.1.)
- Framing
- Wall sheathing
- Sloped wood sub-sill (optional)
- Sheathing paper
- Sill membrane
- Corner membrane
- Shims

- Jamb membrane

(a) Install sub-sill flashing

(b) Prepare window opening

- Sheathing paper
- Window

- Sheathing paper

(c) Install window

(d) Install sheathing paper

Maximum exposure rating: MODERATE

Figure A.9
Example concealed barrier installation — Vinyl siding — Window sill/jamb detail
(See Clause A.3.)

(Continued)
Figure A.10
Example of concealed barrier installation — Vinyl siding — Window head/jamb detail
(See Clause A.3.)
DC 315 Update

Update on DC 315 Intumescent Coating from CCMC

Dear Building Officials,

In response to questions from Building Officials across Canada concerning the Canadian Construction Material Centre’s (CCMC) evaluation report “CCMC 14036-R DC 315 Intumescent Coating” manufactured by International Fireproof Technology Inc. (IFTI), CCMC is providing the following technical clarification as was requested by many.

Key Points

1. It is the Technical Opinion of CCMC that DC315 intumescent coating complies with the NBC 2015 for the protection of foamed plastics as outlined within the CCMC Report 14036-R. (see “CCMC’s Technical Opinion” below)

2. CCMC Evaluations are Impartial, neutral and science-evidence based, and provides an opinion of a product’s National Building Code 2015 (NBC 2015) compliance, without commercial interest. (see Technical Due Diligence below)

3. DC315 was evaluated against NBC 2015 Clause 9.10-17.10.(1)(a) for the protection of foamed plastic and was found to be an acceptable Alternative Solution. (see “Code Analysis” below)

4. Provincial & Territorial Authorities were consulted to validate the NBC 2015 interpretation and to ensure that the CCMC Evaluation was consistent with their acceptable building practices. (see “Provinces and Territories Consultation” below)

5. CCMC Report 14036-R establishes that DC315 meets or exceeds the minimum level of performance required by the NBC 2015 prescribed thermal barriers and ½” regular gypsum. (see “Prescribed Thermal Barriers” below)

6. NBC 2015 Division A, Clause 1.2.1.1.(1)(b) describes the compliance path used to determine if a product can be considered an Alternative Solution to a Division B Acceptable Solution based on Objective and Functional Statements. (see “Alternative Solution Analysis” below)

7. The evaluation of DC315 was based on thorough mechanical and durability testing at an accredited lab and fire testing was also conducted at NRC’s National Fire Laboratory. (see “Testing” below)

8. CCMC values its partnership with Building Officials across Canada, and will continue to provide updates as required or requested. (see “Regular Communication with Canada’s Building Officials” below)
CCMC's Mandate
As a result of the 1990 Memorandum of Understanding between the National Research Council (NRC) and the Provinces and Territories (PTs), the CCMC was created and centralized at NRC in Ottawa as Canada’s official national construction product evaluation service. CCMC’s mandate is to provide technical opinions on innovative, non-standardized construction products for compliance with Canadian building codes, while protecting the health and safety of Canadians. On behalf of the PTs, for use by Authorities with jurisdiction (AHJ), the CCMC develops test protocols and produces evaluations of innovative construction products, materials and systems (i.e. alternative solutions). The PTs also requested that CCMC provide a listing service for standardized construction products. CCMC views itself as a partner to the PTs to support local Building Officials in addressing code compliance for alternative solutions, and assisting the construction industry in obtaining product acceptance across Canada.

CCMC’s Technical Opinion on CCMC 14036-R
It is the opinion of the CCMC that the “DC 315 Intumescent Coating,” when installed as a thermal barrier over spray urethane foam insulation, in accordance with the conditions and limitations stated in CCMC 14036-R, complies with the National Building Code 2015 and also complies with NBC 2010 for the same relevant articles. CCMC stands behind its technical opinion regarding the product’s code compliance as an alternative solution.

Prescribed Thermal Barriers
We understand that Building Officials have concern with respect to the NBC 2015 continuing to reference fibreboard, particle board, OSB, waferboard, etc., as ‘acceptable solutions’ as a thermal barrier over foamed plastic (NBC 2015 9.29.4 to 9.29.9). Based on consultation with the PTs and opinion of NRC fire experts, the CCMC 14036-R evaluation report provides the NRC/CCMC opinion that this intumescent coating over spray urethane foam is an alternative solution to a minimum thermal barrier with a performance level of 10 minutes prior to flash-over occurring (this was found to be 10 times greater than the performance of the current minimum panel products specified in the NBC). This provides AHJs an alternative solution to the code prescribed minimum. For AHJs seeking equivalent protection to that which would be provided by 12.7mm (1/2") drywall performance (common practice), the CCMC evaluation (14036-R) report indicates a 20-minute performance solution for this intumescent coating when installed over spray urethane.

Technical Due Diligence
Being a Federal Government organization and part of NRC, CCMC’s due diligence on all evaluations are impartial, neutral and science-evidence based. CCMC uses the same objective, factual and rigorous process on all evaluations and provides an expert, unbiased opinion on code compliance without commercial interest of the products evaluated.

National Building Code Analysis
In this particular case, a manufacturing company submitted an intumescent coating (for which there is no product standard in the NBC 2015) for product evaluation as an ‘alternative solution’ to Clause 9.10.17.10.(a) of the NBC 2015, when applied over spray urethane foam compliant to CAN/ULC S705.1 (as per 9.25.2.2.(1)(h)). Non-standardized products are often referred to as ‘innovative’ as they are not regulated by a product standard that would define their minimum physical properties,
performance and durability. As they are not standardized, they are proprietary and each must be evaluated on a case-by-case basis to ensure code compliance.

The first part of the CCMC evaluation process involves a code analysis to determine the applicable code sections for this products usage. For thermal barriers over foam plastics the summary of the code analysis is as follows:

(i) As per sentence 9.10.17.10.(1) there are 3 'acceptable solutions' for thermal barrier over spray urethane foam insulation outlined in Clauses (a), (b) and (c). Clause (a) deems any of the interior finishes outlined in 9.29.4. to 9.29.9. as acceptable protection for foam plastics. Clause (b) allows for sheet metal as protection and Clause (c) allows for thermal barriers meeting 3.1.5.15.(2) as protection of foam plastics in Part 9 buildings;

(ii) As per 9.29.4. to 9.29.9., interior finishes must meet respective product standards;

(iii) As per 9.25.2.3.(7), where insulation may be subject to mechanical damage it shall be protected by a covering of either gypsum board, plywood, particleboard, OSB or hardboard; and

(iv) As per 9.10.17.1., interior finishes shall have a surface flame spread rating of 150.

Alternative Solution Analysis
Based on the compliance path as per NBC 2015 Division A, Clause 1.2.1.1.(1)(b), an 'Alternative Solution' can be used that will achieve the minimum level of performance required by the acceptable solutions in Division B defined by applicable Objectives(O) and Functional Statements(FS). More specifically,

(i) For an alternative solution to 9.10.17.10.(1)(a), Protection of Foam Plastics: The O/FS relate to minimizing the risk of accidental ignition, limiting severity and effects of fire and retarding effects of fire so that persons may move to a safe place during a fire;

(ii) For an alternative solution to the interior finishes outlined in 9.29.4 to 9.29.9: The applicable O/FS relate to having to meet a product standard requirements to resist deterioration of expected in-service environment(F80); and

(iii) For an alternative solution for mechanical damage protection in 9.25.2.3.(7): The O/FS relate to requirements to resist deterioration of expected in-service environment (F80).

The current intent statement of the Clause (NBC 2015 9.10.17.10.(1)(a), Protection of Foamed Plastics) relates to the probability of the foam insulation being ignited and contributing to early growth and spread of fire. The intent published in the 1995 User's Guide elaborates further in the case of a room fire where the foam insulation is to be shielded by a wall/ceiling finish so as to not have a premature 'flash-over' condition.

Province and Territory Consultation
In keeping with CCMC's role to provide a nationally recognized technical opinion for decision-making by the local AHJs, we consult the PTs when validating NBC 2015 interpretations. For the evaluation of DC 315 Intumescent Coating (CCMC 14036-R), CCMC consulted the PTs on the following two items:

1. The interior finishes specified in 9.29.4 to 9.29.9. - The PTs were asked whether they considered the code specified minimum interior finish to be an acceptable benchmark for an alternative solution or whether the current common practice finish would be required.

2. The jurisdictional requirements of the protection of wood stud/ceiling members. - All the acceptable solutions for protection of foam plastics (9.29.4. to 9.29.9.) are panel products and when installed they effectively protect the wood wall stud/ceiling joist member. As a result, the
PTs were asked whether the intumescent coating should cover the foam and the wood
stud/ceiling member or just the foam insulation within the cavity.

The results of this consultation, which can be used by the local AHJs in their decision-making, is
presented in Appendix B of CCMC 14036-R.

Testing
CCMC understands that most AHJs do not have the means to complete the required technical analysis to
identify an innovative product’s equivalent performance to code prescribed minimums. This is why
testing for this product was conducted by NRC’s National Fire Laboratory and reviewed by NRC’s fire
experts. The CCMC 14036-R outlines the NRC/CCMC technical opinion and provides AHJs a 10-minute or
20-minute performance option for this product based on PTs consultation. These options are related to
an alternative solution to the Code ‘minimum’ stated in NBC 2015 9.10.17.10.(1).a) and 3.1.4.2.(1).a).

Regular communication with Canada’s Building Officials
CCMC values its partnership with Building Officials across Canada. CCMC has increased its outreach to
Building Officials via your respective associations and will continue to do more in the future. In 2017,
CCMC plans on launching a Building Official Helpdesk supported by regular technical updates and we
invite building officials to contact CCMC directly for clarification on CCMC evaluations which may be
causing confusion in the marketplace.

For additional information regarding the evaluation Report CCMC 14036-R DC 315 Intumescent Coating
or any other evaluation reports, please contact us at 613-993-6189 or ccmc@nrc-cnrc.gc.ca and consult the
CCMC registry of product evaluations.

Thank you again for your comments and we look forward to continue working with you,

Dino Zuppa,
CCMC Manager
Tiny Homes

Question?
Does the ABC apply to Tiny Houses?
Tiny Homes are small structures which are used as a house for all four seasons. These homes are typically built to the size of a Recreational Vehicle standard, on wheels or directly on foundations. These buildings can be constructed on or off site; by a manufacturer, homeowner or contractor; on a chassis or on a foundation; either way the intended use is for year round occupancy unlike a recreational vehicle.

Buildings intended for four season residential use regardless of size should have development approval.

The Canadian Manufactured Housing Institute (CMHI) has recently investigated the issue surrounding tiny houses, and developed a paper called “Tiny Houses in Canada’s Regulatory context: Issues and Recommendations”. This document researched the concept, the realities and the compliance issues, and developed some recommendations for the construction of these buildings to establish consistent policies regarding the regulation of these houses. However, until changes are made within legislation, if the intended use of the structure is to have a permanent home being manufactured (CSA A277 Certification) or individually constructed, these tiny houses are required to be in compliance with the ABC.

Items to consider when reviewing tiny house construction are:
 a) Under the ABC, manufactured buildings are required to comply to the CSA A277 standard.
 b) Alberta Transportation regulates trailers not exceeding 2.6m wide, 4m high, or 20m in length and does not regulate the structure sitting on the trailer chassis.
 c) ABC requires conformance with items such as but not limited to:
    a.  Ceiling heights,
    b.  Hallway widths,
    c.  Doorway widths,
    d.  Stairs, handrails and guards,
    e.  Egress windows,
    f.  Smoke alarms and CO alarms,
    g.  Foundations and anchorage,
    h.  Ventilation, and
    i.  Energy Efficiency

Background Information:
Working Group Discussion Document:
Tiny Houses In Canada’s Regulatory Context: Issues and Recommendations
Application of Sprinkler Systems in Attic Spaces

Question 1?
Can an intumescent coating be allied to meet NFPA 13 in lieu of membrane protection and/or sprinkler protection?
The topic of NFPA 13 and Section 8.15.1. for concealed spaces within has come up in industry a number of times and some jurisdictions have accepted Alternative Solutions for suppression in lieu by considering the space to be a concealed space.

NFPA 13, specifically, 8.15.1.2.10 speaks to "concealed spaces where rigid materials are used and the exposed face having a flame spread index of 25 or less, and the materials have been demonstrated not to propagate fire more than 10.5' (3.2m)".

Is there a no limiting size of the concealed space referenced?
In review of NFPA 13 and from discussion with an NFPA Engineer, it does not seem that there is a size limitation for spaces meeting the conditions specified; if the concealed space is in accordance with Section 8.15.1.2.10, then sprinklers can be permitted to be omitted; yet this is still a controversial topic throughout the country.

The reference in NFPA 13 does not speak to a number of other facets that should be considered such as:
- Assembly testing vs. one component including the truss material being nominal lumber, its connections being the gang plates and nailing holding the gang plates, the Orientated Stand Board (OSB) as the roof sheathing membrane and any other material within the attic space as part of the assembly such as any Fire stop materials on the individual trusses being used to compartmentalise the attic space. Typically testing has only been shown on a single product such as OSB where they believed this product to be the most stringent.
- Suitability of the proposed products and other intumescent coatings that are proposed in a similar fashion are also in question.
- The environment in which the product is applied and further testing for that environment such as: Freeze/Thaw Resistance, suitability/ compatibility and any reactivity on the substrates (truss gang plates as an example), and
- Quality Control measures for conditions such as site applications and ensuring the appropriate coverage in hard to reach areas such as truss heels etc.

So the suitability of intumescent coatings in an attic space still has a number of issues to be resolved if considered through an alternative solution here in Alberta for suppression or does it?
Question 2?
Can an attic be considered a concealed space? What does the Alberta Building Code 2014 say about concealed space and the omission of sprinklers?
Although the topic of what is concealed space is open to interpretation in NFPA 13, which causes some controversy, the answer here in Alberta is quite clear, and comes from the information provided in the 2014 Alberta Building Code.

Although the 2014 Alberta Building Code does not define an attic or concealed space, the legislation specifically references both attic spaces and concealed spaces as individual and separate areas of building construction. Because both are referenced separately within 3.2.5.12.(10), it should be interpreted that each word is defining a different and specific area, and should not be considered as meaning the same space.

Additionally, the question has been raised on if the wording of sentence 3.1.11.5.(1), where it states “or roof assembly of combustible construction, in which sprinklers are not installed,” can be used to justify the removal of sprinkler systems in attics where the concealed space is separated into compartments meeting the size requirement specified. This sentence is not applicable to the installation requirements for sprinkler systems, and is speaking specifically to concealed spaces where a sprinkler system installation has not been required based on the classification of the building.

Background Information:
2014 Alberta Building Code
3.2.5.12. Automatic Sprinkler Systems
2) Except as provided in Sentences (10) and (11), NFPA 13R, “Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height,” is permitted to be used for the design, construction and installation of an automatic sprinkler system installed
a) in a building of residential occupancy throughout that
   i) is not more than 4 storeys in building height and conforms to one of Articles 3.2.2.47.
      to 3.2.54., or
   ii) is not more than 3 storeys in building height and conforms to Article 9.10.1.3., or
b) in a building of care occupancy with not more than 10 occupants that is not more than 3 storeys in building height and conforms to one of Articles 3.2.2.42. to 3.2.2.46.

10) Notwithstanding the requirements of Sentence (2) regarding the installation of automatic sprinkler systems and except for buildings constructed in accordance with Article 3.2.2.50., in buildings of combustible construction, sprinklers shall be required in
a) porches and balconies,
b) public corridors,
c) stairs that are open and attached,
d) attics and floor/ceiling spaces,
e) penthouse equipment rooms,
f) elevator machine rooms,
g) concealed spaces dedicated exclusively to and containing only dwelling unit ventilation equipment,
h) crawl spaces,
i) closets or storage rooms on exterior balconies, and
j) **other concealed spaces that are not used or intended for living purposes or storage and do not contain fuel-fired appliances.** (See also Article 3.1.11.5. for requirements on the protection of concealed spaces in buildings conforming to Article 3.2.2.50.)

11) A concealed space referred to in Sentence (10) need not be equipped with sprinklers, provided the concealed space meets one of the criteria described in Clause 8.15.1.2 of NFPA 13, "Installation of Sprinkler Systems."

**3.1.11.5. Fire Blocks in Horizontal Concealed Spaces**

1) Except for crawl spaces conforming to Sentence 3.1.11.6.(1) and as required in Sentence (3), horizontal concealed spaces within a floor assembly or roof assembly of combustible construction, in which sprinklers are not installed, shall be separated by construction conforming to Article 3.1.11.7. into compartments that are not more than

a) 600 m² in area, with no dimension more than 60 m, if the exposed construction materials within the space have a flame-spread rating not more than 25, and

b) 300 m² in area, with no dimension more than 20 m, if the exposed construction materials within the space have a flame-spread rating more than 25. (See Appendix A.)
Micro-Breweries and Distilleries
Update

Question?
Can a distillery be classified as an Occupancy other than an F1 Occupancy?
Although distilleries are listed as an F1- High Hazard Occupancy, the specific use of the building can be looked at to determine if other classifications can be permitted.

The Alberta Fire Code provides some clarification on the classification of a building. The AFC indicates that beer, wine, and spirits which contain less than 20% by volume alcohol are not considered to be flammable liquids and are not regulated under Section 4.10 of the AFC for Distilleries. Buildings used for the storage of closed containers of these types of distilled beverage alcohols can be classified as medium-hazard industrial occupancies.

Therefore, it would be reasonable for a proposal by a professional, to be made by demonstrating through empirical data that the risks associated with the amounts of combustible or flammable materials are sufficiently low and can justify a different occupancy classification.

Background Information:
2014 Alberta Fire Code
Section 4.10. Distilleries
4.10.2. General
4.10.2.1. Building Classification
1) Except as provided in Sentence (2), buildings or parts of buildings in which distilled beverage alcohol is distilled, processed or stored in bulk shall be classified as high-hazard industrial occupancies.

2) Buildings or parts of buildings used for the storage of closed containers of distilled beverage alcohols shall be classified as medium-hazard industrial occupancies.

1.4.1.2. Defined Terms
Distilled beverage alcohol means a beverage that is produced by fermentation and contains more than 20% by volume of water-miscible alcohol.

Closed container means a container sealed by means of a lid or other device such that neither liquid nor vapour will escape from it at ordinary temperatures.

A-4.10.1.1.(1) Beer, wine, and spirits that contain less than 20% by volume alcohol are not considered to be flammable liquids and are not regulated by this Section. Section 4.10. does not apply to wineries where distilled beverage alcohol is used to fortify wine.
Professional Technologists

Question?
Can someone other than a Professional Engineer sign the A, B, & C Schedules?
A P. Tech can sign the A, B, and C schedules which fall under his/her approved scope of practice. However, P. Tech's cannot take responsibility for designs which fall outside of their approved scope of practice, unlike a traditional professional engineer or architect who can take responsibility for any aspect of a design if they feel they have competence in that additional field.

P. Tech's should be providing SCO's with a copy of their certification under ASET, and the Engineering and Geoscience Professions Act as confirmation of their certification and scope of practice. If a P. Tech does not / cannot provide this information, confirmation can be obtained by contacting Alexa Warkentin of ASET.

Background Information:
2014 Alberta Building Code
2.4.3. Schedules of Professional Involvement
(See Appendix B.)

2.4.3.1. Owner
1) Before beginning construction, the owner shall
a) retain a coordinating registered professional to coordinate all design work and field reviews of the registered professionals required for the project in order to ascertain that
   i) the design will comply with this Code and other regulations made pursuant to the Safety Codes Act, and
   ii) the construction of the project will substantially comply with this Code and other regulations made pursuant to the Safety Codes Act, (see Appendix A),
b) retain registered professionals of record to complete design work and field review required for the project, and
c) provide the authority having jurisdiction with letters in the forms set out in Schedules A-1, A-2, B-1 and B-2 (see Appendix A).

1.4.1.2. Defined Terms
Registered architectural professional means an individual who is authorized to engage in the practice of architecture under the Architects Act and its Regulations.

Registered engineering professional means an individual who is authorized to engage in the practice of engineering under the Engineering and Geoscience Professions Act and its Regulations.

Registered professional means an individual who qualifies as a
(a) **registered architectural professional,**
(b) **registered engineering professional,** or
(c) **licensed interior designer.**

**ASET**
P.Tech.
A **Professional Technologist (P.Tech.)** member has the right to practice engineering or geoscience independently in accordance with established methodologies and specifications including codes and regulations. With this right, a member is able to sign off and stamp their own work, or work completed under the professional technologist's supervision and control and within the professional technologist's approved scope of practice.

**APEGA**
**Joint Boards**
The joint boards and committees of APEGA and the Association of Science and Engineering Technology Professionals of Alberta (ASET) work together to manage the Professional Technologist (P.Tech.) designation. In particular, they define and agree on each Professional Technologist's scope of practice so that the differences in the scopes of practice between a Professional Member (Professional Engineer or Professional Geoscientist) and a Professional Technologist are clear to other professionals and the public. Scopes of practice also clearly define limitations and for what each Professional Technologist is permitted to take responsibility.

Professional Technologists can practice engineering or geoscience independently, using established methods and specifications, such as existing codes and regulations. Professional Technologists can also stamp and sign off on their own work when it is within their scope of practice, as per ASET's regulations.

**Reference Materials**

APEGA website

ASET website
[http://www.aset.ab.ca/Become-a-Member/Professional-Pathway/Designation-Requirements/Become-a-Member/P-Tech.aspx](http://www.aset.ab.ca/Become-a-Member/Professional-Pathway/Designation-Requirements/Become-a-Member/P-Tech.aspx)

ASET Contact
Alexa Warkentin
Professional Practice Coordinator

780.425.0626 (Ext. 508)
Email: alexaw@aset.ab.ca
Airtightness
Under ABC Section 9.36

Question?
The wording of 9.36.5.10.(9)(a) requires the construction to comply with 9.25, while clause (b) requires the air barrier system to comply with 9.25.3., 9.36.2.9., and 9.36.2.10. What is the intent of sentence (a) and does the word construction also include the RSI Values in Table 9.25?

Section 9.36 and the airtightness requirements within 9.36.5. provide different levels of construction requirements surrounding the building envelope, when utilizing performance modeling.

When the air change rate of 2.5 is identified in the modeling report, the air barrier system should be constructed to meet the requirements of 9.25.3, 9.36.2.9. & 9.36.2.10. These articles require the air barrier system to be constructed to address continuity, airtightness and proper installation practice (backing behind all joints etc.) in the air barrier system.

When the air change rate of 3.2 is identified in the modeling report, clause (b) requires that the construction comply with Section 9.25. The intend of the clause, is to remove the need for compliance to 9.36 air barrier requirements, and to permit compliance to Subsection 9.25 only. Under this requirement, the previous construction and installation requirements for the air barrier and vapour barrier systems within 9.25 would only be applicable, with no requirement for 9.36 compliance.

However, the clause is only referring to the air and vapour barrier installations, and is not intended to include compliance to the RSI values noted in Table 9.25.2.1. The previously required RSI values noted within Table 9.25.2.1. for Thermal Insulation Requirements remain inapplicable for construction after November 1, 2017 and the enforcement of energy efficiency requirements, as stated in sentence 9.25.2.1.(3), because the required RSI values for insulation installation are addressed within Article 9.36.2.6.

Background Information:
2014 Alberta Building Code
9.36.5.10. Modeling Building Envelope of Proposed House
9) The airtightness value used in the energy model calculations for the proposed house shall be:
a) 3.2 air changes per hour at 50 Pa pressure differential, where the construction complies with Section 9.25,
b) 2.5 air changes per hour at 50 Pa pressure differential, where it can be shown that the air barrier system is constructed in accordance with Subsection 9.25.3. and Articles 9.36.2.9. and 9.36.2.10., or
c) where airtightness is tested in accordance with Sentence (11),
i) the number of air changes per hour at 50 Pa pressure differential, and
ii) the equivalent leakage area (see Appendix A).

9.25.1. General
9.25.1.1. Scope and Application
1) This Section is concerned with heat, air and water vapour transfer and measures to control condensation.

2) All walls, ceilings and floors separating conditioned space from unconditioned space, the exterior air or the ground shall be
   a) provided with
      i) thermal insulation conforming to Subsection 9.25.2. and Section 9.36.,
      ii) an air barrier conforming to Subsection 9.25.3. and Section 9.36., and
      iii) a vapour barrier conforming to Subsection 9.25.4., and
   b) constructed in such a way that the properties and relative position of all materials conform to Subsection 9.25.5.

3) Insulation and sealing of heating and ventilating ducts shall conform to Sections 9.32., 9.33. and 9.36.
CSA-A277 and High Hazard Industrial Buildings

Question?
Why can the CSA-A277 standard not be used for F1 classified buildings? Why does occupancy have any affect on the purpose of the certification?

The previous CSA-A277 2008 edition which is referenced within the 2014 Alberta Building Code, provided limitations building classifications which fell under the scope of standard. This limitation has caused some confusion, as the Alberta Building Code only references this standard as a permitted means of approving a structure, and does not provide any direction on what standard(s) should be referenced when reviewing buildings of other classifications.

When this contradiction became aware, the CSA Group took it upon themselves to amend the 2008 standard, and to include all other classifications as part of the standard.

Because the ABC references the previous 2008 edition of the CSA-A277 standard, Alberta Municipal Affairs has been putting together a STANDATA (Building Code Variance) to recognize the acceptability of the CSA-A277-2016 edition of the standard. With this STANDATA in place, all occupancies can be reviewed under the CSA-A277 “Procedure for Certification of Prefabricated Buildings, Modules, and Panels”.

Background Information:
2014 Alberta Building Code
2.4.5. Off-Site Review
2.4.5.1. Factory-Built Assemblies
1) Where a component of a building is assembled off the building site in such a manner that it cannot be reviewed on site, off-site reviews shall be carried out to determine compliance with this Code.

2) Except as provided in Sentence (3), factory constructed and other off-site-constructed buildings that are constructed after 01 May 2015 shall be certified in accordance with CSA A277, “Procedure for Factory Certification of Buildings,” by an organization accredited for this purpose by the Standards Council of Canada, to confirm that the building complies with the technical requirements, or objectives and functional statements, of this Code.

A277-08
Procedure for Factory Certification of Buildings
1 Scope
1.1
This Standard specifies the procedure for factory certification of manufactured, modular, and panelized buildings intended for residential, commercial, or semi-commercial use. It specifies requirements for
(a) certification of the factory quality program;
(b) certification of the built product;
(c) auditing of the factory quality program; and
(d) in-factory inspection of the built product.

A277-16
Procedure for certification of prefabricated buildings, modules, and panels
1 Scope
1.1
This Standard specifies the procedure for certification of prefabricated buildings, and partially or fully enclosed modules and panels for buildings of any occupancy. It provides requirements for
- certification of the factory quality program;
- certification of the prefabricated product;
- auditing of the factory quality program; and
- in-factory inspection of the prefabricated product.

Notes:
1) This Standard applies to prefabricated buildings, modules, and panels constructed of any material. (See Annex A.)
2) This Standard applies to buildings of any occupancy. Use is limited only by certification listing for the manufacturer and the capabilities of the certification body. (See Annex A.)

Additional Information
To purchase a copy of the standard please contact:

CSA Group
www.csagroup.org
Farm Buildings

Question?
When do “Farm building(s)” fall outside the scope of the ABC, and when is permitting under the SCA required?

Review of a building may determine that the building can be classified as a “farm building”; and therefore the construction of the building may not require permitting under the Safety Codes Act. However, this does not mean that a “farm building” is not required to be constructed to the legislative requirements of a Building Code. Farm buildings under the scope of the National Farm Building Code of Canada (NFBC) Article 1.1.1.3. are required to conform to the appropriate requirements within the National Building Code of Canada 1995 unless specifically exempted within the NFBC legislation. Although both pieces of legislation require the building to be constructed to a specific standard of Code, permitting in only required under the SCA and the ABC.

The classification of a building such as a greenhouse, does not automatically classify a building as a “Farm Building”. The wording of “greenhouse” refers only to the use of the space, and does not determine what legislation is applicable.

Buildings should be reviewed through a review of five aspects within zoning, use, occupant load and occupancy to determine which legislation is applicable. The aspects which should be considered are:

1) Does the building fall within the definition of a farm building as noted within the Permit Regulation; occupied for an agricultural operation, and located on land designated for agricultural use as a permitted or discretionary use under the local Land Use Bylaw?

2) Does the use of the building fall under those identified in the ABC as one falling under the definition of a farm building eg. housing livestock vs manufacturing, processing, etc.?

3) Does the building contain a low human occupant load as is referenced within the National Farm Building Code of Canada as one person per 40m²?.

4) Will the building be accessed or utilized by the public eg. retail sales? and

5) Is the building housing a marijuana grow operation?

Determining the appropriate land use is not as simple as ensuring that the land has been designated as Agricultural Land, as has been common practice in the past. Under the Permit Regulation, the definition of agricultural land is taken from the Agricultural Operations Practices Act. The definition of agricultural land is land, the use of which for agricultural is either a permitted or discretionary use under the land use bylaw of the municipality.
Therefore, review of the local Land Use bylaw to determine if the use of the building as agricultural is a permitted or discretionary use is needed. Appropriate land use zoning should be determined through confirmation from the Planning or Development Department.

The classification of a building is based on its intended use within the space. Each proposed use should be reviewed to determine if the use falls within those identified within the Permit Regulation and NFBC definitions, and the Appendix's. Some examples of farm building uses which have been identified are buildings for the housing of livestock, storage or maintenance of equipment, or storage of materials or produce.

Only agricultural operation uses such as those listed in the Permit Regulation should be looked at as possibly meeting the definition of a farm building. Other operations relating to secondary processing, manufacturing or sales of product(s) for example, fall outside the scope of the definition of a “farm building” and fall under the scope of the Alberta Building Code.

Farm buildings are permitted to contain either a high or low occupant load. Farm buildings can contain high occupant loads in buildings such as horticultural or livestock produce or auction barns; and low occupant loads in others such as poultry housing, and horse exercise and training facilities where no bleachers or viewing areas are provided. However, Sentence 1.1.1.1.(5) of the Alberta Building Code specifies that the ABC is not applicable to buildings of low human occupancy associated with the operation of a farm or acreage where the building is used for housing of livestock, storage or maintenance of equipment, or for storage of materials or products. Buildings of high human occupancy should fall under the requirements of the ABC.

Buildings which can be accessed and used by the public also fall under the scope of the ABC rather than the National Farm Code of Canada (NFCC).

Marijuana grow operations although possibly only containing growing operations like a greenhouse, have an increased level of humidity as well as the increased level of potential health risks due to pesticides and fertilizers. Because of these concerns, buildings used for marijuana grow operations should not be considered as farm buildings, and should fall under the scope of the ABC in all situations. (STANDATA currently under development)

Review of a building may determine that the building can be classified as a “farm building”, and therefore the construction of the building does not require permitting under the Safety Codes Act. However, this does not mean that the building is not required to be constructed to the legislative requirements of a Building Code. Farm buildings under the scope of the National Farm Building Code of Canada (NFBC) Article 1.1.1.3. are required to conform to the appropriate requirements within the National Building Code of Canada 1995 unless specifically exempted within the NFBC legislation.

When reviewing a building to determine if it falls under the scope of the ABC, or if it can be classified as a “Farm Building”, an SCO should be looking to each of these four
items for clarification. Once reviewed, if the building(s) falls within the scope of the ABC, for any of the four points, the building should no longer be considered as a farm building, and permitting under the SCA and conformance to the ABC is required.

Background Information:
Permit Regulation
Interpretation
1(1) In this Regulation,
(i) "farm building" means a building located on agricultural land as defined in the Agricultural Operation Practices Act that is occupied for an agricultural operation as defined in the Agricultural Operation Practices Act, including, but not limited to,
   (i) housing livestock,
   (ii) storing, sorting, grading or bulk packaging of agricultural products that have not undergone secondary processing, and
   (iii) housing, storing or maintaining machinery that is undertaken in the building;

Agricultural Operations Practices Act
Definitions
1 In this Act,
(a.1) "agricultural land" means
   (i) land the use of which for agriculture is either a permitted or discretionary use under the land use bylaw of the municipality or Metis settlement in which the land is situated or is permitted pursuant to section 643 of the Municipal Government Act,

2014 Alberta Building Code
1.1.1.1. Application of this Code
5) This Code does not apply to
a) a building of low human occupancy associated with the operation of the farm or acreage on which it is located, where the building is used for the
   i) housing of livestock,
   ii) storage or maintenance of equipment, or
   iii) storage of materials or produce, (See Appendix A.)

A-1.1.1.1.(5a) Farm and Acreage Buildings. Farm and acreage buildings include, but are not limited to, produce storage facilities, livestock and poultry housing, milking centres, manure storage facilities, grain bins, silos, feed preparation centres, farm workshops, and horse riding, exercise and training facilities not used by the public. Farm buildings may be classed as low or high human occupancy, depending on the occupant load.

Examples of farm buildings likely to be classed as low human occupancy as defined in Article 1.2.1.2. of the National Farm Building Code of Canada are livestock and poultry housing, manure and machinery storage facilities, and horse exercise and training facilities where no bleachers or viewing areas are provided.

Examples of buildings that would be classed as other than low human occupancy include farm retail centres for feeds, horticultural and livestock produce, auction barns and show areas where bleachers or other public facilities are provided. Farm work centres where the number of workers frequently exceeds the limit for low human occupancy are also in this category.
It is possible to have areas of both high and low human occupancy in the same building, provided that the structural safety and fire separation requirements for high human occupancy are met in the part thus designated.

National Farm Building Code of Canada
1.2.1.2. Defined Words and Phrases
Low Human Occupancy (as it applies to farm buildings) means an occupancy having an occupant load of not more than one person per 40 m² (431 ft²) of floor area during normal use.

Farm Buildings means a building or part thereof which does not contain a residential occupancy and which is associated with and located on land devoted to the practice of farming, and used essentially for the housing of equipment of livestock, or the production, storage or processing of agricultural and horticultural produce or feeds. (See Appendix).

Appendix Note – Almost word for word to the ABC Appendix-1.1.1.1.(5)(a).

1.1.1.3. Conformance to National Building Code
1) Farm buildings shall confirm to the appropriate requirements in the National Building Code of Canada 1995 except as specifically amended or exempted by the provisions of this Code. (see Appendix A).

Appendix A Explanatory Material for the National Farm Building Code of Canada 1995
A-1.1.1.3.(1) Application. Notwithstanding Subsection 2.1.5. of the National Building Code of Canada 1995, farm buildings are required to conform to the appropriate requirements in the National Building Code except as specifically amended or exempted by provisions of this Code. Part 9 of the National Building Code provides detailed requirements for the construction of small buildings up to 600 m² per floor and 3 storeys in height which apply to all occupancies except assembly, institutional and high hazard industrial. All other buildings must be designed to satisfy the requirements in the remainder of the National Building code of Canada 1995. Section 2.5. of the National Building code provides for equivalent design and performance criteria. This may apply where the design of a farm building or component is supported by evidence of sound engineering practice.

Additional Information:
See attached documents from the Rocky View County Land Use Bylaw C-4841-97 regarding possible Land use zones like residential, commercial and industrial which have agricultural operations noted as either a permitted or discretionary use.
(vi) 15.0 m (49.2 ft.) from any road, internal subdivision or road, service.

(c) Yard, Side:

(i) 45.00 m (147.64 ft.) from any road, County;

(ii) 60.00 m (196.85 ft.) from any road, highway;

(iii) 15.00 m (49.21 ft.) from any road, internal subdivision or road, service;

(iv) 6.00 m (19.69 ft.) all other.

(d) Yard, Rear:

(i) 30.00 m (98.43 ft.) from any road:

(ii) 15.00 m (49.21 ft.) all other.

46.6 Minimum Habitable Floor Area, excluding basement

(i) 92.00 sq. m (990.28 sq. ft.) single storey dwelling;

(ii) 92.00 sq. m (990.28 sq. ft.) split level dwelling, the total area of two finished levels;

(iii) 74.00 sq. m (796.53 sq. ft.) split entry or bi-level on the main floor;

18.00 sq. m (193.75 sq. ft.) finished lower level;

(iv) 92.00 sq. m (990.28 sq. ft.) combined floor area, two storey dwelling;

(v) 92.00 sq. m (990.28 sq. ft.) main floor for dwelling, moved-in.

46.7 Maximum height of buildings

(i) principal building - 10.00 m (32.81 ft.);

(ii) accessory building - 5.50 m (18.04 ft.).

SECTION 47 FARMSTEAD DISTRICT (F)

47.1 Purpose and Intent

The purpose of this District is to provide for a single parcel of land containing an existing Farmstead from an unsubdivided quarter section.

47.2 Uses, Permitted

Accessory buildings less than 80.00 sq. m (861.11 sq. ft.) building area

Agriculture, General
SECTION 53  GENERAL BUSINESS DISTRICT (B-2)

53.1 Purpose and Intent

The purpose of this District is to provide for a wide range of business and associated uses which are compatible with each other and do not adversely affect the surrounding land use.

53.2 Uses, Permitted

- Agriculture, General
- Government Services

53.3 Uses, Discretionary

- Agricultural Support Services
- Animal Health Care Services
- Auctioneering Services
- Automotive, Equipment and Vehicle Services
- Cemetery and Interment Services
- Commercial Communications Facilities - Type "A", Type "B", Type "C"
- Dwelling Unit, accessory to the use
- General Industry Type I
- General Industry Type II
- Health Care Services
- Licensed Medical Marijuana Production Facility (See Section 20 for regulations)
- Outdoor Storage, Truck Trailer
- Personal Service Businesses
- Signs
- Storage Area
- Truck Trailer Service
- Warehouse
- Warehouse Stores, excluding hazardous goods

53.4 General Regulations

The General Regulations apply as contained in Part 3 of this Bylaw as well as the following provisions:

(a) All parcels having this land use designation on the date of adoption of Bylaw C-6517-2007 (October 2, 2007) remain in full force and affect; however, this land use district is no longer available for any redesignation applications subsequent to that date.

53.5 Minimum & Maximum Requirements

(a) Minimum Yard, Front:

(i) 6.00 m (19.69 ft).
SECTION 58  NATURAL RESOURCE INDUSTRIAL DISTRICT (NRI)

58.1 Purpose and Intent

The purpose and intent of the District is to provide for the development of industrial uses related to non-renewable natural resource extraction and processing.

58.2 Uses, Permitted

Accessory buildings less than 250.00 sq. m (2,690.98 sq. ft.) building area
Government Services

LUB 21/09/2010

58.3 Uses, Discretionary

Agriculture, General
 Commercial Communications Facilities - Type "A", Type "B", Type "C"
 Dwelling - accessory to a use listed in this district
 Dwelling, Moved In - accessory to a use listed in this district
 Gas-fired Thermal Electric Generation Plan
 Natural Resource Extraction/Processing

1 LUB 21/09/2010

58.4 General Regulations

The General Regulations apply as contained in Part 3 of this Land Use Bylaw as well as the following provisions:

(a) Minimum yard, front setback to operations, including excavations and stockpiles:

(i) 30.00 m (98.43 ft.) from any road, County;
(ii) 60.00 m (196.85 ft.) from any road, highway;
(iii) 30.00 m (98.43 ft.) from any road, internal subdivision;
(iv) 15.00 m (49.21 ft.) from any road, service adjacent to a road, highway;
(v) 10.00 m (32.81 ft.) from any road, service adjacent to a road, County.

(b) Minimum yard, side setback to operations, including excavations and stockpiles:

(i) 30.00 m (98.43 ft.) from any road, County;
(ii) 60.00 m (196.85 ft.) from any road, highway;
(iii) 15.00 m (49.21 ft.) from any road, service adjacent to a road, highway;

ROCKY VIEW COUNTY | 2013 - 2014 | LAND USE BYLAW C-4841-97 | 139
(ii) accessory buildings: 5.50 m (18.04 ft.).

(c) Maximum dwelling units per lot is two.

(d) Total building area for all accessory buildings - 90.00 sq. m (968.75 sq. ft.).

(e) Maximum number of accessory buildings is two (2).

60.7 Special Requirements

Prior to issuance of a Development Permit or building permit for development of a site not serviced by a public piped water system and/or a public piped sewer system, the Development Authority must be satisfied that an adequate sewage disposal system exists and that the method of sewage disposal would not be a public health hazard.

SECTION 61 HAMLET COMMERCIAL DISTRICT (HIC)

61.1 Purpose and Intent

The purpose and intent of this District is to provide for business and personal service uses.

61.2 Uses, Permitted (Excepting the Hamlet of Bragg Creek, as per 61.9)

Accessory Buildings (less than 35.00 sq. m (376.74 sq. ft.))
Churches
Government Services
Grocery Store
Health Care Services
Home-Based business, Type I (in an existing dwelling)
Personal service business
Post Offices
Restaurants
Retail Store

61.3 Uses, Discretionary

Amusement and Entertainment Services
Animal Health Care Services
Automotive, Equipment and Vehicle Services
Auctioneering Services
Child Care Facilities
Commercial Communications Facilities - Type “A”
Drinking Establishment
Dwelling unit accessory to the business use
Greenhouses and ancillary uses
Liquor Sales
Offices
Outdoor Cafe

LUB 21-09-2010
Minimum Habitable Floor Area, excluding basement

(a) 140.00 sq. m (1,506.95 sq. ft.) single storey dwelling;
(b) 140.00 sq. m (1,506.95 sq. ft.) split level dwelling, the total area of two finished levels;
(c) 121.00 sq. m (1,302.43 sq. ft.) split entry or bi-level and the main floor; 28.00 sq. m (301.39 sq. ft.) finished lower level;
(d) 150.00 sq. m (1,614.59 sq. ft.) two storey dwelling, combined floor areas;
(e) 140.00 sq. m (1,506.95 sq. ft.) main floor - dwelling, moved-in.

Maximum height of buildings

(a) principal building - 11.00 m (36.09 ft.);
(b) accessory buildings - 6.50 m (21.32 ft.).

Maximum Dwelling Units per lot is one (1) Dwelling, single detached, and one (1) Accessory Dwelling Unit.

Maximum total building area for all accessory buildings - 120.00 sq. m (1,291.67 sq. ft.)

Maximum number of accessory buildings - Two (2).

SECTION 50 - RESIDENTIAL TWO DISTRICT (R-2)

Purpose and Intent

The purpose of this District is to provide a residential use on a small parcel of land which accommodates minor agricultural pursuits and required accessory buildings.

Uses, Permitted

Accessory buildings less than 150.00 sq. m (1,614.59 sq. ft.) building area
Dwelling, single detached
Home-Based Business, Type I
Keeping of livestock (See Section 24 for regulations)
Private swimming pools

Uses, Discretionary

Accessory buildings greater than 150.00 sq. m (1,614.59 sq. ft.) building area and less than 225.00 sq. m (2,421.87 sq. ft.) building area
Accessory Dwelling Unit (may be a Secondary Suite, a Suite within a Building, or a Garden Suite)
Bed and Breakfast Home
Child care facilities
Commercial Communication Facilities - Type "A"
Dwelling, moved-in
Health Care Practice
Home-Based Business, Type II
Keeping of livestock (See Section 24 for regulations)
Kennels, Hobby
Market Gardens and Greenhouses on parcels greater than 6.00 hectares (14.83 acres) in area where there is a surface supply of water
Private Riding Arena on parcels greater than 6.00 hectares (14.83 acres) in area
Signs
Special Care Facilities
Special Events Parking
Tree Farms on parcels greater than 6.00 hectares (14.83 acres) in area where there is a surface supply of water

50.4 General Regulations

The General Regulations apply as contained in Part 3 of this Bylaw, as well as the following provisions.

50.5 Minimum and Maximum Requirements

(a) Parcel Size:

The minimum parcel size shall be 1.60 hectares (3.95 acres) or the area in title at the time of passage of this Bylaw.

(b) Yard, Front:

(i) 45.00 m (147.64 ft.) from any road, County;

(ii) 60.00 m (196.85 ft.) from any road, highway;

(iii) 15.00 m (49.21 ft.) from any road, internal subdivision, or road service;

(c) Yard, Side:

(i) 45.00 m (147.64 ft.) from any road, County;

(ii) 60.00 m (196.85 ft.) from any road, highway;

(iii) 15.00 m (49.21 ft.) from any road, internal subdivision, or road service;

(iv) 3.00 m (9.84 ft.) all other.
Energy code and Observations to date

David Flanagan and Juan Monterrosa, P.Eng
April 25, 2017
Changes and Perceptions

Industry Nervousness

More than one path for compliance

“Myths”
- Window % is limited
- Lighting is included
- All performance path require a blower door test
- Energuide = ABC 9.36
- Performance path = utility bills
Conversations with CHBA

CHBA represents a number of builders

Work with industry to create application checklist

Multiple iterations

Provided 9.36 guidelines for application package “Draw what you intend to build”

Created a website for access

CHBA creates illustrated document
Energy Efficiency Application Checklist for Part 9 building construction and alteration (ABC2014:8-9.36. ~ ZONE 7A)

1. Check applicable proposed construction; MINIMUM prescriptive effective thermal resistance “ETR” for roofs/walls/floors zone 7A

(1) Is a heat recovery ventilator “HRV” proposed? Yes / No

2. Check applicable proposed construction; MINIMUM prescriptive overall thermal transmittance “U”-values for windows/doors.

(2) Penetration & Door Components: MAXIMUM “U” value (W/m²K)

<table>
<thead>
<tr>
<th>Component</th>
<th>MAXIMUM U value (W/m²K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>1.60</td>
</tr>
<tr>
<td>Exterior doors</td>
<td>1.60</td>
</tr>
<tr>
<td>Single exterior door</td>
<td>1.60</td>
</tr>
<tr>
<td>Glass block</td>
<td>1.60</td>
</tr>
<tr>
<td>Skylights</td>
<td>1.70</td>
</tr>
<tr>
<td>Garage overhead doors</td>
<td>1.60</td>
</tr>
</tbody>
</table>

3. SELECT HVAC components/capacity/standard/minimum performance; check if applicable, or complete section. See 9.36.3.10, for options.

4. SELECT Service Water Heating components/input/standard/performance; check if applicable, or complete section. See 9.36.4.2, for options.
Builder 9.36 Application Sessions

20 groups and counting

Go through application guidelines

Compliance Paths

Documentation Required

Go through Application

Noted some just want the “answers”
Application Requirements

Application form (or online application)

Trade off Calculator (if applicable)

Energy model summary and reports (if applicable)

Drawings with:
- Envelope assemblies and ETR
- Air barrier details for
  - Top of wall to ceiling, party walls and ceilings, rim joists, penetrations through air barrier, window to wall
- Window schedule for performance
Inspections

Drawings are the foundation “Draw what you intend to build”

Looking at
  . Framing,
  . Insulation type and R value,
  . Air barrier depending on ACH (continuity, penetrations, backing and sealing,
  . Windows

Deviation from plan to be corrected before final inspection with sketch, pictures and/or energy model update
Observations from November 1, 2016
Hold Industry sessions

Applications incomplete

- No application form
- No ETR or incorrect
- No air barrier details
- No energy model summary

Energy models in ERS (Energuide mode)

- Need to be remodelled
- More on this........
Permits waiting for major edits and additional information

Meet with volume builders one on one for guidance

Explain air barrier and ETR again

Perception that Performance does not require drawing details

Drawings -> Energy Model -> Inspection

Source: buildingscience.com
Windows on drawings do not match HOT2000 report

Do not match purchase order schedule either

Majority of Performance using window savings for compliance

Starting to see non-NRCan EAs
Crested most builders in March

Have smaller builders still needing to catch up

Is a prescriptive cheat sheet the answer?

Energy modeling and drawings still require better coordination (mechanical systems not what is being specified. Ex. hot water tanks)
Observations

![Compliance Path Tracker](chart.png)

- Prescriptive: 188
- Trade Off: 5
- Performance: 290
Typical Prescriptive

Air Barrier details with spray foam insulation or full sealing

Walls 2x6 24 o.c. R 22 Batt

Roof 2x4 24” o.c. R50 Glass Fibre

Windows Double U=1.44 Or ER => 25 or Triple Glazed windows U=1.31

HRV 60% Recovery Efficiency
Typical Performance Application

3.2ACH Air Tightness (close to 2.5ACH)

Walls 2x6 24 o.c. R 20 Batt

Roof 2x4 24” o.c. R50 Blown Cellulose

Windows Triple Glazed windows U=1.31 or Double U=1.7

HRV 60% Recovery Efficiency

95% Efficient Furnace & 79% Efficient Electric Hot Water Tank
First Month
Performance Spectrum

Average 9.29%

Minimum 0.43%

Maximum 21.25%
Making up for envelope with Mechanical systems
Typical of performance
Does not necessarily mean better building
Less resilient
Cost passed onto consumers - operations

Avg. performance house annual hot water bill *
Electricity $337.02
Natural Gas $101.79

*Atco energy rates April 24, 2017 with 21.7GJ a year
High Energy Savings

| Wall        | 2x6 16” o.c. R20 | ETR = 2.76  
Prescriptive 2.97  
Reference 3.08 |
|------------|-----------------|-----------------|
| Ceiling    | 2x4 truss, 24” o.c. R40  
blown in fiberglass | ETR = 7.34  
Prescriptive 8.67  
Reference 10.43 |
| Air tightness | Blower Door | 2.5ACH  |
| Space Heating | Furnace w/ HRV | AFUE = 96.1%  
Prescriptive 92%  
Reference 92%  
60% HRV |
| Windows    | 13% FWDR | Triple Pane Low E  
Argon U < 1.19 |

18.67% Savings

[Energy Use Breakdown Diagram]
High Energy Savings

Heat Loss Comparison

- Ceiling
- Main Walls
- Doors
- Exposed floors
- Southeast Windows
- Northeast Windows
- Northwest Windows
- Southwest Windows
- Walls above grade
- South windows
- East windows
- Basement floor header
- Below grade foundation
- Air leakage and Mech Vent

Heat Loss Proposed
Heat Loss Reference
### Low Energy Savings

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
<th>Energy Transfer Rate (ETR)</th>
<th>Prescriptive</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wall</strong></td>
<td>2x6 24” o.c. R20 Batt</td>
<td>ETR = 2.96</td>
<td>Prescriptive 2.97</td>
<td>Reference 3.08</td>
</tr>
<tr>
<td><strong>Ceiling</strong></td>
<td>2x4 truss, 24” o.c. R40 blown in fiberglass</td>
<td>ETR = 7.34</td>
<td>Prescriptive 8.67</td>
<td>Reference 10.43</td>
</tr>
<tr>
<td><strong>Air tightness</strong></td>
<td>9.25 Requirements</td>
<td></td>
<td>3.2ACH</td>
<td></td>
</tr>
<tr>
<td><strong>Space Heating</strong></td>
<td>Furnace w/ HRV</td>
<td>AFUE = 95%</td>
<td>Prescriptive 92%</td>
<td>Reference 92%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60% HRV</td>
<td></td>
</tr>
<tr>
<td><strong>SWH</strong></td>
<td>0.67EF</td>
<td>EF = 0.67</td>
<td>Prescriptive EF= 0.67</td>
<td>Reference EF = 0.67</td>
</tr>
<tr>
<td><strong>Windows</strong></td>
<td>18.09% FWDR</td>
<td></td>
<td>Double Pane Low E Argon</td>
<td></td>
</tr>
</tbody>
</table>

0.43% savings over reference building
Low Energy Savings

Heat Loss Proposed and Heat Loss Reference

- Heat Loss Proposed
- Heat Loss Reference
Energuide and ABC 9.36

Differences

- Temperature Setpoints (21C with no set back)
- Loads from heat gains
- Occupants 4 vs 3 in ERS
- Electrical Consumption not included in 9.36
- Hot water loads 190L/day ERS vs 225L/day
- Reporting
Energuide

Can help streamline applications

Will align with Federal initiatives (The Pan-Canadian Framework on Clean Growth and Climate Change)

Align with new BC Stretch Code

Allows for better QA through NRCan

Propose ABC 9.36 to be met with a buffer (5-10%) for Energuide and BDT better 2.5 or better
Inspections

Have conducted several inspections for “energy code walk-throughs”

Focus on Air barrier

Framing spacing

R value

And.....”Build what you provided on drawings”
Guess the Compliance Path
Guess the Compliance Path
Next Steps

Continuous Improvement

Windows to match

ERS proposal

Provide “Answers”

Look at BDT requirements
Questions?
AMA Regional SCO Meeting
Building, Fire, Electrical, Plumbing, Gas
& Private Sewage

April 25, 2017
8:30 am – 4:00 pm

Edmonton (St. Albert)
St. Albert Inn & Suites
156 St. Albert Trail
Grandin Room
AMA Regional SCO Meeting
Building, Fire, Electrical, Plumbing, Gas & Private Sewage
April 25, 2017
8:30 am – 4:00 pm

St. Albert Inn & Suites
156 St. Albert Trail
St. Albert
Grandin

Facilitators:  Geoff Brownlie, Technical & Community Specialist, AMA
              Joe Healy, Technical & Community Specialist, AMA

AGENDA

8:30 am  Call to Order and Introductions  Joe Healy, AMA

8:35 am – 9:00 am  AMA General Updates  Geoff Brownlie, AMA
  • Builders Licensing
  • Administrative Penalties
  • Reorganization of Public Safety
  • Visual Signal STANDATA
  • Persons with Developmental Disabilities (PDD)
  • Harmonization of the Alberta Building & Fire Codes
    Q & A

9:00 am – 9:45 am  Planning 202 B and the Safety Codes Permit  Jeff Laurien, Municipal Services
  Q & A
  David Ramsay, AMA

COFFEE BREAK
9:45 am – 10:00 am
Sponsored by the Safety Codes Council

10:00 am – 11:30 am  Safety Codes Council  Danielle Paradis, Safety Codes
  Council
  • Fire SCO Certification
  • Building SCO Certification
  • Professional Development for SCO’s
  • ACT System: New Technology to
  • Modernize Services
  • Reorganization of the Safety Codes Council
    Q & A

LUNCH
11:30 am – 12:30 pm
Sponsored by the Safety Codes Council

*** See Individual Building / Fire / Electrical / Plumbing & Gas & Private Sewage Agendas ***
*** For Afternoon Meeting Information ***
AMA Regional SCO Meeting  
Building Break-Out Session  
12:30pm - 4:00 pm  
Grandin  

Facilitator: Geoff Brownlie, AMA  

AGENDA  

12:30 pm – 2:00 pm  Energy Code Implementation  
Implementation to Date  
David Flanagan, Technical Advisor,  
Edmonton  
Juan Monterrosa, Senior Engineer of  
Green Building and Energy Codes,  
Edmonton  

COFFEE BREAK  
2:00 pm – 2:15 pm  
Sponsored by Safety Codes Council  

2:15 pm – 2:45 pm  General Updates from AMA  
- Chief Building Administrator  
- Mobile Cooking Operations (MCO’s) Standata  
- 2014 New Standata  
Q & A  

2:45 pm – 4:00 pm  Discussion Topics / Questions  
- Fire Separations for Vertical Service Spaces  
- Fire stopping installations in Senior’s Complex  
- Permit Extensions  
- Professional Schedules  
- Barrier-Free Gender Neutral Washrooms  
- Washroom Privacy  
- Compliance to Energy Efficiency  
- Smoke Alarm Installations  
- Commissioning  
- Attached Garages and RSI Values  
- A440.4 Window Installations  
- DC 315 Update  
- Tiny Homes  
- Sprinkler Systems in Attic Spaces  
- Micro-Breweries  
- Professional Technologists  
- Section 9.36 Air Change Requirements  

*** MEETING AJOURNED ***  

*** Meeting Minutes will be posted on the Safety Codes Council website ***  

- Food Establishments  
- NFPA-33 - Why removed  
- Fire blocking - Part 9  

Alberta Municipal Affairs (AMA)  
Phone: 1-866-421-6929  
Email: safetyservices@gov.ab.ca
AMA Regional SCO Meeting
Fire Break-Out Session
12:30 pm – 4:00 pm
Oakmont

Facilitator: Tina Parker, AMA

AGENDA

12:30 pm – 2:00 pm  Discussion Topics / Questions
• Community and Technical Support (Organizational Scope)
• STANDATA
• S.A.F.E. Registry
• Harmonization

COFFEE BREAK
2:00 pm – 2:15 pm
Sponsored by Safety Codes Council

2:15 pm – 4:00 pm  Discussion Topics / Questions
• Resetting of Fire Alarm Panels  Brought forward by James Gilbert

*** MEETING AJOURNED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***
AMA Regional SCO Meeting
Electrical Break-Out Session
12:30pm – 4:00 pm
Lacombe

Facilitator: Clarence Cormier, Chief Electrical Administrator, Community & Technical Support, AMA
Cameron Doram, Community & Technical Support, AMA

AGENDA

12:30 pm – 2:00 pm Discussion Topics / Questions
• Presentation - Clarence Cormier
• Questions from the floor

COFFEE BREAK
2:00 pm – 2:15 pm
Sponsored by Safety Codes Council

2:15 pm – 2:45 pm Gerry Wiles Installation Guide for new services
2:45 pm – 4:00 pm Discussion Topics / Questions
• Staying Current – SCA responsibilities, STANDATA
• Alberta Built Products
• Bathroom Luminaires
• Non-Metallic Outlet Boxes
• In-situ Modification
• Cannabis Extraction Facilities
• Wireless Switches
• High Voltage Cable Ampacity
• EMT and Luminaire Support
• Outdoor Receptacles
• Hotels/Motels with Cooking Facilities
• Grounding
• Arc Fault Protection
• General discussion items
• Question from the floor

*** MEETING AJOURNED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***
AMA Regional SCO Meeting
Plumbing, Gas & PSDS Break-Out Session
12:30 pm – 4:00 pm
Pineview

Facilitator: Dean Morin/Joe Petryk,AMA
Larry Robinson,AMA

AGENDA

12:30 pm – 2:00 pm Discussion Topics / Questions
• furnaces used for temporary or construction heat.
• 75 foot hose length for construction heaters
• water reuse, including the Standata for toilets, urinals, subsurface
  irrigation as identified in the 2015 NPC
• venting emergency floor drains
• Private Sewage SOP Update/status-concerns
• PSDS and water well separation distances

COFFEE BREAK
2:00 pm – 2:15 pm
Sponsored by Safety Codes Council

2:15 pm – 4:00 pm Discussion Topics / Questions
• uncertified appliances, field approvals and the B149.3
• gas engines and turbines
• plumbing code regulation-automatic code adoption, removal of all
  existing amendments
• fueling stations-LNG, CNG, hydrogen, propane. Does the local
  authority having jurisdiction understand their responsibilities and
  the requirements for a B149.1 permit
• PSDS Certification status of Installers

*** MEETING AJOINED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***
AMA Update – Joint Session

 Builders Licencing
 Ensuring that builders are held accountable for the integrity and safety of their construction is a key component of the safety system in Alberta. However, even with the existing systems in place, we still hear complaints from homeowners and the construction industry about poor construction resulting in repair costs and other negative impacts to Albertans. A builders licensing program could address gaps such as:
- Anyone can be a builder,
- No mechanisms to remove poor builders,
- Data and information to research a builder is lacking,
- Low levels of consumer awareness and knowledge, and
- Blurred accountability and track record.

Several other provinces have implemented builders licensing programs, including British Columbia, Columbia, Ontario, and Quebec. AMA is currently seeking feedback on how to develop a builder licensing program in Alberta which supports the needs of consumers and builders to fill the gaps in our current safety system. (See Attached Documentation)

Administrative Penalties
No new updates. Program is awaiting approval from Cabinet to have Administrative Penalties come into proclamation. (See Attached Documentation)

Reorganization of Public Safety
Our Public Safety Division recently completed a restructuring, with the Office of the Fire Commissioner, Safety Services, and Central Operations branches being reorganized into two key branches: Community and Technical Support, and Strategic and Systems Support.

The reorganization was designed to meet several outcomes over the next few years. Those include the development of data and information systems and enhancement of accountability frameworks, including developing agreements with delegated administrative organizations and re-thinking those relationships to enhance public safety.

It was also meant to strengthen compliance systems, including the introduction of administrative penalties, and the introduction of builder licensing. Finally, it is aimed at providing more integrated support to communities, focusing on consistency and proactive response.

The division continues to review the effectiveness of the restructured units and make adjustments as needed. The reorganization will help position PSD to respond to new and existing challenges for years to come.

There would not be any changes in the services we currently administer. Our Branch will be Community and Technical Support

Previously the disciplines were in separate groups such as:
- Building-Technical Advisors/ Professionals and Building Administrator- Codes & Standards-Building, Fire Barrier Free & Energy under Director James Orr and
- Building Field Inspectors, Senior Field Inspector and Senior Code Analyst- Safety Codes Application under Director Chris Contenti.
- Similarly, for the other disciplines Administrators and Technical Advisors working group were under a different director than the “Field Inspectors"
Moving forward under the Director:
James Orr
Director, Standards Development & Technical Support
Building/Fire, Energy & Accessibility
Community & Technical Support, Public Safety Division
Alberta Municipal Affairs

This will include the Building, Fire, and Barrier-Free Administrators, Technical Advisors (Professionals), Senior Technical Advisors, and Technical Advisors. No longer referred to as “Field Inspectors”

Moving forward under the Director:
Harry Li, P.Eng
Director, Standards Development & Support - Mechanical
Community and Technical Support
Public Safety Division
Alberta Municipal Affairs

This will include Electrical, Elevating Devices, Passenger Ropeways & Amusement Rides, Plumbing and Gas, and Private Sewage Administrators, Senior Technical Advisors, and Technical Advisors. No longer referred to as “Field Inspectors”

Visual Signals
The intent of the changes made within the 2014 ABC Code through the BFSC, the BSC and AMA was to recognize that the hard of hearing population may be everywhere.

The thought process that has been discussed by this office is:
- Sentence 3.2.4.20.(1) is applicable generally to all buildings with a fire alarm system, and
- Sentence 3.2.4.20.(2) is applicable to residential suites only.

Fire alarm systems required within sentence (1), including their visual signal devices should be installed in conformance with the CAN/ULC-S524 “Installation of Fire Alarm Systems” standard. An appropriate number and location(s) of visual signal devices should be installed so that the signal is visible throughout normally occupied floor areas and areas of high ambient noise (exceeds 87 dBA).

For residential suites, a minimum of one visual signal device per unit which is visible within the principle living area should be required. Conformance to the S524 standard and the area design limitations may require additional devices to be installed within larger suites or suites where the layout does not permit the visual signal to be seen throughout the normally occupied floor area. Lighting intensities throughout the floor area should be designed to follow the S524 requirements. (STANDATA soon to be released)

Persons with Developmental Disabilities (PDD)
A new Ministerial Order was issued and has become effective as of December 30, 2016. The government recognizes the importance of the home, and supporting individuals to live safe inclusive lives in their communities. With these principles in mind, PDD sites with 3 or less occupants can be reviewed under the fire code safety requirements that normally apply to a residence; such as smoke alarms. (See attached documentation)
Harmonization of the Alberta Code
This is a priority ongoing process between Code update and Harmonization using the NBC 2015 as a Base document. The comparison review and analysis between the NBC 2010 –NBC 2015, as well as comparing to the ABC 2014 for Alberta specifics and where we can update and Harmonize towards the National Codes. We are intending to have the initial review analysis available to the Building Sub-Council in the next few months.

At this time, we are planning to publish one more version of the ABC prior to the goal of automatic code adoption of the NBC 2020 with a supplement to address the retained Alberta Specific requirements. However, a suggestion has been made by the Building Sub-Council that a discussion be held regarding the merit of deferring the adoption of the 2015 National model until the 2020 National Code adoption.

The NBC 2020 expected publication date may be around December 2020 or January 2021. Automatic code adoption in Alberta would come into effect one year after publication.

Section 3.8 and Part 7 has a number of Alberta Specifics and at this time is being retained, such differences would go into the supplement.

Administrative requirements have Alberta Specifics that will be retained.

There is a ULC standards committee currently drafting up a National Standard for Relocatable Structures, using ABC Part 10 as the seed document. This should address ABC specific Part 10.

Only the Edmonton Airport Vicinity is currently affected by ABC Part 11 and there is currently a review in process for the AVPA, this may address the retention of Part 11 in the ABC.

This is a brief overview of the extensive review process and all items may not have been captured, but to give you an idea of our direction towards updating and Harmonization.
Builder Licensing Engagement

Provide input on a builder licensing program designed to strengthen consumer protection in residential home construction.

**Status:** Closed

**Ministry responsible:** Municipal Affairs

**Contact:** builderlicensing@gov.ab.ca or 1-866-421-6929

**Overview**
This engagement is to determine the best approach for developing a builder licensing program for Alberta's residential construction and renovation industry.

Builder licensing could require builders to demonstrate they are in good financial standing and have the competencies and skills to work in residential home construction. Combined with mandatory home warranties, builder licensing would improve builder accountability and residential construction quality.

Builder refers to individuals and companies who construct residential buildings, and could include aspects of renovations to homes and condominiums.

**Goals of a builder licensing program**
Licensing builders could help to prevent issues before they occur. In order to engage in residential home construction, builders may be required to maintain an active license to demonstrate they possess the competencies, skills, and financial health so as to not pose a significant risk to homebuyers.

**Establishing a builder licensing program in Alberta may:**
- protect consumers by helping them make more informed decisions
- give Albertans peace of mind that their home is being built to a safe standard
- increase accountability for builders
- improve the business practices of builders
- improve builder competencies
- increase the quality of residential construction
- increase consumer protection in the homebuilding market
- align Alberta with several other provinces across Canada

**Engagement outcomes**
Focus groups and an online survey were open to the public until March 14th, 2017. The following groups were consulted during the engagement:
- home owners and consumers
- builders
- renovators
- architects and engineers
- warranty providers
- municipalities
- trades unions
- external government stakeholders
- other provinces such as British Columbia that have builder licensing in place and can provide information on what worked well, and what challenges were encountered
The feedback from the stakeholder engagement will inform the development of an effective builder licensing program in Alberta. Feedback will be compiled and posted online.

This document can be found at:
Builder Licensing: Discussion Guide

Prepared by

Public Safety Division
Alberta Municipal Affairs
Taking a Look at Residential Construction

The residential construction market in Alberta has changed considerably in the last 25 years.

- Alberta has roughly 12 per cent of Canada’s population, but 25 per cent of Canada’s housing starts.
- On a per-capita basis, Alberta has significantly more housing starts than British Columbia, Ontario, or Quebec.
- The average Alberta house price in 1990 was around $110,000. In 2015 it was closer to $400,000.
- The construction industry, including both residential construction and non-residential, makes a significant contribution to Alberta’s economy, accounting for nearly 12 per cent of provincial gross domestic product (GDP) in 2015, and 11.3 per cent of total employment in Alberta.
- There are approximately 4,000 residential home builders operating in Alberta.
- Builders can vary significantly in size – some build several hundred homes per year while others build just a few homes every couple of years.

Canadian Housing Starts (Units) per 1,000 Population
Ensuring the Integrity, and Safety of Construction

Ensuring that builders are held accountable for the integrity and safety of their construction is a key component of the safety system in Alberta. Government has many mechanisms in place to ensure the safety and quality of residential home construction in Alberta. Some of those mechanisms include:

- Codes and standards which are set by national and international bodies and are adopted into Alberta law.
- Issuance of permits by municipalities or accredited agencies.
- Inspections by safety codes officers to ensure compliance with codes and standards.
- The issuance of orders and administrative penalties to enforce compliance.
- An appeals board set up to hear any appeals on decisions made with respect to orders, administrative penalties, or compliance-related activities.

In addition to these mechanisms, the *New Home Buyer Protection Act (NHBPA)* came into force on February 1, 2014, and established minimum coverage for mandatory home warranty following a series of issues in residential construction. By requiring home builders to ensure warranty is in place for new homes, homeowners have some recourse if they encounter problems.

Even with these above protections, we still hear complaints from homeowners and the construction industry every year about poor construction resulting in repair costs and other negative impacts to Albertans. The residential home building industry in Alberta has a number of gaps that could be addressed through a builder licensing system. These gaps include:

- Anyone can be a builder;
- No mechanisms to remove a poor builder;
- Data and information to research a builder is lacking;
- Low levels of consumer awareness and knowledge; and
- Blurred accountability and track record.
What is Builder Licensing?
Several other provinces have implemented builder licensing systems, including British Columbia, Ontario, and Quebec. Builder licensing is also prevalent in other countries such as the United States and Australia.

Municipal Affairs is seeking your feedback on how to develop a builder licensing program in Alberta that supports the needs of consumers and builders and fills the gaps in our current safety system. Builder licensing would require builders to have an active licence in order to build. They may also need to demonstrate that they are in good financial standing and have the necessary skills to work in residential home construction. Builders who do not meet these requirements or who violate the terms of their licence, could have their licence revoked so they cannot build homes in Alberta.

Key Elements of a proposed builder licensing program have not yet been determined. The feedback received through focus groups and the online survey will help to inform the development of a made-in-Alberta builder licensing program. However, builder licensing could involve:

- Builder application process involving disclosure and declaration of:
  - Corporate history
  - Build experience
  - Financial claims and court proceedings
- One Builder License and Track Record
- Publication of Builder Record and Declaration
- Provision to remove or suspend builders and issue orders
- Integrated system in which:
  - Permits can be denied or revoked;
  - Non-compliant builders can be prevented from getting warranty;
  - Licensing can be withheld from non-compliant builders.

Scope of Builder Licensing
In addition to determining what components a builder licensing system should include, government must determine the scope of builder licensing. Construction work occurs over a large continuum that includes everything from complete new builds involving multiple permits and multiple trades, major structural changes requiring permits, minor changes that do not require a permit (e.g. moving a light fixture or putting up drywall), to basic remodelling (e.g. painting, flooring, etc.). As described in the chart below, existing programming is in place across this continuum, and builder licensing can be scaled to the level necessary to address gaps.
Outcomes of this Discussion

1. Help government better understand consumers’ experiences with the residential construction industry.

2. Strengthen government’s understanding of any gaps that may currently exist within the residential construction industry.

3. Help government understand how to best optimize safety and minimize risk through implementing a builder licensing program for the residential construction industry.

4. Inform the development and define the parameters of a builder licensing program to best address those gaps.
Administrative Penalties for Non-Compliance
Changes to the Safety Codes Act Allow For Administrative Penalties for Non-Compliance

Recap and background
Recent changes to the Safety Codes Act have allowed for the development of a designated authority to manage permitting and inspection in open areas in Alberta. This means that municipal districts and counties who remain unaccredited and contract their permitting and inspection services to a permitting agency, fall under the supervision of the Alberta Safety Codes Authority (ASCA). ASCA sets the framework under which permitting and inspections are carried out in these regions.

Another change to the Safety Codes Act is the mechanism under which penalties can be assessed against either homeowners or contractors for non-compliance with the regulatory framework for onsite wastewater and other disciplines that fall under the Act.

Below is the framework being developed for the administration of penalties in the Province. It was anticipated that the process would be ready for implementation in late fall of 2016, and is now awaiting approval from Cabinet to come into proclamation.

Administrative Penalty Framework under the Safety Codes Act
An additional enforcement tool under the Safety Codes Act Administrative Penalties
Monetary penalties levied by administrative action to address non-compliance
Three key roles:
1. To modify behavior and considerations about safety
2. To compel compliance; and
3. To punish non-compliance
   - Powers of administrative penalties will be the responsibility of a Minister-appointed employee of the province (Administrator).
   - Penalties may range up to a maximum of $100,000 or up to $10,000 per day.

Administrative Penalties
- Are not tickets.
- Will not be issued by safety codes officers, municipalities, agencies or ASCA
- Not to be used in lieu of charges under the Act
- Cannot be in addition to charges under the Act

Some possible criteria for issuing Administrative Penalties
As under the New Home Buyer Protection Act, the Administrator could consider:
- previous enforcement actions under the Act for contraventions of a similar nature by the person or the organization's directors or officers
- the severity and extent of the contravention
- the extent of the harm caused by the contravention or the degree of risk of harm
- The economic benefit derived from the contravention Fair Trading Act model
- Seriousness of contravention or failure to comply
- Degree of willfulness or negligence in the contravention or failure to comply
- The impact on any person adversely affected by the contravention or failure to comply
- Whether or not the person who receives the notice of administrative penalty has a history of non-compliance
Appeals
- Appeals would be made to the Municipal Government Board who also administer appeals under the New Home Buyer Protection Act
- Processes will match where possible those under NHBPA
- Decisions still to be made on criteria, timelines, fees and surety
- Those initiating the request for an Administrative Penalty will be required to attend appeal hearings

Notifications
- Administrative Penalties would be published on the Ministry’s website
- Initiators of Administrative Penalties will be notified of results.

Timing and enforcement
- Deadline for serving a regulated person with written notice is 3 years from the date of the offence.
- The Administrator may file a copy of the notice of administrative penalty, if any, with the clerk of the Court of the Queen’s Bench
- This will provide an additional opportunity for enforcement and collection

Next Steps
- Regulation is currently being drafted by Legislative Counsel
- Final review of draft regulation in upcoming weeks
- Testing of process for issuance and appeals
- Additional review of processes with stakeholders
- Final Regulation presented to Minister.
- Minister presents Regulation to Executive Council
- Administrator appointment made regulation in force Fall 2016
VISUAL SIGNALS

PURPOSE
The purpose of this Standata is to clarify the intended locations for Visual Signal Devices under the Alberta Building Code 2014 (ABC 2014).

DISCUSSION
Safety codes officers and code users have raised issues with the lack of clarity as to the required number and location of visual signal devices. Situations have developed where visual signals are installed in locations that are not necessary for compliance or alternatively, visual signals are omitted from locations that are necessary for compliance and public safety. This interpretation is designed to provide a consistent application of the ABC 2014.

CODE REFERENCES
Article 3.2.4.5. states:

3.2.4.5. Installation and Verification of Fire Alarm Systems
1) Except as permitted by Articles 3.2.4.11. and 3.2.4.20., fire alarm systems, including the voice communication capability where provided, shall be installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems."

Article 3.2.4.20. states:

3.2.4.20. Visual Signals
(See Appendix A.)
1) Visual signal devices shall be installed in addition to audible signal devices in buildings required to have a fire alarm system and shall conform to CAN/ULC-S526, "Visible Signal Devices for Fire Alarm Systems Including Accessories."
2) Visual signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible within a suite in which they are installed.

APPLICATION
Sentence 3.2.4.20.(1) applies to all buildings with a fire alarm system.
Sentence 3.2.4.20.(2) only applies to residential suites.

INTERPRETATION
1. Sentence 3.2.4.20.(1) is interpreted as requiring visual signals visible throughout occupied floor areas (areas which may be considered not occupied may include but are not limited to service rooms, storage rooms, and janitor closets) and areas of high ambient noise (i.e. exceeds 87 dBA), in addition to audible signals. The appropriate number and location of visual signal devices shall comply with CAN/ULC-S524.

Unless stated otherwise, all Code references in this STANDATA are to Division B of the Alberta Building Code 2014.

Issue of this STANDATA is authorized by the Building Administrator

[Original Signed]
Paul Chang

Alberta Municipal Affairs – Community & Technical Support, 16th Floor, 10155 – 102nd Street, Edmonton, Alberta, Canada, T5J 4L4
Phone: 1-866-421-6929 Email: safety.services@nov.ab.ca Website: www.municipalaffairs.alberta.ca
2. For buildings required to have a fire alarm system, Sentence 3.2.4.20.(2) is interpreted as requiring a minimum of one device to be located within a residential suite. The visual signal shall be visible within the residential suite’s principal living area (i.e. living room); which is intended for use by all occupants of the suite.

This INTERPRETATION is applicable throughout the province of Alberta.
PDD Safety Standards

December 20, 2016
Supporting Safe and Inclusive Lives (plain language version), the final report from the Persons with Developmental Disabilities (PDD) Safety Standards Consultation Team was submitted to the Minister of Human Services for consideration. The report includes recommendations to government that support the safety and inclusion of individuals with developmental disabilities. In addition, the Phase Two Consultation Summary Report (plain language version) is now available. More information is available in the October 26, 2016 online bulletin.

Alberta Human Services has noted that the application of safety codes has been of significant concern for many individuals and their families. The Persons with Developmental Disabilities (PDD) Safety Standards Consultation Team recommended principles that reflect a respectful, inclusive approach to the interpretation and application of safety codes. This includes that the starting point of any safety code assessment of housing where adults with developmental disabilities live will be from a residential standard, regardless of how services are funded, as is the case with any other home.

A ministerial order, effective December 30, 2016, ensures that a residential standard is applied to the homes of adults with developmental disabilities. This means that safety codes inspections will not occur in these homes unless there is a request, an incident or complaint, as with any other home. For more information and detail, please refer to the December 2016 letter issued by the Ministers of Municipal Affairs and Human Services. The exemption regulation will be posted later.

Frequently Asked Questions
Response to the PDD Safety Standards Consultation Team’s Final Report

What are the details of the ministerial order?
The final report from the Persons with Developmental Disabilities (PDD) consultation team recommended that residences of adult individuals with developmental disabilities should be treated no different than any other home when interpreting and applying safety codes.

A ministerial order, effective December 30, 2016, ensures that a residential standard is applied to the homes of adults with developmental disabilities.

This means that safety codes inspections will not occur unless there is a request, an incident or complaint, as with any other home.

The August 2015 technical interpretation (known as “STANDATA”) that supported the now repealed PDD Safety Standards Regulation administered by Human Services will be withdrawn at the same time the amended exemption order is issued.

What other measures support safety in residences of adults with developmental disabilities?
The ministerial order continues to support safety in the homes of individuals receiving PDD services.

Residential building and fire code safety requirements such as smoke alarms are required as with any other home in Alberta.
The order does not apply to homes where the person is detained as part of a service plan for their own protection or public safety. In these cases, the risk to life safety is unacceptable, and the building and fire codes apply in full, including sprinklers.

PDD service providers under Human Services will continue to assess and identify detention situations to the municipality or authority responsible to enforce the Safety Codes Act.

The order also does not apply to PDD services or other buildings that fall under the Supportive Living Accommodation Licensing Act.

Has anything changed in situations where four or more individuals are residing in the same house?
No. When there are four or more people living in the same residence, the Supportive Living Accommodation Licensing Act (SLALA) still applies, and related inspections will continue for these specific residences. SLALA has its own set of standards that apply regardless of how the services/supports are being funded, meaning it is not specific to PDD.

What difference is this going to make for Albertans with developmental disabilities served by PDD?
The exemption order will ensure that the interpretation and application of safety codes to residential standards is applied consistently in homes where people with developmental disabilities live. This means their homes will only require those building or fire code safety measures that are required as with other homes in Alberta.

The recognition that residences of adults with developmental disabilities are like any other home supports the inclusion of individuals with developmental disabilities in the community and respects their rights to live with dignity.

When does the regulatory change take effect?
The ministerial order takes effect December 30, 2016.

Where can I go if I have more questions?
For more questions about the ministerial order, please call Municipal Affairs’ Safety Services main line toll free at 1-866-421-6929.

For questions about the Persons with Developmental Disabilities (PDD) program, please call 1-780-427-1177 (ext. 3).

Q & A - Release of the PDD Safety Standards Consultation Final Report

What is the status of inspections under the Public Health Act?
Alberta Health Services public health inspectors have ceased proactive inspections under the PDD Regulation which has been repealed, but may conduct inspections to follow up on previous violations that fall under the Public Health Act. They may also inspect on receipt of complaints about rental housing as they would do for all Albertans.

Do I still have to follow the standards that were in the PDD Safety Standards Regulation?
The PDD Safety Standards Regulation was repealed on April 1, 2016 which means the eight (8) standards previously under that Regulation no longer apply.

**What does it mean if there was a previous violation issued under the PDD Safety Standards Regulation?**
The PDD Safety Standards Regulation was repealed on April 1, 2016 which means that violations issued under the Regulation no longer apply. However, this is different than violations issued under the Public Health Act or the Safety Codes Act – which may still apply (see questions 1 and 2).

**How will the safety codes be interpreted and applied to the homes of individuals receiving PDD services after December 30, 2016?**
Municipal Affairs will be aligning to Government’s response to the principles recommended in the Consultation Team’s report to provide guidance to municipalities and safety officials. This includes that the starting point for any safety code assessment will be that these homes and buildings are residences, regardless of how the services are funded. Additional details will be available in the coming months.
Re: Application of Safety Codes for Residences under the Persons with Developmental Disabilities (PDD) Program

To Whom It May Concern:

Earlier this year, in response to concerns raised by the PDD community and stakeholders about the PDD Safety Standards Regulation, an eight-member external consultation team comprised of disability and broader community representatives led the development and implementation of a consultation on how to support the safety and inclusion of persons with developmental disabilities. The consultation took place from February to July of this year, and heard from over 2,000 individuals, family members, service providers, and advocates for persons with developmental disabilities about what safety and inclusion mean for them.

During this consultation, our government repealed the PDD Safety Standards Regulation. As a result, Municipal Affairs placed a pause-period on inspections of accommodations of individuals receiving services from the PDD program. Municipal Affairs also issued a temporary exemption of their residences from care standards under the Safety Codes Act until December 30, 2016. The exemption also applied to the August 2015 Approved Guideline (STANDATA) for residences of adults with developmental disabilities. The pause-period on inspections and temporary exemption allowed for the continued work of the consultation team and government on the appropriate assessment of these accommodations in place of the repealed regulation.

On October 26, 2016, Human Services released the PDD Safety Standards Consultation Team’s final report, “Supporting Safe and Inclusive Lives.” This report is guiding the Government of Alberta’s actions to enable Albertans with developmental disabilities to live safely, inclusively, and with dignity at home and in their communities.

The PDD Safety Standards Consultation Team recommended principles that reflect a respectful, inclusive approach to the interpretation and application of safety codes. This includes that the starting point of any safety code assessment of housing where adults with developmental disabilities live will be from a residential standard, regardless of how services are funded, as is the case with any other home.
With these principles in mind, the August 2015 STANDATA is withdrawn and no longer in force or effect. Through a Ministerial Exemption Order, the Exemption Regulation under the Safety Codes Act has been amended effective December 30, 2016, to ensure that a residential standard is applied to the homes of adults with developmental disabilities. Municipal Affairs is, therefore, advising that no further inspections should take place in these homes unless there is a request, an incident, or complaint, as with any other home.

The Ministerial Exemption Order continues to support safety for persons receiving PDD services in their homes. The building and fire code safety requirements that normally apply to residences will continue to apply to homes where individuals with developmental disabilities live. For example, smoke alarms will be required, as is the case in all homes.

The Ministerial Exemption Order does not apply to PDD services or other buildings that fall under the Supportive Living Accommodation Licensing Act. The Ministerial Exemption Order also does not apply to homes where the person is detained as part of a service plan for their own protection or public safety. In these cases, the risk to life safety is unacceptable, and the building and fire codes apply in full, including sprinklers. PDD service providers under Human Services will continue to assess and identify detention situations to the municipality or authority responsible to enforce the Safety Codes Act. Detention situations make up a very small percentage of these accommodations and can be managed on a case-by-case basis with Municipal Affairs and Health.

Our government recognizes that it will take collective action to support safety and inclusion. This includes Human Services, Municipal Affairs, Health, and Advanced Education. Most importantly, it means listening to and working with Albertans who are receiving supports and services from the PDD program and their family members or guardians.

We know that nobody knows about these issues facing persons with developmental disabilities better than those who face them every day. That's why we are pleased to have the opportunity to move forward with solutions proposed by the disability community. We want to build on the goodwill and spirit of collaboration from the PDD Safety Standards public consultation this past year. We will continue to pursue open, meaningful communication between our government and the disability community that will build trust as we work to support the safety and inclusion of Albertans with disabilities.

Our government recognizes the importance of the home and wants to support individuals to live safe inclusive lives in their communities. With these principles in mind, we will work with municipalities and the community to ensure the health and safety of Albertans.
For additional guidance on this Ministerial Exemption Order, please contact Alberta Municipal Affairs at 1-866-421-6929.

Sincerely,

Hon. Danielle Larivee  
Minister of Municipal Affairs

Hon. Irfan Sabir  
Minister of Human Services
AMA Regional SCO Meeting
Building, Fire, Electrical, Plumbing, Gas & Private Sewage

April 25, 2017
8:30 am – 4:00 pm

Edmonton (St. Albert)
St. Albert Inn & Suites
156 St. Albert Trail
Grandin Room
AMA Regional SCO Meeting
Building, Fire, Electrical, Plumbing, Gas & Private Sewage
April 25, 2017
8:30 am – 4:00 pm

St. Albert Inn & Suites
156 St. Albert Trail
St. Albert
Grandin

Facilitators:  Geoff Brownlie, Technical & Community Specialist, AMA
             Joe Healy, Technical & Community Specialist, AMA

AGENDA

8:30 am  Call to Order and Introductions  Joe Healy, AMA

8:35 am – 9:00 am  AMA General Updates  Geoff Brownlie, AMA
- Builders Licensing
- Administrative Penalties
- Reorganization of Public Safety
- Visual Signal STANDATA
- Persons with Developmental Disabilities (PDD)
- Harmonization of the Alberta Building & Fire Codes
  Q & A

9:00 am – 9:45 am  Planning 202 B and the Safety Codes Permit  Jeff Laurien, Municipal Services
                    Q & A
                    David Ramsay, AMA

COFFEE BREAK
9:45 am – 10:00 am
Sponsored by the Safety Codes Council

10:00 am – 11:30 am  Safety Codes Council  Danielle Paradis, Safety Codes Council
- Fire SCO Certification
- Building SCO Certification
- Professional Development for SCO’s
- ACT System: New Technology to
  Modernize Services
- Reorganization of the Safety Codes Council
  Q & A

LUNCH
11:30 am – 12:30 pm
Sponsored by the Safety Codes Council

*** See Individual Building / Fire / Electrical / Plumbing & Gas & Private Sewage Agendas ***
*** For Afternoon Meeting Information ***
AMA Regional SCO Meeting
Building Break-Out Session
12:30pm - 4:00 pm
Grandin

Facilitator: Geoff Brownlie, AMA

AGENDA

12:30 pm – 2:00 pm
Energy Code Implementation
Implementation to Date

David Flanagan, Technical Advisor,
Edmonton
Juan Monterrosa, Senior Engineer of
Green Building and Energy Codes,
Edmonton

COFFEE BREAK
2:00 pm – 2:15 pm
Sponsored by Safety Codes Council

2:15 pm – 2:45 pm
General Updates from AMA
• Chief Building Administrator
• Mobile Cooking Operations (MCO’s) Standata
• 2014 New Standata

Q & A

2:45 pm – 4:00 pm
Discussion Topics / Questions
• Fire Separations for Vertical Service Spaces
• Fire stopping installations in Senior’s Complex
• Permit Extensions
• Professional Schedules
• Barrier-Free Gender Neutral Washrooms
• Washroom Privacy
• Compliance to Energy Efficiency
• Smoke Alarm Installations
• Commissioning
• Attached Garages and RSI Values
• A440.4 Window Installations
• DC 315 Update
• Tiny Homes
• Sprinkler Systems in Attic Spaces
• Micro-Breweries
• Professional Technologists
• Section 9.36 Air Change Requirements

*** MEETING AJOURNED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***

- Food Establishments
- Fire Blocking - Part 9
- NFPA-33 - Why removed
- AAMA - PB26

Alberta Municipal Affairs (AMA)
Phone: 1-866-421-6929
Email: safetyservices@gov.ab.ca

Safety Codes Council
AMA Regional SCO Meeting
Fire Break-Out Session
12:30pm – 4:00 pm
Oakmont

Facilitator: Tina Parker, AMA

AGENDA

12:30 pm – 2:00 pm  Discussion Topics / Questions
- Community and Technical Support (Organizational Scope)
- STANDATA
- S.A.F.E. Registry
- Harmonization

COFFEE BREAK
2:00 pm – 2:15 pm
Sponsored by Safety Codes Council

2:15 pm – 4:00 pm  Discussion Topics / Questions
- Resetting of Fire Alarm Panels  Brought forward by James Gilbert

*** MEETING AJOURNED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***
AMA Regional SCO Meeting
Electrical Break-Out Session
12:30pm – 4:00 pm
Lacombe

Facilitator: Clarence Cormier, Chief Electrical Administrator, Community & Technical Support, AMA
Cameron Doram, Community & Technical Support, AMA

AGENDA

12:30 pm – 2:00 pm
Discussion Topics / Questions
• Presentation - Clarence Cormier
• Questions from the floor

COFFEE BREAK
2:00 pm – 2:15 pm
Sponsored by Safety Codes Council

2:15 pm – 2:45 pm
Gerry Wiles Installation Guide for new services
Discussion Topics / Questions
• Staying Current – SCA responsibilities, STANDATA
• Alberta Built Products
• Bathroom Luminaires
• Non-Metallic Outlet Boxes
• In-situ Modification
• Cannabis Extraction Facilities
• Wireless Switches
• High Voltage Cable Ampacity
• EMT and Luminaire Support
• Outdoor Receptacles
• Hotels/Motels with Cooking Facilities
• Grounding
• Arc Fault Protection
• General discussion items
• Question from the floor

*** MEETING AJOURNED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***
AMA Regional SCO Meeting
Plumbing, Gas & PSDS Break-Out Session
12:30pm – 4:00 pm
Pineview

Facilitator: Dean Morin/Joe Petryk, AMA
Larry Robinson,AMA

AGENDA

12:30 pm – 2:00 pm  Discussion Topics / Questions
• furnaces used for temporary or construction heat.
• 75 foot hose length for construction heaters
• water reuse, including the Standata for toilets, urinals, subsurface
  irrigation as identified in the 2015 NPC
• venting emergency floor drains
• Private Sewage SOP Update/status-concerns
• PSDS and water well separation distances

COFFEE BREAK
2:00 pm – 2:15 pm
Sponsored by Safety Codes Council

2:15 pm – 4:00 pm  Discussion Topics / Questions
• uncertified appliances, field approvals and the B149.3
• gas engines and turbines
• plumbing code regulation-automatic code adoption, removal of all
  existing amendments
• fueling stations-LNG, CNG, hydrogen, propane. Does the local
  authority having jurisdiction understand their responsibilities and
  the requirements for a B149.1 permit
• PSDS Certification status of Installers

*** MEETING AJOURNED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***
AMC Update – Joint Session

Builders Licencing
Ensuring that builders are held accountable for the integrity and safety of their construction is a key component of the safety system in Alberta. However, even with the existing systems in place, we still hear complaints from homeowners and the construction industry about poor construction resulting in repair costs and other negative impacts to Albertans. A builders licensing program could address gaps such as:
• Anyone can be a builder,
• No mechanisms to remove poor builders,
• Data and information to research a builder is lacking,
• Low levels of consumer awareness and knowledge, and
• Blurred accountability and track record.

Several other provinces have implemented builders licensing programs, including British Columbia, Columbia, Ontario, and Quebec. AMA is currently seeking feedback on how to develop a builder licensing program in Alberta which supports the needs of consumers and builders to fill the gaps in our current safety system. (See Attached Documentation)

Administrative Penalties
No new updates. Program is awaiting approval from Cabinet to have Administrative Penalties come into proclamation. (See Attached Documentation)

Reorganization of Public Safety
Our Public Safety Division recently completed a restructuring, with the Office of the Fire Commissioner, Safety Services, and Central Operations branches being reorganized into two key branches: Community and Technical Support, and Strategic and Systems Support.

The reorganization was designed to meet several outcomes over the next few years. Those include the development of data and information systems and enhancement of accountability frameworks, including developing agreements with delegated administrative organizations and re-thinking those relationships to enhance public safety.

It was also meant to strengthen compliance systems, including the introduction of administrative penalties, and the introduction of builder licensing. Finally, it is aimed at providing more integrated support to communities, focusing on consistency and proactive response.

The division continues to review the effectiveness of the restructured units and make adjustments as needed. The reorganization will help position PSD to respond to new and existing challenges for years to come.

There would not be any changes in the services we currently administer. Our Branch will be Community and Technical Support

Previously the disciplines were in separate groups such as:
• Building-Technical Advisors/ Professionals and Building Administrator- Codes & Standards-Building, Fire Barrier Free & Energy under Director James Orr and
• Building Field Inspectors, Senior Field Inspector and Senior Code Analyst- Safety Codes Application under Director Chris Contenti.
• Similarly, for the other disciplines Administrators and Technical Advisors working group were under a different director than the "Field Inspectors"
Moving forward under the Director:
James Orr
Director, Standards Development & Technical Support
Building/Fire, Energy & Accessibility
Community & Technical Support, Public Safety Division
Alberta Municipal Affairs

This will include the Building, Fire, and Barrier-Free Administrators, Technical Advisors (Professionals), Senior Technical Advisors, and Technical Advisors. No longer referred to as “Field Inspectors”

Moving forward under the Director:
Harry Li, P.Eng
Director, Standards Development & Support - Mechanical
Community and Technical Support
Public Safety Division
Alberta Municipal Affairs

This will include Electrical, Elevating Devices, Passenger Ropeways & Amusement Rides, Plumbing and Gas, and Private Sewage Administrators, Senior Technical Advisors, and Technical Advisors. No longer referred to as “Field Inspectors”

Visual Signals
The intent of the changes made within the 2014 ABC Code through the BFSC, the BSC and AMA was to recognize that the hard of hearing population may be everywhere.

The thought process that has been discussed by this office is:
- Sentence 3.2.4.20.(1) is applicable generally to all buildings with a fire alarm system, and
- Sentence 3.2.4.20.(2) is applicable to residential suites only.

Fire alarm systems required within sentence (1), including their visual signal devices should be installed in conformance with the CAN/ULC-S524 “Installation of Fire Alarm Systems” standard. An appropriate number and location(s) of visual signal devices should be installed so that the signal is visible throughout normally occupied floor areas and areas of high ambient noise (exceeds 87 dBA).

For residential suites, a minimum of one visual signal device per unit which is visible within the principle living area should be required. Conformance to the S524 standard and the area design limitations may require additional devices to be installed within larger suites or suites where the layout does not permit the visual signal to be seen through-out the normally occupied floor area. Lighting intensities throughout the floor area should be designed to follow the S524 requirements. (STANDATA soon to be released)

Persons with Developmental Disabilities (PDD)
A new Ministerial Order was issued and has become effective as of December 30, 2016. The government recognizes the importance of the home, and supporting individuals to live safe inclusive lives in their communities. With these principles in mind, PDD sites with 3 or less occupants can be reviewed under the fire code safety requirements that normally apply to a residence; such as smoke alarms. (See attached documentation)
Harmonization of the Alberta Code

This is a priority ongoing process between Code update and Harmonization using the NBC 2015 as a Base document. The comparison review and analysis between the NBC 2010–NBC 2015, as well as comparing to the ABC 2014 for Alberta specifics and where we can update and Harmonize towards the National Codes. We are intending to have the initial review analysis available to the Building Sub-Council in the next few months.

At this time, we are planning to publish one more version of the ABC prior to the goal of automatic code adoption of the NBC 2020 with a supplement to address the retained Alberta Specific requirements. However, a suggestion has been made by the Building Sub-Council that a discussion be held regarding the merit of deferring the adoption of the 2015 National model until the 2020 National Code adoption.

The NBC 2020 expected publication date may be around December 2020 or January 2021. Automatic code adoption in Alberta would come into effect one year after publication.

Section 3.8 and Part 7 has a number of Alberta Specifics and at this time is being retained, such differences would go into the supplement.

Administrative requirements have Alberta Specifics that will be retained.

There is a ULC standards committee currently drafting up a National Standard for Relocatable Structures, using ABC Part 10 as the seed document. This should address ABC specific Part 10.

Only the Edmonton Airport Vicinity is currently affected by ABC Part 11 and there is currently a review in process for the AVPA, this may address the retention of Part 11 in the ABC.

This is a brief overview of the extensive review process and all items may not have been captured, but to give you an idea of our direction towards updating and Harmonization.
Builder Licensing Engagement

Provide input on a builder licensing program designed to strengthen consumer protection in residential home construction.

**Status:** Closed

**Ministry responsible:** Municipal Affairs

**Contact:** builderlicensing@gov.ab.ca or 1-866-421-6929

**Overview**

This engagement is to determine the best approach for developing a builder licensing program for Alberta's residential construction and renovation industry.

Builder licensing could require builders to demonstrate they are in good financial standing and have the competencies and skills to work in residential home construction. Combined with mandatory home warranties, builder licensing would improve builder accountability and residential construction quality.

Builder refers to individuals and companies who construct residential buildings, and could include aspects of renovations to homes and condominiums.

**Goals of a builder licensing program**

Licensing builders could help to prevent issues before they occur. In order to engage in residential home construction, builders may be required to maintain an active license to demonstrate they possess the competencies, skills, and financial health so as to not pose a significant risk to homebuyers.

**Establishing a builder licensing program in Alberta may:**

- protect consumers by helping them make more informed decisions
- give Albertans peace of mind that their home is being built to a safe standard
- increase accountability for builders
- improve the business practices of builders
- improve builder competencies
- increase the quality of residential construction
- increase consumer protection in the homebuilding market
- align Alberta with several other provinces across Canada

**Engagement outcomes**

Focus groups and an online survey were open to the public until March 14th, 2017. The following groups were consulted during the engagement:

- home owners and consumers
- builders
- renovators
- architects and engineers
- warranty providers
- municipalities
- trades unions
- external government stakeholders
- other provinces such as British Columbia that have builder licensing in place and can provide information on what worked well, and what challenges were encountered
The feedback from the stakeholder engagement will inform the development of an effective builder licensing program in Alberta. Feedback will be compiled and posted online.

This document can be found at: https://www.alberta.ca/builder-licensing-engagement.aspx
Builder Licensing: Discussion Guide

Prepared by
Public Safety Division
Alberta Municipal Affairs
Taking a Look at Residential Construction

The residential construction market in Alberta has changed considerably in the last 25 years.

- Alberta has roughly 12 per cent of Canada's population, but 25 per cent of Canada's housing starts.
- On a per-capita basis, Alberta has significantly more housing starts than British Columbia, Ontario, or Quebec.
- The average Alberta house price in 1990 was around $110,000. In 2015 it was closer to $400,000.
- The construction industry, including both residential construction and non-residential, makes a significant contribution to Alberta's economy, accounting for nearly 12 per cent of provincial gross domestic product (GDP) in 2015, and 11.3 per cent of total employment in Alberta.
- There are approximately 4,000 residential home builders operating in Alberta.
- Builders can vary significantly in size – some build several hundred homes per year while others build just a few homes every couple of years.

Canadian Housing Starts (Units) per 1,000 Population
Ensuring the Integrity, and Safety of Construction

Ensuring that builders are held accountable for the integrity and safety of their construction is a key component of the safety system in Alberta. Government has many mechanisms in place to ensure the safety and quality of residential home construction in Alberta. Some of those mechanisms include:

- Codes and standards which are set by national and international bodies and are adopted into Alberta law.
- Issuance of permits by municipalities or accredited agencies.
- Inspections by safety codes officers to ensure compliance with codes and standards.
- The issuance of orders and administrative penalties to enforce compliance.
- An appeals board set up to hear any appeals on decisions made with respect to orders, administrative penalties, or compliance-related activities.

In addition to these mechanisms, the *New Home Buyer Protection Act (NHBPA)* came into force on February 1, 2014, and established minimum coverage for mandatory home warranty following a series of issues in residential construction. By requiring home builders to ensure warranty is in place for new homes, homeowners have some recourse if they encounter problems.

Even with these above protections, we still hear complaints from homeowners and the construction industry every year about poor construction resulting in repair costs and other negative impacts to Albertans. The residential home building industry in Alberta has a number of gaps that could be addressed through a builder licensing system. These gaps include:

- Anyone can be a builder;
- No mechanisms to remove a poor builder;
- Data and information to research a builder is lacking;
- Low levels of consumer awareness and knowledge; and
- Blurred accountability and track record.
What is Builder Licensing?
Several other provinces have implemented builder licensing systems, including British Columbia, Ontario, and Quebec. Builder licensing is also prevalent in other countries such as the United States and Australia.

Municipal Affairs is seeking your feedback on how to develop a builder licensing program in Alberta that supports the needs of consumers and builders and fills the gaps in our current safety system. Builder licensing would require builders to have an active licence in order to build. They may also need to demonstrate that they are in good financial standing and have the necessary skills to work in residential home construction. Builders who do not meet these requirements or who violate the terms of their licence, could have their licence revoked so they cannot build homes in Alberta.

Key Elements of a proposed builder licensing program have not yet been determined. The feedback received through focus groups and the online survey will help to inform the development of a made-in-Alberta builder licensing program. However, builder licensing could involve:

- Builder application process involving disclosure and declaration of:
  - Corporate history
  - Build experience
  - Financial claims and court proceedings
- One Builder License and Track Record
- Publication of Builder Record and Declaration
- Provision to remove or suspend builders and issue orders
- Integrated system in which:
  - Permits can be denied or revoked;
  - Non-compliant builders can be prevented from getting warranty;
  - Licensing can be withheld from non-compliant builders.

Scope of Builder Licensing
In addition to determining what components a builder licensing system should include, government must determine the scope of builder licensing. Construction work occurs over a large continuum that includes everything from complete new builds involving multiple permits and multiple trades, major structural changes requiring permits, minor changes that do not require a permit (e.g. moving a light fixture or putting up drywall), to basic remodelling (e.g. painting, flooring, etc.). As described in the chart below, existing programming is in place across this continuum, and builder licensing can be scaled to the level necessary to address gaps.
<table>
<thead>
<tr>
<th>Basic Remodeling (painting, flooring, etc.)</th>
<th>Minor Changes to key components (e.g. moving a light fixture)</th>
<th>Structural Renovations</th>
<th>Additions</th>
<th>New Build</th>
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<tr>
<td><strong>Existing Programs</strong></td>
<td>Permits Required</td>
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<td><strong>Proposed – Where can builder licensing fit?</strong></td>
<td>Fair Trading Act (including pre-paid contractors)</td>
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**Outcomes of this Discussion**

1. Help government better understand consumers' experiences with the residential construction industry.

2. Strengthen government's understanding of any gaps that may currently exist within the residential construction industry.

3. Help government understand how to best optimize safety and minimize risk through implementing a builder licensing program for the residential construction industry.

4. Inform the development and define the parameters of a builder licensing program to best address those gaps.
Administrative Penalties for Non-Compliance
Changes to the Safety Codes Act Allow For Administrative Penalties for Non-Compliance

Recap and background
Recent changes to the Safety Codes Act have allowed for the development of a designated authority to manage permitting and inspection in open areas in Alberta. This means that municipal districts and counties who remain unaccredited and contract their permitting and inspection services to a permitting agency, fall under the supervision of the Alberta Safety Codes Authority (ASCA). ASCA sets the framework under which permitting and inspections are carried out in these regions.

Another change to the Safety Codes Act is the mechanism under which penalties can be assessed against either homeowners or contractors for non-compliance with the regulatory framework for onsite wastewater and other disciplines that fall under the Act.

Below is the framework being developed for the administration of penalties in the Province. It was anticipated that the process would be ready for implementation in late fall of 2016, and is now awaiting approval from Cabinet to come into proclamation.

Administrative Penalty Framework under the Safety Codes Act
An additional enforcement tool under the Safety Codes Act Administrative Penalties
Monetary penalties levied by administrative action to address non-compliance
Three key roles:
1. To modify behavior and considerations about safety
2. To compel compliance; and
3. To punish non-compliance
   • Powers of administrative penalties will be the responsibility of a Minister-appointed employee of the province (Administrator).
   • Penalties may range up to a maximum of $100,000 or up to $10,000 per day.

Administrative Penalties
• Are not tickets.
• Will not be issued by safety codes officers, municipalities, agencies or ASCA
• Not to be used in lieu of charges under the Act
• Cannot be in addition to charges under the Act

Some possible criteria for issuing Administrative Penalties
As under the New Home Buyer Protection Act, the Administrator could consider:
• previous enforcement actions under the Act for contraventions of a similar nature by the person or the organization’s directors or officers
• the severity and extent of the contravention
• the extent of the harm caused by the contravention or the degree of risk of harm
• The economic benefit derived from the contravention Fair Trading Act model
• Seriousness of contravention or failure to comply
• Degree of willfulness or negligence in the contravention or failure to comply
• The impact on any person adversely affected by the contravention or failure to comply
• Whether or not the person who receives the notice of administrative penalty has a history of non-compliance
Appeals
- Appeals would be made to the Municipal Government Board who also administer appeals under the New Home Buyer Protection Act
- Processes will match where possible those under NHBPA
- Decisions still to be made on criteria, timelines, fees and surety
- Those initiating the request for an Administrative Penalty will be required to attend appeal hearings

Notifications
- Administrative Penalties would be published on the Ministry’s website
- Initiators of Administrative Penalties will be notified of results.

Timing and enforcement
- Deadline for serving a regulated person with written notice is 3 years from the date of the offence.
- The Administrator may file a copy of the notice of administrative penalty, if any, with the clerk of the Court of the Queen’s Bench
- This will provide an additional opportunity for enforcement and collection

Next Steps
- Regulation is currently being drafted by Legislative Counsel
- Final review of draft regulation in upcoming weeks
- Testing of process for issuance and appeals
- Additional review of processes with stakeholders
- Final Regulation presented to Minister.
- Minister presents Regulation to Executive Council
- Administrator appointment made regulation in force Fall 2016
BUILDING CODE INTERPRETATION

March 2017

VISUAL SIGNALS

PURPOSE
The purpose of this Standata is to clarify the intended locations for Visual Signal Devices under the Alberta Building Code 2014 (ABC 2014).

DISCUSSION
Safety codes officers and code users have raised issues with the lack of clarity as to the required number and location of visual signal devices. Situations have developed where visual signals are installed in locations that are not necessary for compliance or alternatively, visual signals are omitted from locations that are necessary for compliance and public safety. This interpretation is designed to provide a consistent application of the ABC 2014.

CODE REFERENCES
Article 3.2.4.5. states:

3.2.4.5. Installation and Verification of Fire Alarm Systems
1) Except as permitted by Articles 3.2.4.11. and 3.2.4.20., fire alarm systems, including the voice communication capability where provided, shall be installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems."

Article 3.2.4.20. states:

3.2.4.20. Visual Signals
(See Appendix A.)
1) Visual signal devices shall be installed in addition to audible signal devices in buildings required to have a fire alarm system and shall conform to CAN/ULC-S526, "Visible Signal Devices for Fire Alarm Systems Including Accessories."
2) Visual signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible within a suite in which they are installed.

APPLICATION
Sentence 3.2.4.20.(1) applies to all buildings with a fire alarm system.
Sentence 3.2.4.20.(2) only applies to residential suites.

INTERPRETATION
1. Sentence 3.2.4.20.(1) is interpreted as requiring visual signals visible throughout occupied floor areas (areas which may be considered not occupied may include but are not limited to service rooms, storage rooms, and janitor closets) and areas of high ambient noise (i.e. exceeds 87 dBA), in addition to audible signals. The appropriate number and location of visual signal devices shall comply with CAN/ULC-S524.

Unless stated otherwise, all Code references in this STANDATA are to Division B of the Alberta Building Code 2014.

Issue of this STANDATA is authorized by the Building Administrator

[Original Signed]
Paul Chang

Alberta Municipal Affairs – Community & Technical Support, 16th Floor, 10155 – 102nd Street, Edmonton, Alberta, Canada, T5J 4L4
Phone: 1-866-421-6923 Email: safety.services@gov.ab.ca Website: www.municipalaffairs.alberta.ca
2. For buildings required to have a fire alarm system, Sentence 3.2.4.20.(2) is interpreted as requiring a minimum of one device to be located within a residential suite. The visual signal shall be visible within the residential suite's principal living area (i.e. living room); which is intended for use by all occupants of the suite.

This INTERPRETATION is applicable throughout the province of Alberta.
PDD Safety Standards

December 20, 2016

Supporting Safe and Inclusive Lives (plain language version), the final report from the Persons with Developmental Disabilities (PDD) Safety Standards Consultation Team was submitted to the Minister of Human Services for consideration. The report includes recommendations to government that support the safety and inclusion of individuals with developmental disabilities. In addition, the Phase Two Consultation Summary Report (plain language version) is now available. More information is available in the October 26, 2016 online bulletin.

Alberta Human Services has noted that the application of safety codes has been of significant concern for many individuals and their families. The Persons with Developmental Disabilities (PDD) Safety Standards Consultation Team recommended principles that reflect a respectful, inclusive approach to the interpretation and application of safety codes. This includes that the starting point of any safety code assessment of housing where adults with developmental disabilities live will be from a residential standard, regardless of how services are funded, as is the case with any other home.

A ministerial order, effective December 30, 2016, ensures that a residential standard is applied to the homes of adults with developmental disabilities. This means that safety codes inspections will not occur in these homes unless there is a request, an incident or complaint, as with any other home. For more information and detail, please refer to the December 2016 letter issued by the Ministers of Municipal Affairs and Human Services. The exemption regulation will be posted later.

Frequently Asked Questions
Response to the PDD Safety Standards Consultation Team’s Final Report

What are the details of the ministerial order?
The final report from the Persons with Developmental Disabilities (PDD) consultation team recommended that residences of adult individuals with developmental disabilities should be treated no different than any other home when interpreting and applying safety codes.

A ministerial order, effective December 30, 2016, ensures that a residential standard is applied to the homes of adults with developmental disabilities.

This means that safety codes inspections will not occur unless there is a request, an incident or complaint, as with any other home.

The August 2015 technical interpretation (known as “STANDATA”) that supported the now repealed PDD Safety Standards Regulation administered by Human Services will be withdrawn at the same time the amended exemption order is issued.

What other measures support safety in residences of adults with developmental disabilities?
The ministerial order continues to support safety in the homes of individuals receiving PDD services.

Residential building and fire code safety requirements such as smoke alarms are required as with any other home in Alberta.
The order does not apply to homes where the person is detained as part of a service plan for their own protection or public safety. In these cases, the risk to life safety is unacceptable, and the building and fire codes apply in full, including sprinklers.

PDD service providers under Human Services will continue to assess and identify detention situations to the municipality or authority responsible to enforce the Safety Codes Act.

The order also does not apply to PDD services or other buildings that fall under the Supportive Living Accommodation Licensing Act.

**Has anything changed in situations where four or more individuals are residing in the same house?**
No. When there are four or more people living in the same residence, the Supportive Living Accommodation Licensing Act (SLALA) still applies, and related inspections will continue for these specific residences. SLALA has its own set of standards that apply regardless of how the services/supports are being funded, meaning it is not specific to PDD.

**What difference is this going to make for Albertans with developmental disabilities served by PDD?**
The exemption order will ensure that the interpretation and application of safety codes to residential standards is applied consistently in homes where people with developmental disabilities live. This means their homes will only require those building or fire code safety measures that are required as with other homes in Alberta.

The recognition that residences of adults with developmental disabilities are like any other home supports the inclusion of individuals with developmental disabilities in the community and respects their rights to live with dignity.

**When does the regulatory change take effect?**
The ministerial order takes effect December 30, 2016.

**Where can I go if I have more questions?**
For more questions about the ministerial order, please call Municipal Affairs’ Safety Services main line toll free at 1-866-421-6929.

For questions about the Persons with Developmental Disabilities (PDD) program, please call 1-780-427-1177 (ext. 3).

**Q & A - Release of the PDD Safety Standards Consultation Final Report**

**What is the status of inspections under the Public Health Act?**
Alberta Health Services public health inspectors have ceased proactive inspections under the PDD Regulation which has been repealed, but may conduct inspections to follow up on previous violations that fall under the Public Health Act. They may also inspect on receipt of complaints about rental housing as they would do for all Albertans.

**Do I still have to follow the standards that were in the PDD Safety Standards Regulation?**
The PDD Safety Standards Regulation was repealed on April 1, 2016 which means the eight (8) standards previously under that Regulation no longer apply.

What does it mean if there was a previous violation issued under the PDD Safety Standards Regulation?
The PDD Safety Standards Regulation was repealed on April 1, 2016 which means that violations issued under the Regulation no longer apply. However, this is different than violations issued under the Public Health Act or the Safety Codes Act – which may still apply (see questions 1 and 2).

How will the safety codes be interpreted and applied to the homes of individuals receiving PDD services after December 30, 2016?
Municipal Affairs will be aligning to Government’s response to the principles recommended in the Consultation Team’s report to provide guidance to municipalities and safety officials. This includes that the starting point for any safety code assessment will be that these homes and buildings are residences, regardless of how the services are funded. Additional details will be available in the coming months.
Re: Application of Safety Codes for Residences under the Persons with Developmental Disabilities (PDD) Program

To Whom It May Concern:

Earlier this year, in response to concerns raised by the PDD community and stakeholders about the PDD Safety Standards Regulation, an eight-member external consultation team comprised of disability and broader community representatives led the development and implementation of a consultation on how to support the safety and inclusion of persons with developmental disabilities. The consultation took place from February to July of this year, and heard from over 2,000 individuals, family members, service providers, and advocates for persons with developmental disabilities about what safety and inclusion mean for them.

During this consultation, our government repealed the PDD Safety Standards Regulation. As a result, Municipal Affairs placed a pause-period on inspections of accommodations of individuals receiving services from the PDD program. Municipal Affairs also issued a temporary exemption of their residences from care standards under the Safety Codes Act until December 30, 2016. The exemption also applied to the August 2015 Approved Guideline (STANDATA) for residences of adults with developmental disabilities. The pause-period on inspections and temporary exemption allowed for the continued work of the consultation team and government on the appropriate assessment of these accommodations in place of the repealed regulation.

On October 26, 2016, Human Services released the PDD Safety Standards Consultation Team’s final report, “Supporting Safe and Inclusive Lives.” This report is guiding the Government of Alberta’s actions to enable Albertans with developmental disabilities to live safely, inclusively, and with dignity at home and in their communities.

The PDD Safety Standards Consultation Team recommended principles that reflect a respectful, inclusive approach to the interpretation and application of safety codes. This includes that the starting point of any safety code assessment of housing where adults with developmental disabilities live will be from a residential standard, regardless of how services are funded, as is the case with any other home.

.../2
With these principles in mind, the August 2015 STANDATA is withdrawn and no longer in force or effect. Through a Ministerial Exemption Order, the Exemption Regulation under the Safety Codes Act has been amended effective December 30, 2016, to ensure that a residential standard is applied to the homes of adults with developmental disabilities. Municipal Affairs is, therefore, advising that no further inspections should take place in these homes unless there is a request, an incident, or complaint, as with any other home.

The Ministerial Exemption Order continues to support safety for persons receiving PDD services in their homes. The building and fire code safety requirements that normally apply to residences will continue to apply to homes where individuals with developmental disabilities live. For example, smoke alarms will be required, as is the case in all homes.

The Ministerial Exemption Order does not apply to PDD services or other buildings that fall under the Supportive Living Accommodation Licensing Act. The Ministerial Exemption Order also does not apply to homes where the person is detained as part of a service plan for their own protection or public safety. In these cases, the risk to life safety is unacceptable, and the building and fire codes apply in full, including sprinklers. PDD service providers under Human Services will continue to assess and identify detention situations to the municipality or authority responsible to enforce the Safety Codes Act. Detention situations make up a very small percentage of these accommodations and can be managed on a case-by-case basis with Municipal Affairs and Health.

Our government recognizes that it will take collective action to support safety and inclusion. This includes Human Services, Municipal Affairs, Health, and Advanced Education. Most importantly, it means listening to and working with Albertans who are receiving supports and services from the PDD program and their family members or guardians.

We know that nobody knows about these issues facing persons with developmental disabilities better than those who face them every day. That’s why we are pleased to have the opportunity to move forward with solutions proposed by the disability community. We want to build on the goodwill and spirit of collaboration from the PDD Safety Standards public consultation this past year. We will continue to pursue open, meaningful communication between our government and the disability community that will build trust as we work to support the safety and inclusion of Albertans with disabilities.

Our government recognizes the importance of the home and wants to support individuals to live safe inclusive lives in their communities. With these principles in mind, we will work with municipalities and the community to ensure the health and safety of Albertans.
For additional guidance on this Ministerial Exemption Order, please contact Alberta Municipal Affairs at 1-866-421-6929.

Sincerely,

Hon. Danielle Larivee  
Minister of Municipal Affairs

Hon. Irfan Sabir  
Minister of Human Services
Edmonton (St. Albert)

AMA Regional Meeting

Electrical, Plumbing, Gas, Private Sewage, Building and Fire
<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
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<tr>
<td>8:30 am</td>
<td>Call to Order and Introductions</td>
<td>Joe Healy, AMA</td>
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<tr>
<td>8:35 am – 9:00 am</td>
<td>AMA General Updates</td>
<td>Geoff Brownlie, AMA</td>
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<td>Q &amp; A</td>
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<td>Planning 202 B and the Safety Codes Permit</td>
<td>Jeff Laurien, Municipal Services</td>
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<td>Q &amp; A</td>
<td>David Ramsay, AMA</td>
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<td>9:45 am – 10:00 am</td>
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<td>Danielle Paradis, Safety Codes</td>
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<td>11:15 am – 11:30 am</td>
<td>Sea-Can Construction - Bruderheim Hotel</td>
<td>Ryan Nixon, Inspections Group</td>
</tr>
<tr>
<td></td>
<td>LUNCH</td>
<td></td>
</tr>
<tr>
<td>11:30 am – 12:30 pm</td>
<td>LUNCH</td>
<td></td>
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<tr>
<td></td>
<td>Sponsored by the Safety Codes Council</td>
<td></td>
</tr>
</tbody>
</table>
AMA Updates – Joint Session

Builders Licencing

Ensuring that builders are held accountable for the integrity and safety of their construction is a key component of the safety system in Alberta. However, even with the existing systems in place, we still hear complaints from homeowners and the construction industry about poor construction resulting in repair costs and other negative impacts to Albertans. A builders licensing program could address gaps such as:

- Anyone can be a builder,
- No mechanisms to remove poor builders,
- Data and information to research a builder is lacking,
- Low levels of consumer awareness and knowledge, and
- Blurred accountability and track record.

Several other provinces have implemented builders licensing programs, including British Columbia, Columbia, Ontario, and Quebec. AMA is currently seeking feedback on how to develop a builder licensing program in Alberta which supports the needs of consumers and builders to fill the gaps in our current safety system.
AMA Updates – Joint Session

Administrative Penalties
No new updates. Program is awaiting approval from Cabinet to have Administrative Penalties come into proclamation.
AMA Updates – Joint Session

Reorganization of Public Safety

Our Public Safety Division recently completed a restructuring, with the Office of the Fire Commissioner, Safety Services, and Central Operations branches being reorganized into two key branches: Community and Technical Support, and Strategic and Systems Support.

The reorganization was designed to meet several outcomes over the next few years. Those include the development of data and information systems and enhancement of accountability frameworks, including developing agreements with delegated administrative organizations and re-thinking those relationships to enhance public safety.

It was also meant to strengthen compliance systems, including the introduction of administrative penalties, and the introduction of builder licensing. Finally, it is aimed at providing more integrated support to communities, focusing on consistency and proactive response.

The division continues to review the effectiveness of the restructured units and make adjustments as needed. The reorganization will help position PSD to respond to new and existing challenges for years to come.

There would not be any changes in the services we currently administer. Our Branch will be Community and Technical Support.

Previously the disciplines were in separate groups such as:

- Building - Technical Advisors/ Professionals and Building Administrator - Codes & Standards - Building, Fire Barrier Free & Energy under Director James Orr and
- Building Field Inspectors, Senior Field Inspector and Senior Code Analyst - Safety Codes Application under Director Chris Contenti.

Similarly, for the other disciplines Administrators and Technical Advisors working group were under a different director than the “Field Inspectors”
AMA Updates – Joint Session

Moving forward under the Director James Orr - Building, Fire, and Barrier-Free Administrators, Technical Advisors (Professionals), Senior Technical Advisors, and Technical Advisors. No longer referred to as “Field Inspectors”.

James Orr
Director, Standards Development & Technical Support
Building/Fire, Energy & Accessibility
Community & Technical Support, Public Safety Division
Alberta Municipal Affairs

Moving forward under the Director Harry Li - Electrical, Elevating Devices, Passenger Ropeways & Amusement Rides, Plumbing and Gas, and Private Sewage Administrators, Senior Technical Advisors, and Technical Advisors. No longer referred to as “Field Inspectors”

Harry Li, P.Eng
Director, Standards Development & Support - Mechanical
Community and Technical Support
Public Safety Division
Alberta Municipal Affairs
Municipal Affairs

Public Safety Division
Community and Technical Support
Office of the Fire Commissioner

[Diagram showing organizational structure with names and titles]

[Logos: Safety Codes Council, Alberta Municipal Affairs]
AMA Updates – Joint Session

Visual Signals
The intent of the changes made within the 2014 ABC Code through the BFSC, the BSC and AMA was to recognize that the hard of hearing population may be everywhere.

The thought process that has been discussed by this office is:
Sentence 3.2.4.20.(1) is applicable generally to all buildings with a fire alarm system, and Sentence 3.2.4.20.(2) is applicable to residential suites only.

Fire alarm systems required within sentence (1), including their visual signal devices should be installed in conformance with the CAN/ULC-S524 “Installation of Fire Alarm Systems” standard. An appropriate number and location(s) of visual signal devices should be installed so that the signal is visible throughout normally occupied floor areas and areas of high ambient noise (exceeds 87 dBA).

For residential suites, a minimum of one visual signal device per unit which is visible within the principle living area should be required. Conformance to the S524 standard and the area design limitations may require additional devices to be installed within larger suites or suites where the layout does not permit the visual signal to be seen through-out the normally occupied floor area. Lighting intensities throughout the floor area should be designed to follow the S524 requirements.
BUILDING CODE INTERPRETATION

March 2017

VISUAL SIGNALS

PURPOSE
The purpose of this Standata is to clarify the intended locations for Visual Signal Devices under the Alberta Building Code 2014 (ABC 2014).

DISCUSSION
Safety codes officers and code users have raised issues with the lack of clarity as to the required number and location of visual signal devices. Situations have developed where visual signals are installed in locations that are not necessary for compliance or alternatively, visual signals are omitted from locations that are necessary for compliance and public safety. This interpretation is designed to provide a consistent application of the ABC 2014.

CODE REFERENCES
Article 3.2.4.5 states:

3.2.4.5. Installation and Verification of Fire Alarm Systems
1) Except as permitted by Articles 3.2.4.11. and 3.2.4.20., fire alarm systems, including the voice communication capability where provided, shall be installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems."

Article 3.2.4.20. states:

3.2.4.20. Visual Signals
(See Appendix A.)
1) Visual signal devices shall be installed in addition to audible signal devices in buildings required to have a fire alarm system and shall conform to CAN/ULC-S526, "Visual Signal Devices for Fire Alarm Systems Including Accessories."
2) Visual signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible within a suite in which they are installed.

APPLICATION
Sentence 3.2.4.20.(1) applies to all buildings with a fire alarm system.
Sentence 3.2.4.20.(2) only applies to residential suites.

INTERPRETATION
1. Sentence 3.2.4.20.(1) is interpreted as requiring visual signals visible throughout occupied floor areas (areas which may be considered not occupied may include but are not limited to service rooms, storage rooms, and junior closets) and areas of high ambient noise (i.e. exceeds 67 dBA) in addition to audible signals. The appropriate number and location of visual signal devices shall comply with CAN/ULC-S524.

Unless stated otherwise, all Code references in this Standata are to Division B of the Alberta Building Code 2014.

Issue of this Standata is authorized by the Building Administrator.

[Original Signed]

Paul Chang

Government

[Logo]

Safety Codes Council
Alberta Municipal Affairs - Community & Technical Support, 10th Floor, 10159-120th Street, Edmonton, Alberta, Canada, T5J 4L4
Phone: 1-866-221-6029 Email: safety.services@gov.ab.ca Website: www.safety.codes.alberta.ca

[Logo]

Alberta Municipal Affairs
AMA Updates – Joint Session

Persons with Developmental Disabilities (PDD)
A new Ministerial Order was issued and has become effective as of December 30, 2016. The government recognizes the importance of the home, and supporting individuals to live safe inclusive lives in their communities. With these principles in mind, PDD sites with 3 or less occupants can be reviewed under the fire code safety requirements that normally apply to a residence; such as smoke alarms.
Re: Application of Safety Codes for Residences under the Persons with Developmental Disabilities (POD) Program

To Whom It May Concern:

Earlier this year, in response to concerns raised by the POD community and stakeholders about the POD Safety Standards Regulation, an eight-member external consultative team composed of disability and broader community representatives led the development and implementation of a consultation on how to support the safety and inclusion of persons with developmental disabilities. The consultation took place from February to July of this year, and heard from over 2,000 individuals, family members, service providers, and advocates for persons with developmental disabilities about what safety and inclusion mean for them.

During this consultation, our government repealed the POD Safety Standards Regulation. As a result, Municipal Affairs placed a pause-period on inspections of accommodations of individuals receiving services from the POD program. Municipal Affairs also issued a temporary exemption of their residences from standards under the Safety Codes Act until December 30, 2016. The exemption also applied to the August 2015 Approved Guideline (STANDATA) for residences of adults with developmental disabilities. The pause-period on inspections and temporary exemption allowed for the continued work of the consultation team and government on the appropriate assessment of these accommodations in place of the repealed regulation.

On October 26, 2016, Human Services released the POD Safety Standards Consultation Team’s final report, “Supporting Safe and Inclusive Lives.” This report is guiding the Government of Alberta’s actions to enable Albertans with developmental disabilities to live safely, inclusively, and with dignity at home and in their communities.

The POD Safety Standards Consultation Team recommended principles that reflect a respectful, inclusive approach to the interpretation and application of safety codes. This includes that the starting point of any safety code assessment of housing where adults with developmental disabilities live will be from a residential standard, regardless of how services are funded, as is the case with any other home.

With these principles in mind, the August 2015 STANDATA is withdrawn and no longer in force or effect. Through a Ministerial Exemption Order, the exemption regulation under the Safety Codes Act has been amended effective December 30, 2016, to ensure that a residential standard is applied to the homes of adults with developmental disabilities. Municipal Affairs is, therefore, advising that no further inspections should take place in these homes unless there is a request, an incident, or complaint, as with any other home.

The Ministerial Exemption Order continues to support safety for persons receiving POD services in their homes. The building and fire code safety requirements that normally apply to residences will continue to apply to homes where individuals with developmental disabilities live. For example, smoke alarms will be required, as is the case in all homes.

The Ministerial Exemption Order does not apply to POD services or other buildings that fall under the Supportive Living Accommodation (licensing) Act. The Ministerial Exemption Order also does not apply to homes where the person is deemed as part of a service plan for their own protection or public safety, in these cases, the risk to life safety is unacceptable, and the building and fire codes apply in full, including sprinklers. POD service providers under Human Services will continue to assess and identify situations where the safety of residents is at risk, and take appropriate action.

Our government recognizes that it will take collective action to support safety and inclusion. This includes Human Services, Municipal Affairs, Health, and Advanced Education. Most importantly, it means listening to and working with Albertans who are receiving supports and services from the POD program and their family members or guardians.

We know that nobody knows about these issues facing persons with developmental disabilities better than those who face them every day. That’s why we are pleased to have the opportunity to move forward with solutions proposed by the disability community. We want to build on the goodwill and spirit of collaboration from the POD Safety Standards public consultation this past year. We will continue to pursue open, meaningful communication between our government and the disability community that will build trust as we work to support the safety and inclusion of Albertans with disabilities.

Our government recognizes the importance of the home and wants to support individuals to live safe inclusive lives in their communities. With these principles in mind, we will work with municipalities and the community to ensure the health and safety of Albertans.

For additional guidance on this Ministerial Exemption Order, please contact Alberta Municipal Affairs at 1-866-421-6929.

Sincerely,

Hon. Danielle Larivee
Minister of Municipal Affairs

Hon. Sarah Hoffman
Minister of Human Services

Alberta Municipal Affairs
AMA Updates – Joint Session

Harmonization of the Alberta Code

This is a priority ongoing process between Code update and Harmonization using the NBC 2015 as a Base document. The comparison review and analysis between the NBC 2010 –NBC 2015, as well as comparing to the ABC 2014 for Alberta specifics and where we can update and Harmonize towards the National Codes. We are intending to have the initial review analysis available to the Building Sub-Council in the next few months.

At this time, we are planning to publish one more version of the ABC prior to the goal of automatic code adoption of the NBC 2020 with a supplement to address the retained Alberta Specific requirements. However, a suggestion has been made by the Building Sub-Council that a discussion be held regarding the merit of deferring the adoption of the 2015 National model until the 2020 National Code adoption.

The NBC 2020 expected publication date may be around December 2020 or January 2021. Automatic code adoption in Alberta would come into effect one year after publication.

Section 3.8 and Part 7 has a number of Alberta Specifics and at this time is being retained, such differences would go into the supplement.

Administrative requirements have Alberta Specifics that will be retained.

There is a ULC standards committee currently drafting up a National Standard for Relocatable Structures, using ABC Part 10 as the seed document. This should address ABC specific Part 10.

Only the Edmonton Airport Vicinity is currently affected by ABC Part 11 and there is currently a review in process for the AVPA, this may address the retention of Part 11 in the ABC.

This is a brief overview of the extensive review process and all items may not have been captured, but to give you an idea of our direction towards updating and Harmonization.
Afternoon Breakout Session Locations

Electrical Meeting – Lacombe Room
Plumbing, Gas & PSDS Meeting – Pineview Room
Fire Meeting – Oakmont Room
Building Meeting – Grandin Room
AMA Regional SCO Meeting
Plumbing, Gas & PSDS Break-Out Session
1:00pm – 4:00 pm
Room Name ???

Facilitator: ???, AMA

AGENDA

1:00 pm – 2:15 pm  Discussion Topics / Questions

- furnaces used for temporary or construction heat.
- 75 foot hose length for construction heaters
- water reuse, including the Standata for toilets, urinals, subsurface irrigation as identified in the 2015 NPC
- venting emergency floor drains
- Backflow protection for emergency floor drains

COFFEE BREAK
2:15 pm – 2:30 pm
Sponsored by Safety Codes Council

2:30 pm – 4:00 pm  Discussion Topics / Questions

- uncertified appliances, field approvals and the B149.3
- gas engines and turbines
- plumbing code regulation-automatic code adoption, removal of all existing amendments

*** MEETING AJOURNED ***

*** Meeting Minutes will be posted on the Safety Codes Council website ***
Manufacturers Prohibit the Use of Furnaces for Construction Heat effective May 1, 2017

JAN 25, 2017 | HRAI

On February 1, 2016 HRAI released a position paper stating that HRAI’s gas furnace manufacturers adopted a position to prohibit the use of their furnaces by homebuilders for heating during the construction process prior to occupancy.

After learning of the concerns raised by homebuilders, the manufacturers and contractors met with them on a number of occasions. Subsequently, manufacturers agreed to postpone the implementation date from September 1, 2016, to May 1, 2017. They also agreed to some standardized wording that will be included in their manufacturers’ installation instructions as follows:

**Gas furnaces manufactured on or after May 1, 2017 are not permitted to be used in Canada for heating of buildings or structures under construction.**

Please take note that all HRAI furnace manufacturers have confirmed that support for this position. Several companies have already made revisions to their installation instructions accordingly.
For more information, contact Caroline Czajko at 1-800-267-2231 ext. 234 or email cczajko@hrai.ca
HRAI Reaches Consensus with Stakeholders on Implementation of Gas Furnace Construction Heat Ban

APR 5, 2017 | HRAI

On March 31st HRAI met with key stakeholders to settle on an acceptable process for implementing the recent manufacturers' ban on the use of gas furnaces for construction heat. HRAI representatives Dave McPherson (Rheem), Thom Wigle (Goodman), along with members of RHVCA and supported by HRAI staff Martin Luymes, represented the industry at this meeting, the latest of several, with a group of representative Ontario/Canadian homebuilders, and the gas utilities and the Technical Standards and Safety Authority (TSSA). The goal was to help TSSA -- the provincial fuel safety regulator -- determine the proper field application/interpretation of the new restriction. This included defining the stage in the construction process when it would be deemed acceptable to activate a furnace.

Stakeholders concluded that, once the drywall has been installed and primed in a home, it would be deemed acceptable to have a procedure in place to activate the furnace, but only if some additional conditions are met, most importantly the installation of a MERV 11 filter at the return on the furnace. A sign-off form for activation of the furnace is now being developed in partnership with gas utilities, HVAC contractors and homebuilders.
As the regulator having jurisdiction in Ontario, TSSA has indicated that it will accept this activation process and will generate a bulletin to guide industry on their expectations. TSSA will also work to recommend the solution to regulatory bodies in other provinces, through its involvement in the Canada-wide Interprovincial Gas Advisory Council (IGAC).

HRAI will assist TSSA and the utilities in Ontario to develop the guideline and documents to support it, and will share these with other provinces affected by the ban, as desired.

For more information, contact Martin Luymes at 1-800-267-2231 ext. 235 or email mluymes@hrai.ca.
The MERV Rating System for Air Filters

What does MERV Rating have to do with choosing an air filter?

MERV stands for Minimum Efficiency Rating Value. This is an industry standard rating system that allows you to compare filters made by different manufacturers. A MERV rating is a numerical value ranging from 1 (lowest efficiency) to 20 (highest efficiency) and tells the consumer how well the filter captures and holds dirt and dust of a specified size range. The chart below shows the MERV ratings, corresponding particle size ranges, and efficiency level as measured by the percentage of particles captured.

The MERV air filter efficiency rating system was developed by the ASHRAE, the American Society of Heating, Refrigerating, and Air-Conditioning Engineers. The rating system is referred to as ASHRAE Standard 52.2-2007 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size Standard 52.2 not only sets forth a testing protocol to ensure reliable and consistent testing of filter performance on particles of nominal 0.3-10 micron in diameter. ASHRAE 52.2 lead to the creation of the minimum efficiency rating value, or MERV, a guideline to determine a filter's performance by particle size, ranging from 0.3 – 10 microns in size. This value is based on the lowest, or minimum efficiency for the filter. In many cases this is when the filter is first installed.

Generally, the higher the MERV, the better the filter will perform at removing smaller particle sizes. MERV 1 through 4 are designed to remove large particles. These filters are used primarily to protect equipment and are used in light industrial and residential applications. For these values, the average particle size efficiency from 3 to 10 micron is less than 20%. Because of this, average arrestance, which is a measure of a filter's ability to remove coarse particulate, is used to determine MERV 1 through 4.

MERV 5 through 13 filters remove finer particles and are used in applications where it is important to protect individuals or processes from airborne contaminants that could otherwise affect health and productivity. The average particle size efficiency has three ranges: E1 (0.3 to 1 micron), E2 (1 to 3 micron), and E3 (3 to 10 micron) will determine MERV for these products.

At On Time Air Filters, we recommend Merv 8 filters as our “better” filter and Merv 11 filters as our “best filter.” For people with pets or otherwise desiring superior odor management, we offer a “best for pets” in some sizes. This is a carbon activated Merv 8 filter. We do not recommend Merv 13 filters because these filters may negatively affect certain HVAC systems.

The following chart describes each MERV value in the rating system:

<table>
<thead>
<tr>
<th>MERV Value</th>
<th>Particle Size</th>
<th>Typical Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5%</td>
<td>0.3-0.5 microns</td>
<td>Paint sprays, fabric protectors, cement dust</td>
</tr>
<tr>
<td>MERV 3</td>
<td>30% - 50%</td>
<td>Pollen, dust mites, standing dust, spray paint dust, large fibers</td>
</tr>
<tr>
<td>MERV 5</td>
<td>50% - 70%</td>
<td>Mold spores, hair, spray paint, fabric protectors, cement dust</td>
</tr>
<tr>
<td>MERV 7</td>
<td>75% - 85%</td>
<td>Humidifier dust, lead dust, data, aerosolization, pollen, smoke, aerial tobacco smoke, pet dander</td>
</tr>
</tbody>
</table>

Typical applications for the major MERV value ranges are:

- MERV 1: Protection of mechanical equipment in residential and light commercial applications.
- MERV 2-4: Designed for protection of equipment and the removal of large particles.
- MERV 5-13: Recommended for applications that require protection of individuals or processes from airborne contaminants that could affect health and productivity.
- MERV 13: Suitable for people with pets or requirements for superior odor management.
MERV 1 - 4
Minimum filtration, used almost exclusively in residential buildings.

MERV 5 - 8
Most commercial applications and better residential buildings.

MERV 9 - 12
Superior residential buildings and select commercial buildings.

MERV 13 - 16
Hospital, icu patient and general surgery, found in superior commercial buildings.

MERV 17 - 20
Clean rooms and pharmaceutical manufacturing.

How do you rate MERV?
Start your search today.

GET STARTED
**Type BH vent** — a vent complying with ULC S636 and consisting entirely of factory-made parts, each designed to be assembled with the others without requiring field fabrication, and intended for venting gas appliances.

**Type BW** — a vent complying with CAN/ULC-S605 and consisting entirely of factory-made parts, each designed to be assembled with the others without requiring field fabrication, and intended for venting only wall furnaces for use with this type of vent.

**Type I** — a vent complying with CAN/ULC-S609 and consisting of factory-made parts, each designed to be assembled with the others without requiring field fabrication.

**Vent connector** — that part of a venting system that conducts the flue gases from the flue collar of an appliance to a chimney or vent, and that may include a draft-control device.

**Ventilated space** — a space where there is an air change by means of natural ventilation or mechanical means, or where the space communicates with the rest of the structure by means of permanent openings.

**Ventilation** (with respect to the space in which an appliance is installed) — the removal of inside air, leaked or spilled products of combustion, or flue gases from the space in which an appliance is installed to outside the space, and the replacement of same by air from outside the space.

**Ventilation air** — see **Air supply**.

**Venting system** — a system for the removal of flue gases to the outdoors by means of a chimney, vent connector, vent, or a natural or mechanical exhaust system.

**Special venting system** — a venting system certified with the appliance and either supplied or specified by the appliance manufacturer.

**VRA** — vehicle refuelling appliance.

**Wash-mobile** — a mobile outdoor unit that uses propane-heated water, or a solution, for the purpose of cleaning.

**Zero governor** — a regulating device that is adjusted to deliver gas at atmospheric pressure within its flow rating.

### 4 General

#### 4.1 Application

**4.1.1**

For the purpose of this Code, the requirements contained in CAN/CGSB-3.14 for propane or CAN/CGSB-3.13 for butane shall apply.

**4.1.2**

When a specification or document referenced in Clause 2 contains a requirement that conflicts with a requirement in this Code, the requirement in this Code shall govern.

**4.1.3**

An appliance, accessory, component, equipment, or any other item shall be installed in accordance with the manufacturer's certified instructions and this Code.
4.1.4 Where a conflict exists between the manufacturer's certified installation instructions and this Code, the requirements of this Code shall prevail unless otherwise approved.

4.2 Approval of appliances, accessories, components, equipment, and material

4.2.1 An appliance, accessory, component, equipment, or material used in an installation shall be of a type and rating approved for the specific purpose for which it is employed.

4.2.2 When deviation from the authority having jurisdiction is necessary, permission in writing shall be obtained from the authority having jurisdiction before the work proceeds, and this permission shall apply only to the particular installation for which it is given.

4.2.3 The approval of the assembly or construction of an appliance is subject to the authority having jurisdiction. (CSA B149.3 contains provisions for the assembly and construction of appliances.)

4.3 Responsibilities of the installer

4.3.1 Before leaving installations, installers shall ensure that the appliance, accessory, component, equipment, or piping and tubing they installed complies with the Code requirements, and the person initially activating the appliance shall ensure that the appliance is in safe working order.

4.3.2 Installers shall instruct the user in the safe and correct operation of all appliances or equipment that they install.

4.3.3 The installer shall ensure that the manufacturer's instructions supplied with the appliance are left with the user.

4.3.4 Before installing any replacement part of an appliance, the installer shall ensure that the replacement part provides operational characteristics at least equivalent to those of the original part.

4.3.5 When the installation or conversion of an appliance constitutes a conversion from another form of energy, the installer shall advise the user of the appliance, at the time of installation or conversion, to have the former form of energy either removed or left safe and secure from accidental activation. For example, the user shall be advised:

(a) In the case of a fuel oil supply tank
   (i) to remove the fill pipe, and cap or plug the exposed fill pipe opening to an inside tank;
   (ii) to shut off the tank outlet valve, remove the filter, and plug or cap the valve outlet; and
   (iii) where the tank is located outdoors, to disconnect all exposed piping or tubing, and cap or plug the piping or tubing as close as practicable to the tank;
(b) In the case of a fuel oil central distributing system
   (i) to shut off the fuel oil supply line valve located within the building; and
7.12 Furnaces used with cooling units

7.12.1 When a furnace is installed in conjunction with a refrigeration coil, the arrangement shall be such that condensate is prevented from dripping onto the heating surface either by disposal of the condensate or by other means.

7.12.2 When a furnace is installed in parallel with a refrigeration coil, a damper or other means used to control the air supply shall effectively prevent the circulation of
(a) cooled air through the furnace; and
(b) heated air over the refrigeration coil.

7.12.3 When a forced-air furnace is installed in series with a cooling unit and is upstream from a refrigeration coil, the coil shall either be designed to withstand the high pressure that might develop or be equipped with a suitable device to prevent excessive pressure.

7.12.4 A forced-air furnace installed in series with a cooling unit and downstream of a refrigeration coil shall be designed for such use.

7.13 Central furnaces

7.13.1 A central furnace shall be installed on
(a) a firm, level base; and
(b) a noncombustible floor or support, except where the furnace is
   (i) certified for installation on a combustible floor;
   (ii) installed using the central furnace manufacturer’s certified special base; or
   (iii) installed as specified in Clause 4.13.3.

7.13.2 Except where permitted by Clause 4.13.2, a central furnace shall be installed with the following minimum clearances from combustible material:
(a) above — 1 in (25 mm); 
(b) the jacket sides and rear — 6 in (150 mm); and
(c) front — 24 in (610 mm).
See also Clause 4.14.2.

7.13.3 Return-air inlets shall not be installed in an enclosure or crawl space that provides combustion air to a furnace.

7.13.4 Floor furnaces shall not be installed.

7.13.5 A furnace that is used to heat a residence under construction shall be
(a) installed
   (i) on a finished concrete floor;
(ii) on a poured concrete slab that is at least
   (1) 4 in (100 mm) thick;
   (2) 1 in (25 mm) in height above the height of the basement floor when complete; and
   (3) 6 in (150 mm) longer and wider than the base of the furnace; or
(iii) by suspending it in a safe manner;
(b) piped in accordance with Clause 6;
(c) vented in accordance with Clause 8;
(d) fitted with a warm-air plenum and a return-air plenum, both of which are protected against an influx
    of waste or discarded material; and
(e) provided with a thermostat that is installed on a solid bracket or wall and located in the furnace area
    or a location supplied with heat through ductwork from the furnace.

7.13.6
Furnace return-air ducting installed in an enclosure in which any spillage-susceptible appliances are located
(including the furnace) shall be sealed to the furnace casing, and joints in the ducting shall be sealed to
prevent infiltration of air from the enclosure into the return-air ducting.

7.14 **Downflow furnaces**

7.14.1
A downflow furnace that has a downward warm-air discharge and is marked “FOR INSTALLATION ON
NONCOMBUSTIBLE FLOORS ONLY”* shall be provided with a separate base certified as a component part
of the furnace when installed either on or passing through a combustible floor.

*The equivalent French wording is “INSTALLER SUR UN PLANCHER INCOMBUSTIBLE SEULEMENT”.

7.14.2
A downflow furnace shall be installed so that there is not an open passage in the floor through which
flame or hot gases from a fire originating in the area below the floor can travel to the room above.

7.14.3
When a downflow furnace is located in an enclosure, circulating air and combustion air shall not be taken
from the same space.

7.15 **Duct furnaces**

7.15.1
A duct furnace shall not be installed on the negative pressure side of the air-circulating blower.

7.15.2
A duct furnace shall have a removable access panel located in the duct connected to the furnace on both
the upstream and downstream sides.

7.15.3
Circulating air shall not be taken from an enclosure containing a duct furnace.

7.15.4
All controls shall be located outside the duct except for the sensing element of a control.

7.15.5
A duct furnace shall be supported in such a manner that no weight is carried by the supply piping.
6.20.2
A gas hose may be used with an unvented appliance when such an appliance is mobile during operation, is portable, or requires isolation from vibration.

6.20.3
When a gas hose is used
(a) for permanent installation, it shall not exceed 10 ft (3 m) in length and shall neither extend from one room to another nor pass through any wall, partition, ceiling, or floor;
(b) for a portable appliance, it shall not exceed 30 ft (9.5 m) unless otherwise stated in the appliance standard;
(c) for connecting a construction heater, it shall be neither less than 15 ft (4.6 m) nor more than 75 ft (24 m) in total length;
(d) for cutting, welding, and preheating equipment, it shall not exceed 100 ft (30 m) in length;
(e) it shall not be subject to a temperature in excess of 125°F (50°C);
(f) a slip-on end shall not be permitted;
(g) the shut-off valve for the appliance shall be in the gas supply piping or tubing and as close as practicable to the gas hose;
(h) it shall be protected from damage;
(i) the handle or hand wheel of a shut-off valve on an independent connection shall not be closer than 6 in (150 mm) from the handle or hand wheel of any other shut-off valve;
(j) a shut-off valve shall not be placed at floor level or in any other location where it can be turned on by accident; and
(k) from a wall outlet, it shall be located where the passage of persons, vehicles, or equipment across the gas hose is at a minimum.

6.20.4
When a sign of wear, deterioration, or other damage is apparent in the reinforcement material of a gas hose, the gas hose shall be replaced immediately.

6.20.5
A metallic gas hose
(a) may be used to connect an appliance in commercial, industrial, or process applications when vibration, expansion, contraction, or other circumstances of an appliance installation warrant its use;
(b) shall not be used in a concealed location;
(c) shall neither extend from one room to another nor pass through any wall, partition, ceiling, or floor; and
(d) when used to connect an appliance to rigid supply piping, shall have a shut-off valve in the piping immediately upstream of the metallic gas hose.

6.20.6
When tanks or pieces of equipment are interconnected, provisions shall be made to compensate for vibration and differential settling of the tanks, equipment, and interconnecting piping. Where a gas hose is used for this purpose, it shall be a metallic gas hose complying with ULC C536 or a Type II or Type III gas hose complying with CSA CAN/CGA-8.1.

6.20.7
When a gas hose is used for transferring liquid propane from one container to another, the gas hose shall be protected by a hydrostatic relief valve located between the shut-off valves on the gas hose.

6.20.8
In propane applications, a gas hose shall not be run from a tank and/or vaporizer that is installed outdoors to an appliance located within a building, except where the gas hose connects to an appliance used for temporary construction-heating purposes.
Authority or the Council may apply to the Court of Queen's Bench for an order

(a) restraining that person from preventing or in any manner interfering with a safety codes officer in the exercise of that officer's powers under this Act, and

(b) for the purposes of providing protection, authorizing a police officer to accompany the safety codes officer on an inspection, review, examination or evaluation under this Act.

(2) A copy of the application and a copy of each affidavit in support shall be served not less than 3 days before the day named in the application for the hearing.

RSA 2000 c S-1 s37,2009 c53 s167,2015 c10 s18

Part 3
Standards

Variances

39(1) An Administrator or a safety codes officer may issue a written variance with respect to any thing, process or activity to which this Act applies if the Administrator or officer is of the opinion that the variance provides approximately equivalent or greater safety performance with respect to persons and property as that provided for by this Act.

(2) An Administrator or a safety codes officer may include terms and conditions in the variance.

(3) A safety codes officer on issuing a variance shall notify an Administrator.

(4) The Regulations Act does not apply to variances issued under this section.

1991 cS-0.5 s34

Quality management system

39(1) An owner, occupier, vendor, contractor, manufacturer or designer of a thing, or a person who authorizes, undertakes or supervises a process or activity, to which this Act applies may be required by a written order of an Administrator or by this Act to have and maintain a quality management system that meets the requirements of the regulations.

(2) No person shall make a change to a quality management system without first notifying an Administrator of the change if it is a type of change of which an Administrator requires notification.
Subject: Reclaimed Water Systems within a Single Property

ISSUE:

The growing need for water conservation and more efficient use of water resources in Alberta has resulted in the utilization of systems that use reclaimed water for toilet or urinal flushing and subsurface irrigation systems.

BACKGROUND:

In the past Alberta had no standards that allowed for the use of reclaimed water for toilet, urinal flushing or subsurface irrigation. The National Plumbing Code of Canada (NPC) now enables owners and users of plumbing systems to design water reuse systems. Alternative solutions proposals are reviewed considering the prescriptive requirements, objectives and intent of the plumbing code. In order to receive a variance, an alternative solution proposal shall demonstrate an equivalent or greater level of performance as required by Division B in the NPC.

CODE REQUIREMENTS: (NPC, Division B)

A-2.7.4.1. Non-potable water system design. There is a growing interest in Canada for the use of non-potable water supplies in place of potable ones for selected purposes, such as flushing toilets and irrigating lawns and gardens. Article 2.7.4.1. applies to non-potable water systems and the non-potable water must meet applicable water quality standards as determined by an authority having jurisdiction.

This information bulletin provides guidance for the authority having jurisdiction (AHJ) regarding clause A. 2.7.4.1 in the notes section of the NPC. The installation of uncertified and B128.3-12 Class A Certified non-potable water re-use systems for toilet and urinal flushing and subsurface irrigation is acceptable, provided the identified conditions in this bulletin are met. These requirements are applicable to jurisdictions where the municipal authority, as the authority who can identify water quality standards, has accepted responsibility for ensuring that the required monitoring, operation and maintenance plans are in place. If the municipality chooses not to direct or identify third parties to oversee the operation, testing and reporting by the owner of reclaimed water re-use systems, water reuse as identified by 2.7.4.1 of the national plumbing code of Canada cannot be used in that jurisdiction.

An owner must satisfy the following conditions in order to install and operate a reclaimed water system that serves a single property:

1. Uncertified systems shall have engineered designs that are signed and imprinted with a seal or stamp by a professional engineer.
2. Uncertified systems shall conform to B128.3 Class "A" water quality guidelines (Table 1) or the Canadian Guidelines for Domestic Reclaimed Water for Use in Toilet and Urinal Flushing.

3. A monitoring and maintenance plan shall be submitted to a safety codes officer for all reclaimed water systems.

4. The owner shall ensure that testing of the reclaimed water quality is completed by an accredited laboratory.

5. Sampling procedures shall be followed as required by the monitoring and maintenance plan. Handling of the sample(s) shall follow procedures established by the accredited laboratory.

6. Frequency of water sampling shall meet requirements set out in municipal bylaw and/or policy.

7. A contracted organization may be used to act on behalf of the municipality if deemed acceptable by said municipality.

8. All documentation, including reclaimed water test reports and owner's manual, shall be maintained onsite with the system and be provided upon request.

9. All reclaimed water systems shall have back flow protection as required by the NPC.

10. Discharge of overflow from reclaimed water systems shall be connected to a public sanitary sewer, public combined sewer or private sewage disposal system.

11. Installation of non-potable distribution systems shall be subject to the requirements of 2.7.4. of the NPC.

12. The installation of a reclaimed water system is subject to the Permit Regulation and a permit in the plumbing discipline.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Median*</th>
<th>Maximum**</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD₅</td>
<td>mg/L</td>
<td>≤ 10</td>
<td>≤ 20</td>
</tr>
<tr>
<td>TSS</td>
<td>mg/L</td>
<td>≤ 10</td>
<td>≤ 20</td>
</tr>
<tr>
<td>Turbidity</td>
<td>NTU</td>
<td>≤ 2</td>
<td>≤ 5</td>
</tr>
<tr>
<td><em>E. coli</em></td>
<td>CFU/100 ml</td>
<td>Non-detect</td>
<td>≤ 200</td>
</tr>
<tr>
<td>Fecal coliforms*</td>
<td>CFU/100 ml</td>
<td>Non-detect</td>
<td>≤ 200</td>
</tr>
<tr>
<td>Total chlorine residual***</td>
<td>mg/L</td>
<td>Between 0.5 and 2</td>
<td>N/A</td>
</tr>
<tr>
<td>Colour</td>
<td>-</td>
<td>Measured and reported only</td>
<td>Measured and reported only</td>
</tr>
<tr>
<td>Odour</td>
<td>-</td>
<td>Non-offensive</td>
<td>Non-offensive</td>
</tr>
<tr>
<td>Oily film and foam</td>
<td>-</td>
<td>Non-detect</td>
<td>Non-detect</td>
</tr>
</tbody>
</table>

*The median is calculated as the median of all parameter analyses collected for the sampling program.
**The maximum is the maximum analytical value for any single sample collected during the testing program, including samples collected immediately after any stress event.***

*A maximum total chlorine residual of 2 is specified to address the potential negative effects of excessive chlorine on certain applications (e.g., subsurface irrigation). A minimum total chlorine residual of 0.5 is required to protect against potential regrowth in the distribution and storage system.*

**NOTES:**

- Any changes to the original monitoring and maintenance plan are to be submitted for re-examination and approval by the local Authority Having Jurisdiction to ensure they meet the intent of this bulletin prior to change.

- Non-potable water supplied to a plumbing system from municipal infrastructure does not need to be approved as identified above, but needs to meet all of the requirements of section 2.7 of the NPC.

- Any water reuse application for use other than toilets, urinals or subsurface irrigation will require a site-specific variance for a properly supported alternate solution request to meet the intent of the NPC.
9.31.3. Water Supply and Distribution

9.31.3.1. Required Water Supply

1) Every dwelling unit shall be supplied with potable water.

9.31.3.2. Required Connections

1) Where a piped water supply is available, piping for hot and cold water shall be connected to every kitchen sink, lavatory, bathtub, shower, slop sink and laundry area.

2) Piping for cold water shall be run to every water closet.

9.31.4. Required Facilities

9.31.4.1. Required Fixtures

1) A kitchen sink, lavatory, bathtub or shower, and water closet shall be provided for every dwelling unit where a piped water supply is available.

9.31.4.2. Hot Water Supply

1) Where a piped water supply is available a hot water supply shall be provided in every dwelling unit.

9.31.4.3. Floor Drains

1) Where gravity drainage to a sewer, drainage ditch or dry well is possible, a floor drain shall be installed in a basement forming part of a dwelling unit.

2) A floor drain shall be provided in a garbage room, incinerator room or boiler room serving more than one dwelling unit.

9.31.5. Sewage Disposal

9.31.5.1. Conformance

1) Except as permitted by the Plumbing Code Regulation or Private Sewage Disposal Systems Regulation made pursuant to the Safety Codes Act, sewage disposal design shall conform to the requirements of Articles 9.31.5.2. and 9.31.5.3.

9.31.5.2. Building Sewer

1) Wastes from every plumbing fixture shall be piped to the building sewer.

9.31.5.3. Discharge of Sewage

1) Building sewers shall discharge into a public sewage system where such system is available.

2) Where a public sewage system is not available, the building sewer shall discharge into a private sewage disposal system.
FACT SHEET

Alternative Solutions Guide for Small System Reclaimed Water Reuse

The objective of this Fact Sheet is to provide information to stakeholders preparing proposals for alternative solutions requests for water reuse. The growing need for water conservation and more efficient use of water resources in Alberta has resulted in the development of small systems (serving single property) that use reclaimed water systems for other than toilet or urinal flushing, or sub surface irrigation. Reclaimed water consists of either wastewater or stormwater, which has been treated to a quality suitable for specific non-potable uses. These systems fall under the mandate of Alberta Municipal Affairs and the Safety Codes Act. These systems require an approved alternative solution as defined by the National Plumbing Code and can be accepted by a variance under the Safety Codes Act.

An application for variance under the Safety Codes Act must be submitted to the local authority having jurisdiction (AHJ) for the diversion of wastewater or stormwater that includes all details of treatment, operation, maintenance, including water quality. A separate second variance must also be obtained from the Technical Administrator (Alberta Municipal Affairs) for equipment required to operate the reclaimed water reuse system. Alternative solutions proposals are reviewed considering the objectives and intent of the plumbing code. In order to receive a variance, an alternative solution proposal shall demonstrate at least the minimum level of performance required by Division B in the National Plumbing Code.

Variances issued under the Safety Codes Act are intended as a means to authorize installations, processes, equipment, or actions that are not meeting the strict provisions of existing rules. Variances shall provide for an equal or greater level of safety to persons and property than that prescribed pursuant to the Safety Codes Act. The following issues must be addressed in an alternative solutions proposal for water reuse in order for equal or greater safety to be demonstrated:

➢ Justification that the treatment system is capable of meeting water quality standards established in CAN/CSA 3128.3 Performance of non-potable water reuse systems.
➢ The local Municipality supports the proposed project and accept the proposed method of operating and maintaining the system so that the system is managed satisfactorily with monitoring and reporting on a regular basis to continuously meet water quality standards.
➢ The plumbing for non-potable water distribution systems comply with the plumbing code and other requirements under the Safety Codes Act.
➢ The system includes ‘fail safe’ mechanisms that allow for a backup supply if the reclaimed water system needs to be shut down, and allow for wastewater or effluent from the treatment equipment to be diverted to a public sewer or an approved on-site sewage system.
➢ If the reclaimed water system is to be used for subsurface irrigation, the supporting information must also demonstrate that the water will meet the quality parameters set out in the Alberta Private Sewage Systems Standard of Practice, 2015.

The following resources shall be consulted when developing alternative solutions proposals for the local AHJ and the Administrator:

January 2017

For more information, please call 1-866-421-6929 or visit www.municipalaffairs.alberta.ca.
1. Water Quality
   - CAN/CSA B128.3 performance of non-potable water reuse systems

2. Regulations/Regulatory Pathway
   - The local AHJ (i.e. Safety Codes Officer) is the only entity who can consider deviations (alternate solutions proposals) from codes identified under the plumbing code regulation.
   - Only a Technical Administrator may issue a variance with respect to a product or equipment for plumbing.

3. Single Property Development Proposals
   Single property activities identify permissible installations using non-potable water within the National Plumbing Code. Reclaimed water alternative solutions proposals require two separate submissions: one to the local AHJ and one to the Technical Administrator with Alberta Municipal Affairs for equipment. The applicant requires approval from the local AHJ and may be required to supply notification of approval or exemption from Alberta Environmental and Parks (AEP) to use certain natural source water (e.g., raw water, non-potable water, storm water, rainwater, etc.) and Alberta Health (AH). Application for Alternative solutions proposals shall contain the following information:
   - Relevant treatment system design specifications and drawings signed and sealed by the professional engineer.
   - Operation and maintenance plans, including monitoring parameters and frequency of monitoring and reporting.
   - The source water (i.e., wastewater or stormwater) and intended end-uses of treated water must be clearly identified. Where the source water is stormwater as defined under the Environmental Protection Act, authorization from AEP for the use of the storm water in accordance with Water Act may be required.
   - Evidence of collaboration with stakeholders including:
     o Documentation showing the local municipality (accredited or unaccredited) supports the proposed reclaimed water project and accepts responsibility to oversee the proposed method of operating, monitoring and reporting required for the system is carried out satisfactorily to ensure water quality standards are continuously met.
     o In cases where storm water is used as source water, Alberta Environment and Park (AEP) approval for use of source waters.
     o Alberta Health.
   - Description and identification of a backup system in the event of system failure.

4. Multi-Property Development Proposals
   If the design capacity of a reclaimed water reuse system involves more than one property, then AEP will become the lead approving authority for the system. The National Plumbing Code will still apply to plumbing systems within buildings. For such systems, the applicant must contact the regional offices of AEP where the project is located to obtain information relative to the type and extent of the project.
2.4.10.12. **Hydraulic Loads from Fixtures with a Semi-continuous Flow**

1) The hydraulic load from a fixture or equipment that produces a semi-continuous flow shall conform to Table 2.4.10.12.

<table>
<thead>
<tr>
<th>Trap Size, inches</th>
<th>Flow, L/s</th>
<th>Hydraulic Load, fixture units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1½</td>
<td>0.00 - 0.090</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>0.091 - 0.190</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>0.191 - 0.850</td>
<td>27</td>
</tr>
<tr>
<td>4</td>
<td>0.851 - 5.700</td>
<td>180</td>
</tr>
</tbody>
</table>

2.4.10.13. **Design of Storm Sewers**

1) Except as provided in Sentences 2.4.10.4.(1) and (2), and Article 2.4.10.9., storm sewers may be designed in accordance with good engineering practice.

**Section 2.5. Venting Systems**

2.5.1. **Vent Pipes for Traps**

2.5.1.1. **Venting for Traps**

1) Except as provided in Sentences (3) and (4), traps shall be protected by a vent pipe.

2) Drainage systems may require additional protection as provided in Subsections 2.5.4. and 2.5.5. by the installation of
   a) branch vents,
   b) vent stacks,
   c) stack vents,
   d) vent headers,
   e) fresh air inlets,
   f) relief vents,
   g) circuit vents,
   h) yoke vents,
   i) offset relief vents,
   j) additional circuit vents,
   k) wet vents,
   l) individual vents,
   m) dual vents, or
   n) continuous vents.

3) A trap that serves a floor drain need not be protected where
   a) the size of the trap is not less than 3 inches,
   b) the length of the fixture drain is not less than 450 mm, and
   c) the fall on the fixture drain does not exceed its size.
   (See Note A-2.5.1.1.(3).)

4) A trap need not be protected by a vent pipe
   a) where it serves
      i) a subsoil drainage pipe, or
      ii) a storm drainage system, or
   b) where it forms part of an indirect drainage system. (See also Clause 2.4.2.3.(2)(b).)
   (See Note A-2.5.1.1.(4).)
2) Where the sump or tank receives sewage, it shall be water- and air-tight and shall be vented.

3) Equipment such as a pump or ejector that can lift the contents of the sump or tank and discharge it into the building drain or building sewer shall be installed.

4) Where the equipment does not operate automatically, the capacity of the sump shall be sufficient to hold at least a 24 h accumulation of liquid.

5) Where there is a building trap, the discharge pipe from the equipment shall be connected to the building drain downstream of the trap.

6) The discharge pipe from every pumped sump shall be equipped with a union, a backwater valve and a shut-off valve installed in that sequence in the direction of discharge.

7) The discharge piping from a pump or ejector shall be sized for optimum flow velocities at pump design conditions.

2.4.6.4. Protection from Backflow

1) Except as permitted in Sentence (2), a backwater valve or a gate valve that would prevent the free circulation of air shall not be installed in a building drain or in a building sewer. (See Note A-2.4.6.4.(1).)

2) A backwater valve is permitted to be installed in a building drain provided that
   a) it is a "normally open" design conforming to
      i) CSA B70, "Cast Iron Soil Pipe, Fittings, and Means of Joining;"
      iii) CAN/CSA-B181.2, "Polyvinylchloride (PVC) and Chlorinated Polyvinylchloride (CPVC) Drain, Waste, and Vent Pipe and Pipe Fittings;" or
      iv) CAN/CSA-B182.1, "Plastic Drain and Sewer Pipe and Pipe Fittings;" and
   b) it does not serve more than one dwelling unit.

3) Except as provided in Sentences (4) to (6), where a building drain or a branch may be subject to backflow, a gate valve or a backwater valve shall be installed on every fixture drain connected to them when the fixture is located below the level of the adjoining street.

4) Where the fixture is a floor drain, a removable screw cap is permitted to be installed on the upstream side of the trap.

5) Where more than one fixture is located on a storey and all are connected to the same branch, the gate valve or backwater valve is permitted to be installed on the branch.

6) A subsoil drainage pipe that drains into a sanitary drainage system that is subject to surcharge shall be connected in such a manner that sewage cannot back up into the subsoil drainage pipe. (See Note A-2.4.6.4.(6).)

2.4.6.5. Mobile Home Sewer Service

1) A building sewer intended to serve a mobile home shall be
   a) not less than 4 inches in size,
   b) terminated above ground,
   c) provided with
      i) a tamperproof terminal connection that is capable of being repeatedly connected, disconnected and sealed,
      ii) a protective concrete pad, and
      iii) a means to protect it from frost heave, and
   d) designed and constructed in accordance with good engineering practice.
Directly connected means physically connected in such a way that water or gas cannot escape from the connection.

Drainage system means an assembly of pipes, fittings, fixtures, traps and appurtenances that is used to convey sewage, clear-water waste or storm water to a public sewer or a private sewage disposal system, but does not include subsoil drainage pipes. (See Figure A-1.4.1.2.(1)-F in Note A-1.4.1.2.(1).)

Dual vent means a vent pipe that serves 2 fixtures and connects at the junction of the trap arms. (See Figure A-1.4.1.2.(1)-G in Note A-1.4.1.2.(1).)

Dwelling unit* means a suite operated as a housekeeping unit used or intended to be used by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.

Emergency floor drain means a fixture for the purposes of overflow protection that does not receive regular discharge from other fixtures, other than from a trap primer. (See Note A-1.4.1.2.(1).)

Fire separation* means a construction assembly that acts as a barrier against the spread of fire.

Fire service pipe means a pipe that conveys water from a public water main or private water source to the inside of a building for the purpose of supplying the fire sprinkler or standpipe systems.

Fixture means a receptacle, appliance, apparatus or other device that discharges sewage or clear-water waste, and includes a floor drain.

Fixture drain means the pipe that connects a trap serving a fixture to another part of a drainage system.

Fixture outlet pipe means a pipe that connects the waste opening of a fixture to the trap serving the fixture. (See Figure A-1.4.1.2.(1)-H in Note A-1.4.1.2.(1).)

Fixture unit (as applying to drainage systems) means the unit of measure based on the rate of discharge, time of operation and frequency of use of a fixture that expresses the hydraulic load that is imposed by that fixture on the drainage system.

Fixture unit (as applying to water distribution systems) means the unit of measure based on the rate of supply, time of operation and frequency of use of a fixture or outlet that expresses the hydraulic load that is imposed by that fixture or outlet on the supply system.

Flood level rim means the top edge at which water can overflow from a fixture or device. (See Figure A-1.4.1.2.(1)-B in Note A-1.4.1.2.(1).)

Flow control roof drain means a roof drain that restricts the flow of storm water into the storm drainage system.

Fresh air inlet means a vent pipe that is installed in conjunction with a building trap and terminates outdoors. (See Note A-2.4.5.4.(1) of Division B.)

Indirect service water heater* means a service water heater that derives its heat from a heating medium such as warm air, steam or hot water.

Indirectly connected means not directly connected. (See Note A-2.3.3.11.(2) of Division B.)

Individual vent means a vent pipe that serves one fixture.

Interceptor means a receptacle that is installed to prevent oil, grease, sand or other materials from passing into a drainage system.

Leader means a pipe that is installed to carry storm water from a roof to a storm building drain or sewer or other place of disposal.

Nominally horizontal means at an angle of less than 45° with the horizontal. (See Figure A-1.4.1.2.(1)-J in Note A-1.4.1.2.(1).)

Nominally vertical means at an angle of not more than 45° with the vertical. (See Figure A-1.4.1.2.(1)-J in Note A-1.4.1.2.(1).)

Noncombustible* means that a material meets the acceptance criteria of CAN/ULC-S114, "Test for Determination of Non-Combustibility in Building Materials."
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*The year of first publication of the legal materials is to be completed.

Note

All persons making use of this consolidation are reminded that it has no legislative sanction, that amendments have been embodied for convenience of reference only. The official Statutes and Regulations should be consulted for all purposes of interpreting and applying the law.
(Consolidated up to 208/2016)

ALBERTA REGULATION 119/2007

Safety Codes Act

PLUMBING CODE REGULATION

Table of Contents

1 Interpretation
2 Exemption
3 Approved equipment
4 Plumbing Code
5 Crown disclaimer
6 Repeal
8 Coming into force

Interpretation

1(1) In this Regulation,

(a) "Act" means the Safety Codes Act;

(b) "certification body" means an organization accredited by the Standards Council of Canada as a certification body;

(c) "Code" means the National Plumbing Code of Canada declared in force by this Regulation.

(2) The definitions in the Act and the Code apply to the words used in this Regulation.

(3) References to the following expressions in a code that is declared in force by this Regulation are to be read as references to the "Alberta Building Code as declared in force by the Building Code Regulation (AR 51/2015)"

(a) "National Building Code of Canada";

(b) "NBC".

(4) References to the following expressions in a code that is declared in force by this Regulation are to be read as references to the "Alberta Fire Code as declared in force by the Fire Code Regulation (AR 32/2015)"

(a) "National Fire Code of Canada";
(b) “NFC”.

Exemption
2 This Regulation does not apply to plumbing systems that are private sewage disposal systems.

Approved equipment
3(1) If the Code requires approved equipment, that equipment must meet the requirements of subsection (2).

(2) No person shall, for use in Alberta, manufacture, install, sell or offer for sale any equipment related to plumbing systems unless the equipment has been

(a) tested and certified by a certification body, or

(b) inspected and approved by a certification body and the equipment bears evidence of having been accepted in the manner authorized by the certification body.

Plumbing Code
4(1) The National Plumbing Code of Canada 2015, published by the National Research Council of Canada, is declared in force as amended or replaced from time to time.

(2) to (17) Repealed AR 208/2016 s3.

Crown disclaimer
5 The Code declared in force by this Regulation and any code or standards referenced in that Code do not make or imply any assurance or guarantee by the Crown in right of Alberta with respect to life expectancy, durability or operating performance of equipment or materials referenced in the codes or standards.

Repeal
6 The Plumbing Code Regulation (AR 219/97) is repealed.

7 Repealed AR 227/2012 s6.

Coming into force
8 This Regulation comes into force on September 2, 2007.