



June 24, 2013

Dave W. Cook, Program Manager
Building Standards Program
Montana Department of Labor and Industry
PO Box 200517
Helena, Montana 59624-1728

Dear Mr. Cook:

The Montana Building Industry Association is a statewide trade association representing over 1400 small businesses. Our members have daily, real life interaction with Montana's residential building codes. As a result, we are highly committed to developing a workable, safe and useful code.

We appreciate the opportunity to comment and offer suggestions on the 2012 International Residential Code. The changes are made with a mind toward maintaining the safety of homes while allowing for field practicability, product fairness, and housing affordability.

List of Proposed IRC Amendments:

- Exhaust Makeup air (IMC)
- Pipe hangers (IMC)
- Opening Protection
- Stair Geometry
- Window Sill Height
- Guardrails
- Foundation Anchorage
- Window and Door Flashing
- Cripple Walls
- Construction Documents
- Fire Protection for Floors
- Fire Separation Distance
- Residential Fire Sprinklers

Sincerely,

Dustin Stewart
Executive Director
Montana Building Industry Association

Issue: Domestic Kitchen Exhaust Makeup Air

2012 IMC Section Number: 505.2 Makeup Air

Required Recommended Amendment:

Modify the section as shown below:

505.2 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute ($0.19 \text{ m}^3/\text{s}$) shall be provided with makeup air at a rate approximately equal to the difference between the exhaust air rate and 400 cubic feet per minute. Such makeup air systems shall be equipped with a means of closure ~~and shall be automatically controlled to start and operate simultaneously with the exhaust system.~~

Exception: Where all appliances in the house are of sealed combustion, power-vent, unvented, or electric, the exhaust hood system shall be permitted to exhaust up to 600 cubic feet per minute ($0.28 \text{ m}^3/\text{s}$) without providing makeup air.

Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute ($0.28 \text{ m}^3/\text{s}$) shall be provided with a makeup air at a rate approximately equal to the difference between the exhaust air rate and 600 cubic feet per minute.

Reason:

This section, introduced in the 2009 International Residential Code (IRC) and 2009 International Mechanical Code (IMC), attempts to solve an unproven backdrafting problem with range hoods. The exhaust rate of 400 cubic feet per minute (cfm) was chosen arbitrarily and without substantiation other than it being greater than the minimum exhaust rate of range hoods on the market. However, several manufacturers do not produce any range hoods below the 400 cfm threshold, effectively reducing a homeowner's choice of kitchen exhaust options without the added difficulty and expense of installing makeup air.

The reasoning that kitchen exhaust systems are available with an exhaust rate under 400 cfm does not take down-draft systems, popular with homeowners, into consideration. Most of them operate at 500 to 600 cfm and therefore require makeup air.

As written, this section allows range hoods up to 400 cfm to be installed without makeup air. It would be consistent to require makeup air equaling the amount above and beyond 400 cfm for larger fans. Essentially, there would be no difference between the effect a 400 cfm fan has on a house and a 600 cfm fan with 200 cfm of makeup air. This would also improve the feasibility and acceptance of this code section as well as cut down on the amount of wasted energy in heating or cooling the makeup air.

This section requires an automatic means of closure for the makeup air opening beyond what the code has historically required for residential construction. For example, Section G2407.6 requires no dampers whatsoever for combustion air openings to the outdoors,

such as found in many homes in the northern US. The amended section would allow barometric dampers.

Finally, the current code section does not take into effect the fact that in many homes there is no danger of backdrafting, due to the lack of natural draft appliances. The 400 cfm threshold could be raised to 600 cfm in those cases with no added danger. This would allow for down-draft fans without dedicated makeup air.

Issue: Piping Support

2012 IFGC Section Number: 407.2 Design and Installation

Recommended Amendment:

Modify the section as shown below:

407.2. Design and Installation. *Piping* shall be supported with ~~metal~~-pipe hooks, metal pipe straps, ~~metal~~-bands, ~~metal~~-brackets, ~~metal~~-hangers, or building structural components, suitable for the size of *piping*, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration. *Piping* shall be anchored to prevent undue strains on connected appliances and shall not be supported by other *piping*. Pipe hangers and supports shall conform to the requirements of MSS SP-58 and shall be spaced in accordance with Section 415. Supports, hangers, and anchors shall be installed so as not to interfere with the free expansion and contraction of the *piping* between anchors. All parts of the supporting equipment shall be designed and installed so they will not be disengaged by movement of the supported *piping*.

Reason:

This change from the 2006 International Fuel Gas Code (IFGC) is clearly proprietary in nature. To disallow any other material that is proven to meet the requirements for support is contrary to the spirit of the ICC family of codes (I-Codes). Section 105.2 specifically states that the code should be inclusive in nature as long as products and materials meet the qualities necessary to meet their intended purpose. Favoring one material over another without reason is unacceptable. The change to the 2009 IFGC is too restrictive and eliminates other support materials that have been used successfully for years.

The 2012 change will have a significant impact on several manufacturers that have established alternate materials for piping supports. If the structural properties of a material is tested and proven to meet the structural specifications for supporting the piping it should be accepted for use. If the material requirements for this section are not removed, it basically allows this code to become exclusionary. In the past the I-Codes have railed from the exclusivity of other codes that limit the type of materials. Other materials have proven themselves acceptable over the years and should not be eliminated to prosper one type of material.

We encourage the adoption of this amendment to allow any and all materials that meet the requirements of the code to be used, not just a proprietary product or single material.

Issue: Opening Protection

2012 IRC Section Number: R302.5.1 Opening Protection

Recommended Amendment:

Delete the Section in its entirety as shown below:

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 13/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 13/8 inches (35 mm) thick, or 20-minute fire-rated doors ~~equipped with a self-closing device.~~

Reason:

MBIA strongly disagrees with the new requirement for door closures to be required on openings between the garage and the house. For many years, the ICC was asked to approve closures on the doors between the house and the garage for the reason that fires originating in the garage could pass through these openings. For many years the proponents failed to provide any reliable data or statistics on the number of fires that originated in the garage and spreading into the interior of the dwelling. As a result, the committee and the governmental members repeatedly disapproved this requirement.

During the 2009-10 Code development, the proponents returned with a new reason for requiring that these doors be equipped with door closures, to prevent the spread of carbon monoxide from vehicles and the by-products produced by the burning thermoplastics. While the proponents were able to produce an extremely lengthy dissertation on the hazards of carbon monoxide and the number of false alarms that are created by carbon monoxide detectors, nowhere in their written or oral testimony were they able to link any statistical substantiation to the need for closures on these openings. To this day there are no reports that support the addition of door closures on doors between the dwelling and the garage.

Issue: Stair Geometry (8" x 9")

2012 IRC Sections: R311.7.5.1 and R311.7.5.2

Recommended Amendment:

Modify the Section as shown below (Delete text, add new text)

R311.7.5.1 Riser height. The maximum riser height shall be 8 inches (210 mm) ~~7 ³/₄ inches (196 mm)~~. The riser shall be measured... (no further change)

R311.7.5.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm) ~~10 inches (254 mm)~~. The tread depth shall be measured... (no further change)

Reason:

The purpose of this amendment is to retain the stair geometry requirements to those that have historically been allowed under the Uniform Building Code (UBC). This amendment will allow for the continued use of the 8" x 9" geometry which is also the historically accepted requirement of many other state and local jurisdictions across the country. Many others actually adopt stair geometry requirements of 8 ¹/₄" x 9."

The 8" x 9" geometry has always adequately provided for occupant safety in residential occupancies. No sound documentation or data has ever been presented demonstrating that the 8" x 9" geometry is any less safe than a stair geometry of 7 ³/₄" x 10" or other even more stringent geometries. More specifically, there is no sound data showing or otherwise indicating a stair geometry of 8" x 9" is a contributing factor in accidental residential falls anymore than a stair geometry of 7 ³/₄" x 10".

The safety benefits of the 7 ³/₄" riser and 10" tread stair geometry are technically unsubstantiated and are not practical in many home designs. If the footprint of the house must be increased to accommodate the additional space needed for 7 ³/₄" x 10" vs. an 8" x 9" geometry, adequately sized living spaces are sacrificed without any demonstrated gain. This can lead to an economic hardship upon first-time homebuyers of smaller homes, and in particular for construction on smaller lots, in-fill projects, and townhomes.

As outlined in Section R101.3 of the International Residential Code (IRC), the purpose the requirements in the code are to provide *minimum* requirements for occupant safety and health. There is adequate substantiation to show that an 8" x 9" geometry provides this *minimum* level of occupant safety.

Issue: Window Sill Height/Window Opening Devices

2012 IRC Section: R312.2

Recommended Amendment:

Modify the Section as shown below (Delete text, Add new text)

R312.2 Window fall protection. Where window fall protection is provided it shall be installed ~~provided~~ in accordance with Sections R312.2.1 and ~~R312.2.2~~

~~R312.2.1 Window sills. In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow a 4 inch (102mm) diameter sphere where such openings are located within 24 inches (610 mm) of the finished floor.~~

Exceptions:

- ~~1. Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.~~
- ~~2. Openings that are provided with window fall prevention devices that comply with ASTM F-2090~~
- ~~3. Windows that are provided with window opening control devices that comply with Section R312.2.2.~~

~~R312.2.2 Window opening control devices. Window opening control devices shall comply with ASTM F2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section R310.1.1~~

Reason:

The purpose of this amendment is to retain the provision for the installation of “window opening limiting devices” or window fall prevention devices where they are installed and delete the reference of requiring these devices based on window sill height. This change will allow the builder and the building official to use their judgment for when these devices shall be installed and insure that when these devices are provided they will conform with the referenced industry standard.

During the 2007/2008 Code Development Cycle and the International Code Council’s Code Technology Committee (CTC) meetings, the Window and Door Manufacturers Association (WDMA) presented credible information that raised questions and concerns regarding the established minimum window sill heights.

Despite the Consumer Product Safety Commission (CPSC) reports indicating a decrease in

the number of injuries and deaths from children falling from windows, WDMA had discovered that in Denver, Colorado; one of the few areas in the country that has had a minimum sill height requirement for the past decade; the number of child injuries and deaths were increasing. One of the many concerns is the potential for the occupant to place furniture or other objects under the window that a child could climb upon. It is our opinion that the CTC needs to earnestly review the information presented by the WDMA and reconsider their position on minimum window sill heights

Furthermore, the recommendation to *require* window opening limiting devices contradicts conclusions of the CTC Work Study Group. It was clear to many in the CTC Work Group that public education was the most effective means of reducing the number of falls by children through windows.

Issue: Guardrails

2012 IRC Section: R312.1.1

Recommended Amendment:

Modify the Section as shown below (Delete text)

R312.1.1 Where required. Guards shall be located along open-sided walking surfaces of all decks, porches, balconies, ~~including~~ stairs, ramps and landings that are located more than 30 inches measured vertically to the floor or grade below. ~~at any point within 36 inches (914 mm) horizontally to the edge of the open side~~ Insect screening shall not be considered as a guard.

Reason:

The purpose of this amendment is to retain the provisions of the 2006 International Residential Code (IRC), where guardrails were required when the elevation difference between the walking surface was greater than 30 inches to the floor or grade directly below. The 2009 IRC now requires a guardrail where the elevation difference is greater than 30 inches from the walking surface to a horizontal point 36 inches adjacent to the leading edge of the walking surface to the grade or floor below. This change will now require the building official to carry a four-foot level to conduct inspections.

During the 2007/2008 Code Development Cycle, the proponent referred to work conducted and reports written by the International Code Council's Code Technology Committee (CTC). At no time during the Public Hearing, nor the Final Action Hearing, was any technical justification presented to substantiate the change requiring the building official to measure 36 inches away from the leading edge of the walking surface or tread to determine when a guardrail should or should not be required. After reviewing the many reports from the CTC website, it is still unclear from where the 36 inch requirement was derived. Currently there are no studies that can support the claims made that this will have an effect on reducing possible injuries. While the proponent promotes this as a means for consistent enforcement of the guard requirements, there was no evidence that showed an increased risk to the safety of the occupant if the current method of measuring from the edge of the walking surface to grade below is used.

Furthermore, the new language now requires a guardrail to be applied to any open-sided walking surface. This could very well be interpreted by building officials to include driveways, landscaped walkways, retaining walls and other elevated surfaces used for the purpose of walking. This change substantially expands the areas needing to be equipped with guards, beyond the previous edition of the code.

Issue: Foundation Anchorage

2012 IRC Section Number: 403.1.6

Recommended Amendment:

Modify the section as shown below:

R403.1.6 Foundation anchorage. Where wood sill and sole plates are and walls supported directly on continuous foundation walls or monolithic slabs with integral footings required by the provisions of this code, they shall be anchored to the foundation in accordance with this section.

Cold-formed steel floor and wall framing shall be anchored to the foundation in accordance with Section R505.3.1 or R603.3.1.

Wood sole plates at all exterior walls ~~on monolithic slabs~~, wood sole plates of *braced wall panels* at building interiors on monolithic slabs with integral footings, and all wood sill plates shall be anchored to the foundation with minimum 1/2 inch (12.7 mm) diameter anchor bolts spaced a maximum of 6 feet (1829 mm) on center or approved anchors or anchor straps spaced as required to provide equivalent anchorage to the 1/2-inch-diameter (12.7 mm) anchor bolts. Bolts shall ~~be at least 1/2 inch (12.7 mm) in diameter and shall~~ extend a minimum of 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. A nut and washer shall be tightened on each anchor bolt. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. Interior bearing wall sole plates on monolithic slab foundations with integral footings that are not part of a *braced wall panel* shall be positively anchored with *approved* fasteners. Sill plates and sole plates shall be protected against decay and termites where required by Sections R317 and R318. ~~Cold-formed steel framing systems shall be fastened to wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.3.1.~~

Exceptions:

- ~~1. Foundation anchorage, spaced as required to provide equivalent anchorage to 1/2-inch diameter (13 mm) anchor bolts.~~
12. Walls 24 inches (610 mm) total length or shorter connecting offset *braced wall panels* shall be anchored to the foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent *braced wall panels* at corners as shown in item 8 of Table R602.3(1).
23. Connections of walls 12 inches (305 mm) total length or shorter connecting offset *braced wall panels* to the foundation without anchor bolts shall be permitted. The wall shall be attached to adjacent *braced wall panels* at corners as shown in item 8 of Table R602.3(1).

Reason:

The purpose of this amendment is to revise and clarify the language for anchorage of light-frame wood and cold-formed steel stud walls to the foundations of the house. We are concerned that the provisions as stated will be interpreted as requiring a continuous footing and anchor bolts along the entire length of an interior, non-bearing wall used as part of a braced wall line. Chapters 4 and 6 of the IRC do not explicitly require a continuous foundation in these locations and they are not traditionally provided in low-wind, low-seismic areas. If interpreted and enforced as such by plan reviewers and inspectors in this area, disputes and project delays will result.

The ICC Ad-Hoc Committee on Wall Bracing revised this section during the 2007/2008 code cycle with the intent of insuring that sufficient anchorage is provided on braced wall lines and panels inside a dwelling to transfer lateral loads to either monolithic (thickened) slab foundations or continuous footings. While we agree that providing a continuous load path is important, the new language is overly broad in its application. In addition to the concern about non-bearing walls used as braced wall lines, we are also concerned the language could be taken to require *all* light-frame walls to be provided with anchor bolts to the foundation. Thus, a non-bearing interior partition that is not part of a braced wall line but which just happens to sit atop a foundation wall or continuous foundation (e.g. at a partial basement, crawlspace, or interior knee wall) would also be required to be fastened to the wall or footing below with 1/2" diameter anchor bolts at 6 foot spacing. The ability to use wedge anchors, expansion bolts, mudsill straps, or other equivalent anchorage in lieu of anchor bolts needs to be strengthened. This permission should be granted in the main text of the section similar to the IBC, not just as an exception. Among other benefits, this will help prevent a possible issue with requiring anchor bolts in the middle of a post-tensioned slab-on-grade used where expansive soils exist.

Further, there was no technical justification provided for the increased anchorage requirements. It is noted that the bottom plate of a braced wall line on the interior of a dwelling and supported on floor framing (including a raised floor system over a crawlspace or pier-and-beam foundation) can be attached to the framing with 3-16d nails at 16" spacing. In most dwellings, braced wall lines inside the dwelling will use Method GB bracing, reflecting the fact gypsum board is the typical interior finish. The ultimate capacity for Method GB when used on both sides of a braced wall is 400plf (or 200plf allowable). Clearly, this can easily be achieved not only by the standard nailing on a raised floor system, but also by short post-installed anchors or even power-actuated fasteners. 1/2" diameter anchor bolts at 6 foot spacing are not necessary.

Finally, the pointer to the foundation anchorage requirements in Chapter 5 and 6 for cold-formed steel framing is moved from the end of the paragraph on anchorage requirements for wood framing to the beginning of Section 403.1.6 where it can serve as charging language and an appropriate pointer. As part of the move the text regarding wood sill plates is deleted as this option is covered by the Chapter 5 and 6 provisions.

Issue: Window and Door Flashing

2012 IRC Section Number: 703.8

Recommended Amendment:

Modify the section as shown below:

~~PAN FLASHING. Corrosion-resistant flashing at the base of an opening that is integrated into the building exterior wall to direct water to the exterior and is pre-manufactured, fabricated, formed or applied at the job site.~~

R703.8 Flashing. Flashing ~~Approved~~ corrosion-resistant flashing shall be provided in accordance with this section ~~applied shingle fashion in a manner~~ to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. Flashing ~~The flashing~~ shall extend to the surface of the exterior wall finish or to the water resistive-barrier for drainage and. ~~Approved~~ corrosion-resistant flashings shall be installed at all of the following locations:

1. Exterior window and door openings. ~~Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water resistive barrier for subsequent drainage. Flashing at exterior window and door openings shall be installed in accordance with one or more of the following: 1.1. The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the flashing manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water resistive barrier for subsequent drainage. Openings using pan flashing shall also incorporate flashing or protection at the head and sides.~~
~~1.2. In accordance with the flashing design or method of a registered design professional. 1.3. In accordance with other approved methods.~~
2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.
3. Under and at the ends of masonry, wood or metal copings and sills.
4. Continuously above all projecting wood trim.
5. Where exterior porches, decks or stairs attach to a wall or floor assembly of wood-frame construction.
6. At wall and roof intersections.
7. At built-in gutters.

R703.8.1 Flashing Materials. Approved flashing materials shall be corrosion-resistant. Self-adhered membranes used as flashing shall comply with AAMA 711. Pan flashing

shall comply with Section R703.8.2. Installation of flashing materials shall be in accordance with Section R703.8.3.

R703.8.2 Pan Flashing. Pan flashing installed at the sill of exterior window and door openings shall comply with this section. Pan flashing shall be corrosion-resistant and shall be permitted to be pre-manufactured, fabricated, formed or applied at the job site. Self-adhered membranes complying with AAMA 711 shall be permitted to be used as pan flashing. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage.

R703.8.1 Flashing Installation. Installation of flashing materials shall be in accordance with one or more of the following methods:

1. The fenestration manufacturer's installation and flashing instructions.
2. The flashing manufacturer's installation instructions.
3. Flashing details *approved* by the building official.
4. As detailed by a registered design professional.

Reason:

The purpose of this amendment is to revise and clarify the language regarding window and door flashing.

Our members are concerned with the hierarchy that was established for window and door flashing. As written, if a builder cannot obtain flashing instructions from the window or door manufacturer or from a flashing manufacturer, they must either hire an architect or engineer to design the flashing, or utilize pan flashing. We believe the window manufacturer is best positioned to provide the flashing instructions and details. We are concerned about language that could transfer much of the liability for flashing to the builders. We also do not want to involve a registered design professional in flashing design. In addition to our objection to the cost of retaining an architect or engineer for flashing design, we are concerned that many design professionals, once involved in one portion of design, will insist on addressing other related items. This could result in considerable added expense and delays to the builder and homeowner. Thus, we propose to replace the hierarchy with a new section that permits any combination of four sources to be used to obtain flashing installation requirements.

In addition, a new section on flashing materials is created. This section is populated with material requirements which currently appear in the changing language of R703.8. This allows R703.8 to introduce flashing requirements and identify the locations before proceeding with material or installation requirements. A subsection under the new flashing materials section is then provided for pan flashing. The new subsection picks up the language from the pan flashing definition and the installation details from item #1 in the list of locations. A second reference to AAMA 711 is provided to underscore that peel-and-stick membranes formed and applied on the jobsite are an accepted method for providing pan flashing

Issue: Cripple Wall Bracing

2012 IRC Section Number: R602.10.11

Recommended Amendment:

Modify the section as shown below:

R602.10.11 Cripple wall bracing. Cripple walls shall be constructed in accordance with Section R602.9 and braced in accordance with this section. Cripple walls shall be braced with the length and method of bracing used for the wall above in accordance with Tables R602.10.3(1) and R602.10.3(3), and the applicable adjustment factors in Table R602.10.3(2) or R602.10.3(4), respectively, except that the length of cripple wall bracing shall be multiplied by a factor of 1.15. ~~The distance between adjacent edges of braced wall panels shall be reduced from 20 feet (6096 mm) to 14 feet (4267 mm).~~

Reason:

The purpose of this amendment is to correct an error made in correlating the 2012 braced wall provisions. The reduction in spacing between braced wall panels in a cripple wall originated from cripple wall failures observed in seismic events such as the 1994 Northridge Earthquake. Working through the ICC Ad-Hoc Committee on Wall Bracing, MBIA developed a proposal for the 2009/2010 Code Development Cycle that reorganized the cripple wall bracing provisions and removed the spacing reduction for low-seismic areas. The proposal was approved at the Public Hearings and ratified by the consent agenda vote at the Final Action Hearings. Unfortunately, a separate effort by the Ad-Hoc Committee to correlate their comprehensive reorganization of the wall bracing section with a modification made by the IRC-Building/Energy Committee inadvertently resulted in the spacing reduction being reinstated for low-seismic areas. This amendment corrects that oversight and restores the original intent of the cripple wall proposal.

Issue: Construction Documents

2012 IRC Section Number: R106.1.1

Recommended Amendment:

Modify the section as shown below:

R106.1.1 Information on Construction Documents. *Construction documents* shall be drawn upon suitable material. Electronic media documents are permitted to be submitted when *approved* by the *building official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed, ~~and show in detail that it will conform to the provision of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official*. Where required by the *building official*, all braced wall lines, shall be identified on the construction documents and all pertinent information including, but not limited to bracing methods, location and length of braced wall panels, foundation requirements of braced wall panels at top and bottom shall be provided.~~

Reason:

The purpose of this amendment is to simplify the requirements for construction documentation that must be submitted.

Over the past several years, the process of developing and submitting construction documents has become much more involved and expensive. It has also become quite duplicative with the requirements of field inspection. The new language found in the provisions of the 2012 IRC are another step towards increased redundancy and a new layer of expense that will be added to the development of these documents.

We would like to begin the process of reducing the complexity and redundancy of this these documents

This requested amendment moves the code away from the suggested provisions of the 2012 IRC by eliminating language that is already clearly required by other areas of the law or code.

The cost of including the un-amended language of R106.1.1 into the 2012 IRC could easily add \$700 to the engineering costs of a typical home.

Issue: Fire Protection of Floors

2012 IRC Section Number: R501.3

Recommended Amendment:

Delete in its entirety:

Reason:

The purpose of this amendment is to retain the provisions of the 2006 International Residential Code (IRC).

Our opposition to R501.3 stems from three major concerns:

1. The proponents of this amendment have yet to provide any reports or studies that show Montana homes built to current code are unsafe and require this change. To the contrary, our own review of house fires in the Helena and Billings area show new home constructed to code to be extremely unlikely to cause death or injury to the occupants. (Please see appendices)
2. As this amendment addresses floor assemblies over unfinished basements, it is our belief that the homeowner will eventually perform work, or hire a contractor to perform work on that area of their home. The engineered I-beams can very easily be damaged during removal of gypsum board. If a homeowner unwittingly cut into an engineered I-beam by even ¼ inch, the structural integrity of the beam could be compromised.
3. The cost implementing this amendment will range from \$500 - \$1000, with no increased value to the homeowner. Additionally, installation of gypsum board in a crawlspace can be very difficult to install.

Issue: Fire Separation Distance

2012 IRC Section: Table R302.1(1) & Table R302.1(2)

Recommended Amendment:

Modify the Table by replacing with displayed information

Table R302.1(2) – Exterior Walls

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	(Fire-resistance rated)	1 hour-tested in accordance with ASTM E 119 or UL 263 with exposure to both	<5 Feet 0 Feet >3 Feet
	(Not fire-resistance rated)	0-	≥5 Feet >3 Feet
Projections	(Fire-resistance rated)	1-Hour on the underside	>5 Feet <3 Feet 2 Feet
	(Not fire-resistance rated)	0-	3
Openings	Not Allowed	N/A	3 Feet < 3 Feet
	Unlimited	0-Hours	5 Feet 3 Feet
Penetrations	All	Comply with	—<5 Feet < 3 Feet
		None Required	5 Feet 3 Feet

For SI: 1 foot= 304.8 mm N/A = Not Applicable

REASON:

MBIA urges adoption of the above referenced amendment to the fire separation distance requirements for exterior walls. For years the National Association of Home Builders (NAHB) has requested the IRC code committee to return the fire separation distances of exterior walls to those found in the 2003 IRC. During the supplemental code cycle, the fire separation distances were increased without any scientific data or reports that proved the allowable distance found in the 2003 IRC contributed to any increase in exposure fires from one dwelling to another. The fire separation distances were arbitrarily increased by a distance of 2'-0", without any justification or testing showing that the previously allowed distances were an increased fire hazard.

To this day, there are no known reports or studies that demonstrate the previously allowed 3 foot separation distance from the property line and 6 foot separation between structures failed to provide the minimum required safe distance for fire separation. We encourage the adoption of this amendment.

Issue: Residential Fire Sprinklers

2012 IRC Section Number:

R313 Automatic Fire Sprinkler System

Recommended Amendment:

Delete the Section in its entirety as shown below:

~~R313 AUTOMATIC FIRE SPRINKLER SYSTEMS~~

~~R313.1 Townhouse automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in townhouses.~~

~~Exception: An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.~~

~~R313.1.1 Design and installation. Automatic residential fire sprinkler systems for townhouses shall be designed and installed in accordance with Section P2904.~~

~~R313.2 One- and two-family dwellings automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings.~~

~~Exception: An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential fire sprinkler system.~~

~~R313.2.1 Design and Installation. Automatic residential fire sprinkler systems shall be installed in accordance with Section P2904 or NFPA 13D.~~

Reason:

Since the inclusion of the mandatory requirement for residential sprinklers in the 2009 Edition of the International Residential Code, more than 34 states have amended or passed legislation prohibiting communities from mandating residential sprinklers in new one and two family dwellings. MBIA strongly urges rejection of mandatory sprinklers and continued support of the voluntary installation of residential sprinklers as the buyer's choice.

The Montana Legislature has voiced strong opposition to the mandatory sprinkler provision. During the 2011 legislature 76 members of the House and 33 members of the Senate voted in favor of legislation that would create an outright prohibition of mandatory sprinklers in one and two family dwelling units in Montana law.

To be clear, the MBIA is not opposed to the idea of fire sprinklers. We are opposed to mandating sprinkler installation through the IRC. Due to numerous amendments to the IRC over the past two decades, homes are safer than they have ever been. Amendments that have been included in the IRC include: emergency escape and rescue openings, fire

blocking, draft stopping, electrical circuit breakers, outlet spacing and capacity, fire walls, fire separation distances and interconnected hardwired smoke detection systems. Additionally, the energy efficiency and heating requirements of homes have increased substantially, which reduces the use of space heaters.

In 1977, less than 0.008% of the housing market was affected by structure fires. In 2005, that number was reduced to less than 0.002%. Over the past three decades, there has been substantial decrease in the number of residential structure fires in relation to the growth of American housing. No one can predict when and where a fire will occur, but to require all homes to be equipped with a residential sprinkler system based on the figures above does not make sense.

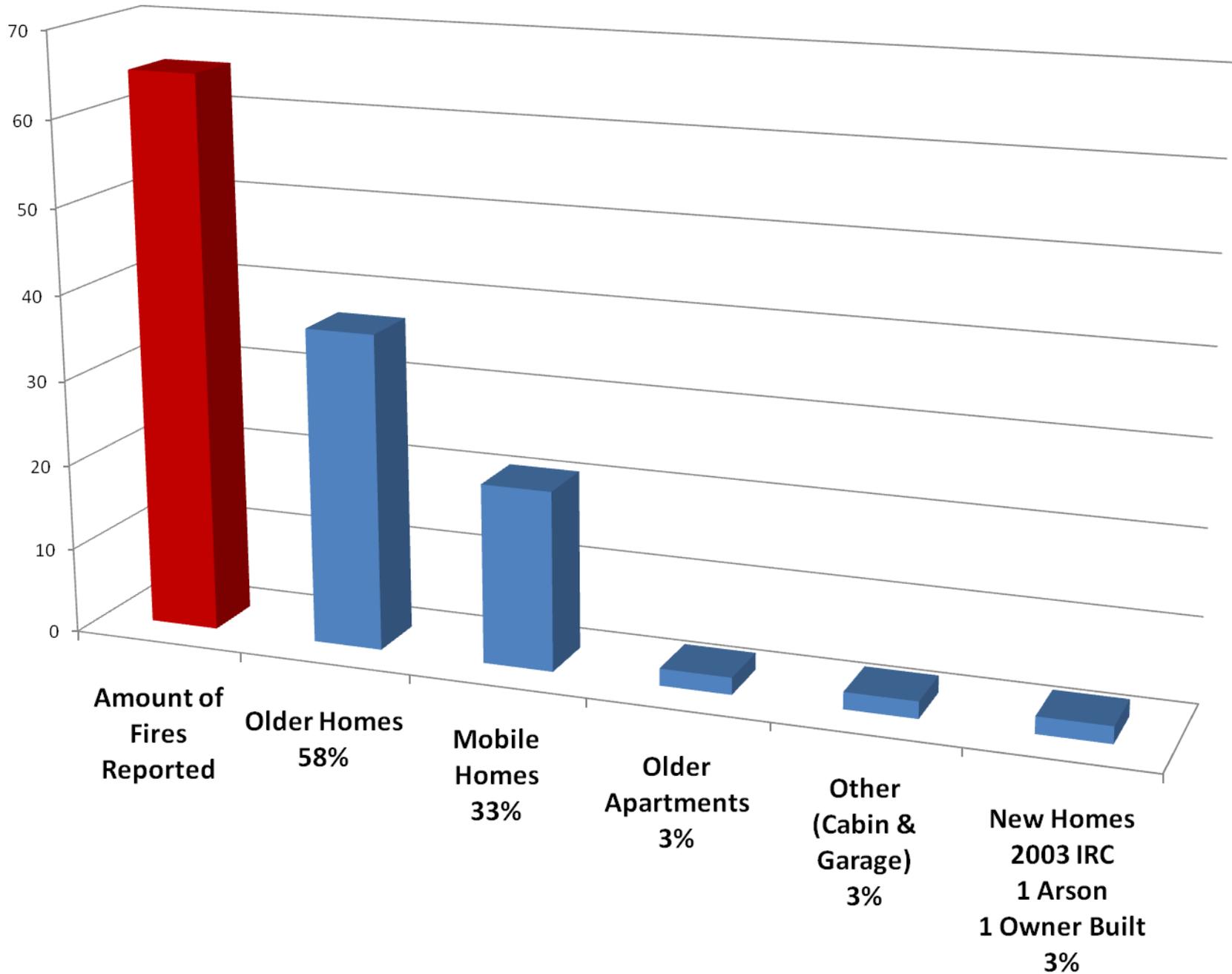
We estimate that fire sprinklers will cost an average of \$4.00 per sq foot in Montana, plus many other costs associated with the installation process:

- Larger water supply pipe
- Larger water meter
- More expensive water hook up permit
- Generators (homes using water wells)
- Battery back ups (homes using water wells)
- Pressurized water storage tanks (homes using water wells)
- Larger pumps for wells (homes using water wells)
- Impact Fees for homes located in most major Montana cities

Requiring fire sprinklers in every new home in Montana would have an aggregate cost of over \$70 million per year. That is more than Montana currently pays for the entire highway patrol, plus the fire departments in Kalispell, Great Falls, Helena, Bozeman, Missoula and Billings.

There is a more cost effective means of reducing the loss life that we see every year and that is through increasing public awareness on the use and importance of smoke alarms. According to NFPA reports an estimated 890 lives could be saved annually if homes were equipped with working smoke alarms. Sixty-five percent of the reported fire fatalities from 2000-2004 occurred in homes where smoke alarms were either not present or were present but failed to operate. CPSC surveys have shown that while 88% of the households screened had at least one smoke alarm, 72% of these smoke alarms were battery powered only.

Residential Fires Reported in the Helena Area 2002 to 2009



Montana Building Industry Association
1717 Eleventh Ave.
Helena, Montana 59601
Attn: Dustin Stewart

3-1-10

Dustin,

We have completed the fire sprinkler data report for the Billings area. Initially, we had this report organized in a different format but we discovered we had some inaccurate information regarding building codes, smoke detectors, etc. The information used to formulate this report was obtained from The Billing Gazette, Billings Parmly Library and the Yellowstone County Treasurer web site. We also had discussions with Mike Hughes of Mike Hughes Builders of Helena who previously assembled a similar report. After talking with Mr. Hughes and discussing at length the format of his report for the Helena area we have structured our final report to focus on fires in structures built during or after 2004 when the 2003 edition of the IRC was adopted.

In the Billings area between January 1st, 2005 and December 31st, 2009 there were a total of 2,102 fires. Of the 2,102 fires we eliminated fires from our report that were not structure fires such as grass fires, shed fires, vehicle fires, trash fires, etc. This resulted in a net total of 788 structure fires including duplex and multi-family structures (some of which are not covered by the IRC). Of the 788 structure fires, 182 fires occurred in structures built after 1970, 42 fires occurred in structures built after 1990 and 17 fires took place in structures built during or after 2004 when the 2003 edition of the IRC was adopted by the City of Billings. In addition, we determined that 289 of the 2,102 fires reported included mis- information in the form of inadequate or inaccurate addresses, no date of construction and no determination of the cause of the fires. We assumed these fires most likely occurred in older structures when inadequate information was more likely to have been the case.

Of the 17 fires reported after 2003, all but one was of 'undetermined' origin. The lone fire with a determination was chalked up to 'fireworks'. No deaths were reported in any of the fires taking place in structures built during or after 2004. Less than 1% (.81% to be exact) of the 2,102 fires reported in this time period are fires that occurred in structures built during or after 2004.

The 2000 edition of the IRC was adopted by the State of Montana and Billings. This period of time was considered a 'transition' period and both the IRC and the CABO codes were utilized in the construction of 1 & 2 family structures. Prior to 2000, the One and Two Family CABO Code was utilized in the State of Montana and in Billings. The 2003 edition of the IRC was adopted in Billings in 2004 and was used exclusively from that point forward for One and Two Family structures. Currently we are under the control of the 2006 edition of the IRC and the 2009 edition should be adopted by the State of Montana in the very near future.



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Building codes have been in place in Billings since 1933; the current building code at that time was the 1930 edition of the UBC of Pacific Coast Building Officials. It amounted to a small pamphlet that fit in a shirt pocket and included about 30 pages. The 2009 edition of the IRC is a good sized catalogue and includes 868 pages. Hard-wired smoke detectors have been required in Billings since the late 70's when the requirement showed up in the 1979 edition of the UBC.

This report should serve as notice to all fire departments to start and maintain a public record-keeping system of fires that include accurate information including the date of the fire, type of fire and its cause, accurate address, value of damages and date the structure was constructed. And make this information easily accessible to anyone who may want to review it. This would be a tremendous help to our industry in an effort to accumulate accurate data regarding structure fires and the implementation of building codes going forward.

This report is not guaranteed to be 100% accurate. It is limited by the accuracy of the sources of the information utilized. Another thing we discovered is that the date of construction for a structure fire at times reflects the date of re-build, not the original construction date and could result in skewed numbers.

Call with any questions or comments.

Thank you,



Jeffrey T. Engel, Pres.



P.O. Box 50219 • Billings, MT 59105 • o 406/534.4655 • f 406/252.2800

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FAXED BID FROM:

FIRE CONTROL SPRINKLER SYSTEMS CO., INC.

DATE: 5/26/2009

3316 SECOND AVENUE NORTH

BILLINGS, MONTANA 59101

PHONE: 406-237-0981

FAX 406-237-0982

ESTIMATOR: MIKE L

EMAIL: fcsprinkler@qwestoffice.net

CORPORATE OFFICE SPOKANE, WA 1-800-997-4434

CELL: 406-690-0794

To: RON TERRY CONSTRUCTION FAX 406-755-1546

Project: PRIVATE RESIDENCE - 1300 S 9th

Spec. Section: NONE

Addendum: 0

Base Bid: \$6,264

Alternates: 0

Bid Inclusions: WET PIPE SPRINKLER SYSTEM PER NFPA 13D

Bond Included: NO

Material Tax Incd: NO

Permit/Plan Review Fee Incd: NO

Bid Exclusions: No painting, protection from paint, electrical, fire alarm wiring, underground piping insulation and tenting of piping

Special Comments: Fire Control Sprinkler Systems Inc to start at a flange 1'-0 AFF inside the building PIPING MUST BE PROTECTED FROM FREEZING

* OWNER MUST PROVIDE, AT NO COST TO FIRE CONTROL, AUTOCAD DISKS CONTAINING ALL DRAWINGS NEEDED TO DESIGN SYSTEM FOR THIS PROJECT.

* OWNER MUST PROVIDE ADEQUATE WATER TO ACCOMMODATE A FIRE PROTECTION SPRINKLER SYSTEM.

Washington License Number: FIRECSS120R1

Idaho Public Works Number: 11353-AA-4(18)

Montana Fire Prevention License Number: 3819

Oregon CCB No. 152034

Alaska License 29782

NOTE: THE ACCEPTANCE OF THIS FAXED BID WILL SERVE AS NOTICE TO PROCEED WITH THE ABOVE REFERENCED PROJECT UNTIL A FORMAL CONTRACT IS SIGNED. THE QUOTED PRICE WILL REMAIN IN EFFECT FOR 30 DAYS. THE PRICE IS SUBJECT TO A MUTUALLY AGREEABLE SUBCONTRACT.

Accepted By: _____

Date: _____

Title: _____

Water Impact Fee			
City	3/4" impact fee	1" impact fee	Increase
Billings	\$2,080	\$5,200	\$3,120
Bozeman	\$3,585	\$8,964	\$5,379
Hamilton	\$1,680	\$3,007	\$1,327
Kalispell	\$2,155	\$5,388	\$3,233
Waste Water Impact Fee			
City	3/4" impact fee	1" impact fee	Increase
Billings	\$1,142	\$2,855	\$1,713
Bozeman	\$3,201	\$8,003	\$4,802
Hamilton	\$2,104	\$3,724	\$1,620
Kalispell	n/a	n/a	n/a