



Medicine Hat
The Gas City

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SAFETY CODES SERVICES

NEWSLETTER

Effective November 1, a new edition of the Alberta Building Code (ABC) came into force. Commencing November 2, 2015 all permit applications are required to comply with the 2014 ABC. This includes all Building, Electrical, Plumbing, Gas and Heating permits.

Section 9.36 Energy Efficiency of the 2014 ABC does not apply to work for which a permit was issued prior May 1, 2016 or work for which an application for a permit is received before November 1, 2016 provided the design of the plans and specifications for the project began before May 1, 2016. This 6 months transition period is to provide designers the time needed to incorporate Energy Efficiency designs into their projects. After November 1, 2016, all applicable buildings must be designed to the new Energy Code.

Besides the implementation of the 2014 ABC, the 2011 National Energy Code of Canada for Buildings (NECB) comes into force with a 6 month transition period ending May 1, 2016. For work which a permit has been issued prior to November 1, 2015, the new NECB does not apply. The NECB also does not apply to applications received before May 1, 2016 provided the design and specifications of the project began prior to November 1, 2015.

All building permit applications must be submitted with drawings of sufficient information and detail, as required by the Safety Codes Act (SCA), to be able to demonstrate compliance with the 2014 ABC. Compliance must be met by either following the prescribed methods offered in Division B or using an Alternate Solution showing at least equal or greater life safety and building performance as that shown in Division B.

STANDATA references issued under the 2006 ABC for Building Code Variances cannot be used when designing, constructing or carrying out alterations to a building that must be constructed in compliance with the 2014 ABC. Building Code Interpretations issued for the 2006 ABC may be used if the related code

article remains unchanged. The following two Interpretations currently are being accepted at this time, as the code changes do not appear to impact them.

- 06-BCI-018 Tall Wall Generic Engineering Details may still be used, as the code article referenced remains unchanged. Construction drawings must include information demonstrating complete compliance with the guidelines. When referencing Table 3A, ensure to use the updated climatic data from Table C-2 in the C appendix of the 2014 ABC. The q/50 Hourly Wind Pressure for Medicine Hat is .48kPa, so the .50kPa column may be used in all tables referenced in the guidelines.
- 06-BCI-015 Manufactured Structural Components may still be used provided all the required reference documentation is included at time of permit application. The engineering package for the manufactured floor and roof truss systems must include the following for acceptance.

(1) A Suppliers letter, bearing original signatures, showing the following information,

- (a) brand name of the manufactured structural component being used,
- (b) name of the engineer-approved computer design program to be used in the design of the manufactured structural components, and
- (c) name of the contractor responsible for the overall coordination of the construction.

(2) Layout schematic drawings bearing the name of the engineered-approved computer program used in designing the structural components, the location and brand name of all components being supplied and showing sufficient details to ensure compliance with the standata including,

- (a) All bearing conditions and details (ie bearing lengths, rim board size, hangers and accessories),
- (b) All points loads clearly identified where the installation of squash blocks are required. This is required at all built up post locations from the roof down to the concrete foundations, and
- (c) Where beams and girders support joists of continuous spans or transfer loads from adjacent girders/beams, end reactions must be labeled at each bearing location so that column and posts sizes can be determined. Loads must be shown as accumulative when stacked above other loads and details shown to adequately transfer the loads to the concrete foundations. Loads must be shown as Total Factored and/or Allowable Live and Dead, and
- (d) Design details for all accessory products (ie subfloor thickness, glue or ceiling requirements) needed to ensure compliance with the ABC.

- (3) Engineered columns and pad footings details for all loads exceeding 8,000#.

STANDATA 06-BCI-031 "Lateral Bracing of Residential Concrete Foundation Walls Generic Engineering Details" is an Interpretation that cannot currently be brought forward with the code change, as there have been changes that may impact the guidelines. Table 9.15.4.2.A now includes provisions for foundation walls up to 3.0m (10'0").

- Foundation walls up to 9'0" (2.75m) may support backfill heights as high as 7' 6 1/2" (2.3m)
- Foundation walls up to 10'0" (3.0m) may support backfill heights up to 7' 2 1/2" (2.2m)

This additional height should allow for better opportunities to develop new basements with larger window heights, provided the windows are no more than 1.2m wide. Because the guidelines for lateral bracing are no longer being used, floor systems must be attached to the top of all supported foundation walls by toe-nailing to a mudsill and anchor bolt type detail. There are no special lateral bracing details required, provided the openings in the foundation wall complies with 9.15.4.3(3) and does not exceed 1.2m in width or the total width of all openings in the wall do not exceed 25% of the wall length.

If larger openings are proposed, site specific engineering will be required to ensure the top of the foundation wall can be supported by the floor system. Engineer stamped details; specific to each property address, must be provided at time of application.

2x4 ladders will only be permitted at the top of foundation walls that do not require support from the floor system (ie Bi-levels, steps of walk-out basements and attached garages). These foundation systems are typically backfilled on both sides or support less than 1.2m of backfill and do not require support at the top. We are currently reviewing other Interpretations and Bulletins from the 2006 ABC to determine if they can be used.

Residential Construction and Part 9 Buildings

9.3.2.9 – Termite and Decay Protection and **9.18 Crawlspace** – Although not new to the 2014 ABC, clarification has been requested for clearances in heated and unheated crawl spaces. Current practice has been to accept 24" minimum clearances as we feel this type of clearance should be available when an access opening is provided. The opening in itself must be at least 500mmx700mm (20"x28").

Sentence 9.3.2.9(1) requires a minimum clearance of 450mm (18") from structural wood elements and finished ground level directly below them or structural wood elements supported by elements in direct contact with the ground be treated with a chemical toxic to termites.

Sentence 9.18.4.1(1) requires a minimum of 600mm (24") to the underside of a floor when access is required to maintain building services such as Plumbing and Heating.

The Illustrated User's Guide – NBC 2010 for Part 9 Housing and Small Buildings also identifies

9.5.3 – Ceiling Heights – Ceiling heights remain unchanged other than heights under beams and ducting in secondary suites may be reduced to 1.85m (73”).

9.7 – Windows, Doors and Skylights are combined in one section of the 2014 ABC. This section applies to windows, doors and skylights separating conditioned spaces from unconditioned spaces or the exterior and main entrance doors. At least one door shall be provided at each entrance to a dwelling. The main entrance door to a dwelling must include a door viewer, transparent glazing or a sidelight. This would be applicable to houses with secondary suites. The entrance door to the secondary suite would also have to be constructed as a main entrance, even if it is not leading to the exterior. Refer to 9.10.9 for doors serving houses with secondary suites.

Windows, Doors and Skylights shall conform to the requirements in section 9.36 once it comes into force.

9.9.10 – Egress from Bedrooms – Sentence (3) now requires a minimum clearance of 760mm (30”) in front of a bedroom window that opening into a window well.

9.10.1.2 and 3.2.4.6 – Commissioning of Life Safety and Fire Protection.

There is a new sentence requiring where life safety and fire protection systems are installed to comply with the provisions of the 2014 ABC or the 2014 Alberta Fire Code (AFC), the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship of the system.

When commissioning a building, the owner must ensure that the life safety systems and their components (ie fire alarms, 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.

Ultimately, someone (owner, designer, contractor or the commissioning body) will have to ensure that the interconnected operation of all life safety systems within the building has been confirmed.

Currently there is no standard to reference how compliance with this article will be achieved. Various stakeholders are looking to Municipal Affairs to publish a standata clarifying how Owners and Contractors can comply. The current recommendation under review is to apply the CAN/ULC S1001-11 INTEGRATED SYSTEMS TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS. Further clarification will have to come from the Province.

9.10.9 – Fire Separations and Smoke-tight Barriers between Rooms and Spaces within Buildings. This sub-section now includes the requirement of a continuous smoke-tight barrier in houses with Secondary.

- Fire separation must now be constructed with a continuous barrier against the spread of fire and retard the passage of smoke.

- All penetration in these assemblies shall be sealed using flexible sealant or tape to maintain the integrity of the smoke-tight barrier over the entire surface.
- Doors in smoke-tight barriers in houses with secondary suites shall be solid core, wood doors at least 45mm thick and have self-closing hardware.

9.10.11.2 – Firewalls Not Required, again states that a party wall on a property line of a building of residential occupancy does not have to be constructed as a firewall provided the wall is constructed as a fire separation having not less than a 1 hour fire-resistance rating. A party wall is acceptable where it separates two dwelling units where there are no dwelling units above another dwelling unit, a dwelling unit and a house with a secondary suite or two houses with a secondary suite.

Where a building of residential occupancy contains more than 2 houses (3plex, 4plex, row or cluster housing), a party wall that separates any 2 adjacent houses with secondary suites from the remainder of the building must be constructed as a firewall to create separate buildings each containing no more than 2 adjacent houses with secondary suites. When firewalls are used, the requirements of Part 3 shall apply.

9.10.15 – Spatial Separation Between Houses now includes provisions for houses with secondary suites. This section of the 2014 ABC has been completely re-written for clarity and to provide the requirements when a house is constructed with a secondary suite.

9.10.19 – Smoke Alarms is another section of the 2014 ABC that includes many changes. Smoke alarms must conform to CAN/ULC-S531, “Smoke-Alarms”. The installation of all smoke alarms must conform to CAN/ULC-S553, “Installation of Smoke-Alarms” and shall be installed at or near the ceiling. The sound of Smoke-Alarms shall have a temporal pattern (see A-3.2.4.19(2) in Appendix A). Sufficient smoke alarms shall be installed so that there is at least one on each storey, including basements, and within each bedroom. When installed on a storey containing a bedroom, an additional smoke alarm shall be installed between the bedrooms and the rest of the storey and if the bedrooms are served by a hallway, the smoke alarm shall be located in the hallway. Smoke alarms shall be installed with permanent connections to an electrical system, have no disconnect switch between the overcurrent device and the smoke alarm and, new to the 2014 ABC, be provided with a battery as an alternate power source that can continue to provide power to the smoke alarm for a period of no less than 7 days, followed by 4 minutes of alarm. Where more than one smoke alarm is required in a dwelling unit, all smoke alarms shall be inter-connected so that if one alarm is activated, all alarms within the dwelling will sound. This includes houses with Secondary Suites. The only exception is when smoke alarms are installed in an existing dwelling unit as a

result of developing space for sleeping need not be interconnected to the rest of the alarms in the dwelling. But, if more than one alarm is needed in the newly developed space, all new smoke alarms must be interconnected.

A manually operated device shall be incorporated within the circuitry of a smoke alarm installed in a dwelling unit so that the signal emitted by the smoke alarm be silenced for a period not exceeding 10 minutes, after which the smoke alarm with reset and sound again if the level if the level of smoke in the vicinity is sufficient to re-activate it.

9.10.22 – Fire Protection for Gas, Propane and Electric Cooktops and Ovens. This section of the 2014 ABC has been clarified to include the term “Cooktop” when specified the minimum clearances to combustibles. Cooktop is defined as a cooking surface having one or more burners or heating elements.

9.13.4 – Soil Gas Control requires that all wall, roof and floor assemblies separating conditioned space from the ground shall be protected by an air barrier system conforming to subsection 9.25.3. Where the basement floor is a concrete slab on grade, 6mil poly must be installed below the slab. The 6mil poly must be lapped at least 300mm at all joints, sealed to the foundation wall with flexible sealant and all penetration that extends through the concrete shall be sealed. The air barrier may be placed over the slab, providing another approved subfloor is constructed, either concrete or wood framed, to separate the ground from the conditioned living space. Refer to 9.25.3.6 for specific details.

Dwelling units and buildings containing residential occupancies shall be provided with the rough-in for a radon extraction system conforming to 9.13.4.3. This is required so that if radon gas is found once the building is occupied; the soil gas can be properly ventilated to the exterior. The rough-in shall include gas-permeable layer installed in the space between the air barrier and the ground, an inlet that allows for the effective depressurization of the gas-permeable layer and an outlet in the conditioned space that permits the connection to depressurized equipment that is sealed to maintain the integrity of the air barrier system and be clearly labeled to indicate it is intended only for the removal of radon below the floor-on-ground. The appendix has further information and clarification on how this can be achieved.

The drawings submitted with the permit application shall clearly show the system to be used. Although no additional inspection will be added to our compliance monitoring program, we will be requesting additional inspections from time to time from all home builders to ensure compliance.

9.15 – Footings and Foundations – Table 9.15.4.2.A now allows foundation wall up to 3.0m (10') in unsupported height. The 2006 ABC was limited to 2.5m. This additional height should allow for greater opportunity to install larger egress compliant windows without exceeding the 1.2m wide restriction for unreinforced openings. This may also reduce the requirements for window wells, if more the foundation can extend above grade.

When a foundation wall supported more than 1.2m of backfill, it must be supported at the top. This support may be achieved by casting the floor joists into the top of the concrete wall or toe-nailing the floor system to a mudsill. The mudsill must be attached with anchor bolts spaced no more than 2.4m (8') apart.

A previous noted, standata 06-BCI-031 can no longer be accepted. Any deviation from 9.15 will require site specific engineering.

9.23.13 – Bracing to Resist Lateral Loads Due to Wind and Earthquake –

This is a new section of the 2014 ABC to address additional loads due to wind and seismic activities. Medicine Hat is located in an area were wind loads are less than 0.80 kPa and the seismic load, Sa(0.2) is less than 0.70, so standard framing method may be used. Exterior walls shall be constructed with

- panel-type cladding, in accordance with Section 9.27,
- sheathed with plywood, OSB, waferboard, fiberboard, gypsum board or diagonal lumber sheathing complying with Subsection 9.23.16, or
- finished on the interior with panel-type material in accordance with the requirements of Section 9.29.

Alternate options may be available and depending on the methods used to achieve Energy Efficiency of the ABC. Alternate methods may include site specific engineering under Part 4, or those available in Articles 9.23.13.4 to 9.23.13.7. Any deviations from the prescribed method outlined in 9.23.13.1 must be identified at time of permit application.

9.31 – Plumbing Facilities – Part 7 Plumbing Services and Health of the 2014

ABC has been revised and certain items relocated into Part 3 and Part 9. One item of note is a new Article 7.1.2.2 Burn Prevention allows the AHJ the authority to require burn prevention devices to be added to plumbing systems when deemed necessary. This would be typically for day cares, group homes, not Single Family Dwellings. Currently tubs and showers already have anti-scalding valves built into their design.

9.36 – Energy Efficiency is a new section of the code that deals with the energy used by buildings as a result of the design and construction of the Building envelope and the design and construction or specification of systems and equipment for heating, ventilation or air conditioning and service water heating. This section of the code is currently exempted until May 1, 2016 with a 6 month transition period ending November 1, 2016.

The types of buildings impacted by this delay include

- buildings containing residential occupancies to which Part 9 applies,
- buildings containing business and personal services, mercantile or low-hazard industrial occupancies to which Part 9 applies provided the total floor area does not exceed 300m², and
- buildings containing a mix of all of the above.

Although these rules do not come into force until next, it is highly recommended contractors and home builders look to this section for future design and construction to minimize cost impacts that could come into play with these requirements in the future. Energy efficiency is coming, so being proactive is the best course to take.

Once 9.36 comes into force, permit applications must comply with the requirements found in the 2014 ABC – Division C 2.2.8.2. **Drawings, Specifications and Calculations for Energy Performance Compliance.**

Secondary Suites – has now been moved from 9.37 of the 2006 ABC and is now identified were required in the 2014 ABC. The defined term for Secondary Suites has been expanded to clarify when and where they can be added to a Single Family Dwelling. The current Land Use Bylaw #4168 (LUB), limits Secondary Suites to detached houses only provided the building contains no more than two dwelling units. This means, they are only allowed under the LUB in Single Family Detached Dwellings.

- **Dwelling** means a self-contained unit for the purpose of a household residence that may include food storage and preparation, sleeping and personal hygiene facilities.
- **Secondary Suite** means a second *Dwelling* located within a *Single Detached House*.
- **Single Detached House** means a Building that contains one *Dwelling*, and may contain a *Secondary Suite*.

Secondary Suites are not permitted to be constructed in new or existing duplexes, 3-plexes, 4-plexes and other multi-family type buildings unless LUB requirements are met. This may include subdividing a parcel of land into separate real estate entities. It may also require the construction of a Firewall if the building contains more than two dwellings units. (ie rowhouses, townhouses)

Although an extensive effort has been made to identify the changes that will impact most contractors and home builders, there are other changes that may be more specific to a certain type of building or occupancies. Part 3 buildings usually require professional involvement, so please contact your design professional for additional information that may impact your project.

The Safety Codes Department will be reviewing all existing Construction Bulletins and updating them as required. Please refer to the City of Medicine Hat website for up to date information.

[Safety Codes Services Newsletters and Construction Bulletins](#)

The City of Medicine Hat Safety Codes Services, in an ongoing effort to provide updates to Home Builders, Contractors, Designers and Trades people, regarding the Alberta Building Codes, provide these bulletins as a service.