ATTENTION

Montgomery County Building & Codes Department

Announcement

The Montgomery County Board of Commissioners on the 12th day of September adopted the 2009 International Codes relating to buildings, housing, property and fire, in order to remain compliant with Tennessee Code Annotated TCA 68-120-101 (b)(5)(A).

Also adopted was a new fee schedule (see attached).

Code Adoptions

2009 International Building Code, including Appendix B, C, D, and F

2009 International Residential Code, including Appendix G, H, and J, and deleting Section R313.2

2009 International Plumbing Code, including Appendix F

2009 International Mechanical Code, including Appendix A

2009 International Fire Code

2009 International Energy Conservation Code

2009 International Fuel & Gas Code

2003 ICC/ANSI A117.1 Accessible & Useable Buildings & Facilities Code

2009 International Property Maintenance Code

Code books can be purchased from The International Code Council. Phone 1-800-786-4452 or go to web site www.iccsafe.org/STORE

ICC has provided limited access online at http://publicecodes.citation.com/icod/index.htm

Montgomery County Building & Codes department has compiled the following information on the 2009 International Residential Code adoption to assist you.

- Montgomery County Building & Codes Department has prepared a list of significant changes to the 2009 International Residential Code (See attached).

  The major changes between the 2003 IRC and the 2009 IRC is in the design and construction of buildings. These changes are as a result from the increase seismic and wind events documented and investigated between 2003 and 2009.

  Montgomery County is unique that it is split almost in half by seismic zones C and D. Seismic zone D is a more restrictive zone as it relates to the design and construction practices. In order to keep down the confusion between the different construction requirements between these two zones, Montgomery County Building and Codes Department will only enforce the requirements of seismic zone C.

  Major changes have been included in the 2009 IRC based on wind design and construction requirements. Some of these changes include wall bracing, elimination of stack framing that creates a hinge, and studs are to be continuous from the sole plate to the top plate, nailing patterns and hold down devices in some applications. Some of the new designs and construction practices are required to be done as early in the construction process as the footing. These new changes will require preplanning to have a successful construction project.

  Please keep in mind the list provided is not all inclusive.

- Deck Construction, Montgomery County Building & Codes Department will be using Prescriptive Residential Wood Deck construction Guide as prepared by the American Forest & Paper Association, for wood deck inspections. A copy of this may be found at http://www.awc.org/Publications/DCA/DCA6/DCA6-09.pdf .

- Energy Efficiency and thermal envelope requirements have slightly changed (see attached) Table N1102.1. Montgomery County is in a climate zone 4.

  A permanent certificate shall be posted on or in the electrical distribution panel. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall be completed by the builder or registered design professional (see attached sample).

  Ducts Insulation-Supply ducts in attics shall be insulated to a minimum of R-8. All other ducts shall be insulated to a minimum of R-6.

Exception: Ducts or portions thereof located completely inside the building thermal envelope.

For additional energy efficiency requirements see chapter 11 of the 2009 International Residential Code or the 2009 International Energy Conservation code.

- In order for the Montgomery County Building & Codes Department to better ensure code compliance. Changes in the number, timing and type of residential inspections will change (See attached).
- On April 1, 2012 Montgomery County Building & Codes will start inspecting Mechanical Systems. Mechanical trades permit will be required (see attached fee schedule). Additional information will be forwarded on at a later time.

PLEASE PASS THE FOLLOWING INFORMATION ONTO YOUR PLUMBING, INSULATION AND MECHANICAL CONTRACTOR.

FEE SCHEDULE

PERMIT TYPE	TYPE OF FEE	FEE AMOUNT
Minimum Permit Fee	Flat Fee	$25.00
RESIDENTIAL PERMITS		
Residential Building	Square Foot	$0.30
Residential Accessory Building	Square Foot	$0.30
Residential Additions	Square Foot	$0.30
Residential Plans Review		Min. $50.00 or $.05 sq ft, greater of the Two
COMMERCIAL PERMITS		
Commercial Building	Square Foot	$0.30
Commercial Accessory	Square Foot	$0.30
Commercial Additions	Square Foot	$0.30
Commercial Plans Review	1/2 Permit Fee	1/2 Permit Fee
INDUSTRIAL PERMITS		
Industrial Building	Fee schedule	Based on Cost of construction
Industrial Additions	Fee schedule	Based on Cost of construction
Industrial Plans Review	1/2 Permit Fee	1/2 Permit Fee
MANUFACTURED HOMES		
Single wide	Square Foot	$0.30
Double wide	Square Foot	$0.30
Triple wide	Square Foot	$0.30
PLUMBING PERMITS		
Residential Plumbing	Flat Fee	$100.00
Appliance Change out		$50.00
Commercial Plumbing	Min. & Fee Schedule	$100.00 Min. or Fee Schedule, greater of the Two
Industrial Plumbing	Min. & Fee Schedule	$100.00 Min. or Fee Schedule, greater of the Two

MECHANICAL PERMITS		
Residential Mechanical	Flat Fee	$100.00
Appliance Change out		$50.00
Commercial Mechanical	Min. & Fee Schedule	$100.00 Min. or Fee Schedule, greater of the Two
Industrial Mechanical	Min. & Fee Schedule	$100.00 Min. or Fee Schedule, greater of the Two
POOL PERMIT		
Residential Above Ground	Flat Fee	$50.00
Residential In ground	Flat Fee	$75.00
Commercial Pool	Fee Schedule	Based on Cost of construction
Barrier	Flat Fee	$25.00
DECK	Flat Fee	$50.00
SIGN PERMIT		
Temporary Sign	Flat Fee	$25.00
Permanent	Fee Schedule	Based on Cost of construction
TOWERS	Fee Schedule	Based on Cost of construction
DEMOLITION PERMIT		
Residential	Flat Fee	$50.00
Commercial	Flat Fee	$50.00
Industrial	Flat Fee	$50.00
MISCELLANEOUS FEES		
Pre-inspection Inspection	Flat Fee	$50.00
Safety Inspection	Flat Fee	$25.00
Re- Inspection	Flat Fee	$50.00
BZA Application	Flat Fee	$250.00
TEMP Fireworks Tents	Flat Fee	$100.00
House Moving	Flat Fee	$100.00

PRICE LIST FOR COPIES		
8.5" X 11" And 8.5" X 14"	Flat Fee	$0.15
8.5" X 11" Aerial Photo Maps	Flat Fee	$0.30
11" X 17"	Flat Fee	$0.30
11" X 17" Aerial Photo Maps	Flat Fee	$2.00
Large Plotted Maps 24" X 36"	Flat Fee	$10.00
PENALITIES		
Where work for which a permit is required is started or proceeded prior to obtaining said permit, but the payment of such doubled fee shall not relieve any person from fully complying with the requirements of the code in the execution of the work nor from any other penalties prescribed here in.	Doubled Permit Fee	Permit Cost

PERMIT FEE SCHEDULE

TOTAL EVALUATION	**FEE**	
$1,000.00 and less	No fee, unless inspection is required, in which case a $25.00 fee for each inspection shall be charged.	
$1,000.00 to $50,000.00	$25.00 for the first $1,000.00 plus $5.00 for each additional thousand or fraction thereof, to and including$50,000.00.	
$50,000.00 to $100,000.00	$270.00 for the first $50,000.00 plus $4.00 for each additional thousand or fraction thereof, to and including$100,000.00.	
$100,000.00 to $500,000.00	$470.00.00 for the first $100,000.00 plus $3.00 for each additional thousand or fraction thereof, to and including $500,000.00.	
$500,00.00 and up	$1670.00 for the first $500,000.00 plus $2.00 for each additional thousand or fraction thereof.	

Montgomery County reserves the right to require a detailed breakdown of cost should the submitted valuation be less than seventy-five percent (75%) of the most adopted publication of the International Building Code Building Valuation Table.
A signed contract may also used to determine the actual cost of construction when necessary.

INSULATION REQUIREMENTS

TABLE N1102.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	FENESTRATION *U*-FACTOR	SKYLIGHT[b] *U*-FACTOR	GLAZED FENESTRATION SHGC	CEILING *R*-VALUE	WOOD FRAME WALL *R*-VALUE	MASS WALL *R*-VALUE[k]	FLOOR *R*-VALUE	BASEMENT[c] WALL *R*-VALUE	SLAB[d] *R*-VALUE AND DEPTH	CRAWL SPACE[c] WALL *R*-VALUE
1	1.2	0.75	0.35[j]	30	13	3/4	13	0	0	0
2	0.65[i]	0.75	0.35[j]	30	13	4/6	13	0	0	0
3	0.50[i]	0.65	0.35[e,j]	30	13	5/8	19	5/13[f]	0	5/13
4 except Marine	0.35	0.60	NR	38	13	5/10	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.35	0.60	NR	38	20 or 13 + 5[h]	13/17	30[f]	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	20 or 13 + 5[h]	15/19	30[g]	10/13	10, 4 ft	10/13
7 and 8	0.35	0.60	NR	49	21	19/21	30[g]	10/13	10, 4 ft	10/13

a. *R*-values are minimums. *U*-factors and solar heat gain coefficient (SHGC) are maximums. R-19 batts compressed in to nominal 2 × 6 framing cavity such that the *R*-value is reduced by R-1 or more shall be marked with the compressed batt *R*-value in addition to the full thickness *R*-value.
b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
c. The first *R*-value applies to continuous insulation, the second to framing cavity insulation; either insulation meets the requirement.
d. R-5 shall be added to the required slab edge *R*-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less, in zones 1 through 3 for heated slabs.
e. There are no SHGC requirements in the Marine Zone.
f. Basement wall insulation is not required in warm-humid locations as defined by Figure N1101.2 and Table N1101.2.
g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
h. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25% or less of the exterior, R-5 sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
i. For impact-rated fenestration complying with Section R301.2.1.2, the maximum *U*-factor shall be 0.75 in zone 2 and 0.65 in zone 3.
j. For impact-resistant fenestration complying with Section R301.2.1.2 of the *International Residential Code*, the maximum SHGC shall be 0.40.
k. The second *R*-value applies when more than half the insulation is on the interior.

N1103.2 Ducts.
N1103.2.1 Insulation. Supply ducts in attics shall be insulated to a minimum of R-8. All other ducts shall be insulated to a minimum of R-6.
Exception: Ducts or portions thereof located completely inside the *building thermal envelope*.

ENERGY EFFIENCY CERTIFICATE

Energy Efficiency Certificate

Insulation Ratings	R-Values
Ceiling/Roof	
Walls	
Foundation Walls	
Slab	
Crawlspace Walls	
Crawlspace Floor	
Ductwork in Unconditioned Space	
Fenestration Ratings	**U-Values**
Windows	
Doors	
HVAC Equipment	**AFUE or EER/SEER**
Furnace: Gas__Elect__Oil__	
Heatpump	
Boiler: Gas__Oil__	
Cooling	
Water Htr: Gas__Elect__Oil__	

Room Heaters	Yes: #	No
Gas Fired		
Electric Furnace		
Baseboard Heat		

Address		Permit #

Builder/Designer	Signature	Date

RESIDENTIAL INSPECTIONS REQUIRED

FOOTING/ SETBACK- Property line are marked and readily visible. After trenches are excavated, steel grade stakes, reinforcement steel are in place, and form erected. DO NOT order concrete until this inspection is approved.

ROUGH IN SLAB PLUMBING- After piping is installed, prior to being covered up. Montgomery County Building & Codes Department will inspect all plumbing systems outside of the water system serviced by the City of Clarksville.

ROUGH IN SLAB- On all dwellings with concrete slab floors , any accessory structures which is to be heated or cooled, basements or split foyer plans which have interior walls or plumbing pipes to be concealed in the concrete.

FOUNDATION- After blocks or foundation walls are in place and the sill plates are anchored down. DO NOT cover with decking until this inspection is approved.

FRAMING-After the framing is completed, before rough in electrical, plumbing, insulating or applying exterior wall coverings such as moisture barriers and house wrap.

Braced walls shall be marked so that they may be readably identified.

MECHANICAL, PLUMBING & ENERGY CONSERVATION ROUGH IN INSPECTIONS- Will be one inspection all done at the same time. The electrical rough in inspection must have been installed and approved prior to call for this inspection.

Rough in plumbing- After piping is installed**.**

Water supply lines shall be under air test pressure, Minimum 50 psi.

DWV system shall be under test pressure either by air (5 psi) or water not less than 10 feet above the highest fitting connection of the section or to the highest point in the complete system.

Montgomery County Building & Codes Department will inspect all plumbing systems outside of the water system serviced by the City of Clarksville. Water systems inspected by the City of Clarksville shall be done and approved prior to calling for this inspection.

Rough in mechanical**-** After all wiring, duct and equipment piping are installed.

PLUMBING FINAL- After all fixtures are installed and are in working condition with the supply water on.

Montgomery County Building & Codes Department will inspect all plumbing systems outside of the water system serviced by the City of Clarksville. Water systems inspected by the City of Clarksville shall be done and approved prior to calling for this inspection.

MECHANICAL FINAL - After all mechanical equipment has been installed, power connected and properly working.

Operating instruction and maintenance manuals shall be attached to all equipment.

BUILDING FINAL- After power is on, all trades inspections are completed and the house is complete and ready for occupancy. Montgomery County Building and Codes Department will conduct the plumbing final inspection, mechanical final inspection and building final inspection all at the same time.

Significant Changes to the
2009 International Residential Code

This list is a generalization of the changes but not every change; the CODE should be consulted for specifics

Section/Topic	2009 IRC	Notes/Additional
	Administration (chapter 1)	
R106.1.1 Information on Construction Documents	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.	
R108.6 Work commencing before permit issuance	Any person who commences work requiring a permit on a building, structure, electrical,gas,mechnaical or plumbing system before obtaining the necessary permits shall be subject to a fee established by the applicable governing authority that shall be in addition to the required permit fees.	Double the original permit fee
Section/Topic	2009 IRC	Notes/Additional
	Building Planning (chapter 3)	
R301.2.1.5 and Table R301.1(1) Addition: **Under very limited circumstances in localized geographic areas, design of buildings sited on a hill, ridge, or escarpment must consider the effects of topographic wind speed.**	**To determine wind speedup engineered designs according to ASCE 7 may be required or one may use the simplified method to design for an increase basic wind speed on the slope of the topographic feature in accordance with R301.2.1.5.1.**	
R301.2.2 Seismic design Categories	New Seismic Design Category, D(o) will not apply in Montgomery County TN. This would have effected foundations, slab on grade, flooring, and wall bracing. Montgomery County Tn. Is in a split zone. Montgomery County chose Seismic Design Category C for residential construction.	Determined by SFMO, Refer to foundation checklist. http://tn.gov/commerce/sfm/homebuilding/index.shtml
Table R301.2.2.2.1 Wall Bracing adjustment factors by roof covering dead load	roof/ceiling dead load 15psf to 25psf	Multiplier
R301.2.2.2.5 Irregular Buildings	Irregular portions of structures shall be designed in accordance with engineering practices to the extent the irregular features affect the performance of the remaining structural system.	
Table R301.5 Minimum uniformly distributed live loads	Attics with limited storage now have a live load requirement of 20. Guardrails in-fill components now have a live load requirement of 50. Attics spaces served by fixed stair now have a live load of 30.	Attics with out storage are those where the maximum clear height between joists and rafters is less than 42 inches.
R302 Fire Resistant construction	Fire resistant construction has all been combined and placed in section R302	

R302.2 & R302.3 Dwelling unit Separation	1.The fire-resistance rating for the common wall between townhouses has been reduced from 2 hours to 1 hour as fire sprinklers are now required in all new townhouses. 2. Dwellings units in 2 family dwellings shall be separated from each other by wall and/ or floor assemblies having not less than 1 hour fire-resistance-rating when tested.	The 1 hour fire resistance rating wall assembly is permitted in townhouses if the walls do not contain plumbing, or mechanical equipment, ducts or vents in the cavity of the wall.
Table R302.6 Garage Separation Clarification	For clarification, the provisions requiring the application of Gypsum board on the garage side of the separation from a dwelling have been placed in a new table.	No technical change to the code/ easier to read table format.
T-302.6 Separation of Detached Garage from dwelling	Detached garages located within 3ft of the dwelling must be fire protected	Sheet Rock Seperation
R303.6.1 Light Activation at stairways	Only where a stairway has six or more risers, there must be a wall switch at each floor level to control the lighting outlet.	
R305.1 Sloped Ceilings	Sloped Ceilings: 50% of a rooms required floor area must have a minimum 7ft ceiling height	No portion of the required floor area may have a ceiling height of less than 5 feet.
R308.4 Glazing/ Hazardous locations	*All doors and enclosures of shower, bathtub, whirlpool, ect. Shall be safety glazing. *Building walls enclosing showers, bathtubs, whirlpool, ect. Where bottom edge of glazing is less than 60 inches above standing of walking surface. shall be safety glazing.	Tempered glass may not meet the requirements of safety glazing.. CPSC 16CFR,part 1201
R310.1 Emergency Escape and rescue Openings	All Basements regardless of whether the basement contains "habitable space" must now have at least one emergency escape or rescue opening. Also to include habitable attics and every sleeping room.	section 202 has new definition habitable attic. Each Level
R310.5 Emergency openings under decks and porches	Escape windows are allowed under decks and porches as long as the window can be fully opened and provides a path not less than 36 inches in height to a safe area.	
R311.4.3 Landings at exterior doors	Landings at an exterior door may now have a minimal slope for drainage purposes but the slope cannot exceed .25 units vertical to 12 units horizontal (2%)	
R311.5.1 Construction Attachment	Exterior landings,decks,balconies,stairs and similar facilities shall be positively anchored to the primary structure to resist both vertical and lateral forces or shall be designed to be self-supporting. Attachment shall not be accomplished by use of toenails or nails subject to withdrawal.	All Exterior Exits
R311.7.7.3 Grip Size handrails	All required handrails shall be of one of the following types or provide equivalent graspability. TYPE I/OR TYPE II	See handout for requirements
R312.1 Guardrails Where required	Guards shall be located along open-sided walking surfaces, 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 horizontally to the edge of the open side. Insect screening shall not be considered as a guard.	
R313.1 Townhouse Fire Sprinkler System	An automatic residential fire sprinkler system shall be installed in townhouses.	Shall be designed and installed in accordance with section P2904

R313.2 One- and two family dwellings automatic fire systems	Effective January 1, 2011, an automatic residential fire sprinkler system shall be installed in one and two family dwellings	THIS WILL BE AMMENDED IN THIS ADOPTION OF THE CODE. SPRINKLERS WILL NOT BE REQUIRED FOR SINGLE FAMILY DWELLINGS
R315.1 Carbon Monoxide Alarms	For new construction, an approved carbon monoxide alarm shall be installed outside of each sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages.	Must Comply with UL 2034
R315.2 Where required in existing dwellings	Where work requiring a permit occurs in existing dwellings that have attached garages or in existing dwellings within which fuel-fired appliances exist, carbon monoxide alarms shall be provided in accordance with section R315.1	
R316 Foam Plastic	Reference to thermal barrier	Roofs, Attics, Crawlspaces, Siding
R317.1.5 Wood Decay Protection	Exposed Glue-laminated wood, if not protected by a roof or eave, must be preservative-treated	See www.awpa.com for more information
R317.3.1 Fasteners for preservative-treated wood	Fasteners for preservative-treated wood shall be hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Coating types and weights for connectors in contact with preservative-treated wood shall be in accordance with connectors manufacturer's recommendations.	In the absence of manufacturer's recommendation, a minimum of ASTM A 653 type G185 zinc-coated galvanized steel, or equivalent, shall be used.
R317.4 Wood/Plastic Composites	Wood/Plastic composites used in exterior deck boards, stair treads, handrails and guardrail systems shall bear a label indicating the required performance levels & demonstrating compliance with the provisions of ASTM D 7032	
R319.1 Site Address Number	Numbers shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.	
R323.1 Storm Shelters	This section applies to the construction of storm shelters when constructed as a separate detached buildings or when constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC/NSSA-500.	

Section/Topic	2009 IRC	Notes/Additional
	Foundation (chapter 4)	
R401.3 Drainage	For surface drainage , grade needs to be a minimum of 6 inches fall within the first 10 feet(few exceptions) Swales shall be sloped a minimum of 2% when located within 10 feet of the building foundation.	Exception: Where lot lines,walls,slopes or other physical barriers prohibit 6 inches of fall within 10 feet, drains, or swales shall be constructed to ensure drainage away from the structure. Impervious surfaces within 10 feet of the building foundation shall be sloped a minimum of 2 percent away from the building.
R403.1.6 Foundation anchorage	Bolts shall be at least 1/2 inch in diameter and shall extend a minimum of 7 inches into concrete or grouted cells of concrete masonry units. There shall be a bolt every 6 feet on center. There shall be a minimum of 2 bolts per plate section with one bolt located not more than 12 inches maximum or less than 3 1/2 inches from each end of the plate section. (EXCEPTIONS) Walls 24 inches 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 per figure R602.10.5 at corners.(exceptions) Walls 12 inches total length or shorter connecting offset braced wall panels shall be permitted to be connected to the foundation with out anchor bolts. The wall shall be attached to adjacent braced wall panels per Figure R602.10.5 at corners.	
R403.1.6.1 Foundation Anchorage in seismic zone D(o),D(1),D(2) and wood light-framed townhouses in SDC "C"	1. Plate washers conforming to section R602.11.1 shall be provided for all anchor bolts over the full length of required braced wall lines. Properly sized cut washers shall be permitted for anchor bolts in wall lines not containing braced wall panels. 2. Maximum anchor bolt spacing shall be 4 feet on center for buildings over two stories in height.	Plate washers shall be a minimum of 0.229 inch thick by 3 inches by 3 inches in size, shall be installed between the foundation sill plate and the nut. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16 inch larger than the bolt diameter and a slot length not to exceed 1 3/4 inches provided a standard cut washer is placed between the plate washer and the nut.
R403.1.8 Foundations on Expansive soils	Foundations and floor slabs for buildings located on expansive soils shall be designed in accordance with section 1805.8 of the INTERNATIONAL BUILDING CODE	WRI/CRSI Design of slab-on-ground foundations

R404.4 Retaining walls	If a wall is not laterally supported at the top and retains in excess of 24 inches of unbalanced fill, it must be designed for a safety factor of 1.5 against lateral sliding and overturning.	
R406.1,R406.2 Foundation damp proofing & waterproofing	Damp proofing and waterproofing of concrete and masonry foundations required for all interior and below grade spaces (materials may be applied directly to the masonry substrate)	Not just "habitable" spaces anymore. This includes crawl spaces.
R408.3 Unvented crawl space	Exposed earth is covered with a continuous vapor retarder. Joints of the vapor retarder shall overlap by 6 inches and shall be sealed or taped. The edge of the vapor retarder shall extend at least 6 inches up the stem wall and shall be attached and sealed to the stem wall; and one of the following two must also be provided 1. Continuously operated mechanical exhaust ventilation at the rate equal to 1 cfm for each 50 square feet of crawl space, and an airway path to the common area, and perimeter walls insulated in accordance with section N1102.2.8 2. Conditioned air supply sized to deliver at a rate equal to 1 cfm for each 50 square feet of crawl space, including a return air pathway to the common area, and perimeter walls insulated in accordance with section N1102.2.8 3. Plenum complying with section M1601.4, if under floor space is used as a plenum.	N1102.2.8 Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the floor to the finished grade level and then vertically and/ or horizontally for at least an additional 24 inches. note* difference between vapor barrier and vapor retarder..
Section/Topic	2009 IRC	Notes/Additional
	Floors (chapter 5)	
R502.2.1 & R602.10.8 Framing at Braced wall lines & connections	A load path for lateral force required between floor framing and braced wall panels located above of below floor. CONNECTIONS: 1. Where joists are perpendicular to braced wall lines *above* , blocking needs to be under and in line with the braced wall panels. 2. Where joists are perpendicular to braced wall lines *below* , blocking needs to be over and in line with the braced wall panels. 3. Where joists are parallel to braced wall lines above or below, a rim joist or other parallel framing member is required at the wall.	Adds cross-reference between Chapter 5 & Chapter6
R502.2.2.1 & Table 502.2.2.1 Table Deck Ledger Addition: **Prescriptive methods for securely attaching a wood deck to the dwelling structure are now included in the IRC.**	R502.2.2.1 prescribes support specifications for deck ledger connections to band joist & all lag screws, bolts & washers shall be hot-dipped galvanized or stainless steel. R502.2.2.1.1 Lag screws or bolts shall be placed 2 inches from the bottom or top of the deck ledgers & between 2-5 inches from the ends. The lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger. R502.2.2.2 deck ledger connections not conforming to table R502.2.2.1 shall be designed in accordance with accepted engineering practice. **DECK LEDGERS SHALL NOT BE SUPPORTED ON STONE OR MASONRY VENEER.** R502.2.2.3 the lateral load connection required by section R502.2.2 shall be permitted to be in accordance with figureR502.2.2.3.	For Prescriptive Residential wood deck construction Guide go to web site: http://www.awc.org/Publications/DCA/DCA6/DCA6-09.pdf
Table R502.2.2.1 Fastener Spacing for deck ledgers	Table R502.2.2.1 now addresses the use lag screws and bolts and spacing between fasteners for Deck ledgers.	
R502.8 Notching	(No notches in middle third of span) maximum notch length D/3 , Maximum notch depth D/6	

R502.8 Boring	(Must be 2 inches from top or bottom of joist) maximum hole size D/3	
R502.8.2 Engineered wood products	Cuts, notches and holes bored in trusses, structural composite lumber, structural glue-laminated members or I-joists are prohibited except where permitted by the manufacture's recommendations or where the effects of such alterations are specifically considered in the design of the member by a registered design professional.	** Manufactures recommendations vary between brands**
Section/Topic	2009 IRC	Notes/Additional
Wall Construction (chapter 6)		
R602.3 Deisgn & Construction	Studs shall be continous from support at the sole plate to a support at the top plate to resist loads perpendicular to the wall.	Stack framing that forms a hinge is not permitted
R602.3.2 Top Plate	Top plate joints are not required to occur over studs. (with a double top plate)	End joints in top plates shall be offset at least 24"
Table R602.3(1) Fastener Schedule	**NEW TABLE:** 1. Diameter and length of each nail added 2.Minimum requirements added for collar ties and ridge straps.	** Also see revised table R602.3(2) for increases in length and decreased spacing of some fasteners used as alternate attachments.
Table 602.3(5) Size, height & spacing of wood studs. A habitable attic is a new term in the 2009 IRC.	Placement of habitable attics in the wood stud table clarifies that wood studs of a size, height & spacing adequate for carrying a roof & ceiling also are adequate for supporting a habitable attic.	Footnote c places a limitation of 32 feet for the roof span when using 2x4 studs to support a habitable attic. For greater roof spans, the code requires not less than 2x6 studs or an engineered design.
R602.6 Boring & Notching (studs) exterior walls and interior bearing walls.	notch is 25% of stud depth// boring 40% of stud depth 1. may bore up to 60% if stud is doubled & $\leq$ 2 successive studs 2. Bored hole may not be any closer than 5/8 inch to face of the stud.	bored holes shall not be in the same cross section of cut or notched studs
R602.6 Boring & Notching (studs) interior nonbearing walls	maximum notch is 40% stud depth maximum boring is 60% stud depth	bored holes shall not be in the same cross section of cut or notched studs
R602.6.1 Drilling and notching of top plate. **When a metal tie is required across the opening of a notched or drilled top plate, the tie must now extend at least 6 inches beyond each side of the opening.**	When a top plate is cut , notched or drilled by more than 50% of its width, only <u>one</u> 16ga metal tie is required when connecting double top plates. To reduce the possibility of splitting the wood plate, the length of the nails used to attach the metal tie has been reduced from 3 1/2 inches to 1 1/2 inches & a tie of sufficient length to extend at least 6 inches beyond the opening on each side is now prescribed.	Nails must have a minimum diameter of .148 inches,
R602.8 Fireblocking required	4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist free passage of flame and products of combustion.	Fire caulking

R602.10 Braced Wall Lines & Braced wall Panels Modification: The wood frame wall bracing provisions of Section R602.10 have been entirely rewritten to provide technical accuracy & clarity.	The code no longer differentiates between exterior & interior braced wall lines. The terms braced wall line & braced wall panel are more precisely defined. By introducing the term intermittent bracing to define the use of isolated wall panels within a braced wall line, the code now clearly distinguishes the 3 separate paths for compliance with the wall bracing requirements- the prescriptive methods using intermittent braced wall panels or continuous wall sheathing, or bracing in accordance with an engineered design. The code now also specifically allows mixing of methods between stories & from one wall line to the next. Different bracing methods are also permitted within the same wall line in SDCs A, B, & C only.	
R602.10.1.2 Length of wall Bracing Modification: Lateral bracing requirements related to wind loads & seismic loads have been placed in separate tables. The greater tabular value from the 2 tables based on the building location applies.	The amount of bracing is now expressed as length in feet. After all adjustments are made, the minimum total length of bracing in a brace wall line must be at least 48 inches. Seismic loading is predominantly proportional to the length of the brace wall line, but the wind loading is proportional to the wall line spacing, the height of the walls, and the height of the roof relative to the eaves. Accordingly values in the seismic table are a function of braced wall line length, and values in the wind table are a function of braced wall line spacing. R602.10.1.2 clarifies that for other than angled walls, only wall panels parallel to the braced wall line count in satisfying the amount of bracing requirements. Where exterior braced wall panels are subjected to wind uplift, connections must be provided unless the weight of the wall above offsets the wind uplift forces. When the net uplift at the bottom of wall exceeds 100plf, connections such as straps must be provided from story-to-story to provide a complete load path from the roof to the foundation.	Walls perpendicular to the braced wall line do not count toward the bracing amount required in the direction of the braced wall panels that are subjected to wind uplift. Values in the wind table are based on an assumed 10 feet high wall for each story & 10 feet height between the eave & ridge of the roof.
R602.10.1.3 Angled Corners of Braced wall lines: This new section allows angled wall segments to contribute to the amount of wall bracing in a braced wall line.	This change permits angled walls up to 8 feet long & no more than 45 degrees out of plane of the braced wall line to be included in the amount of required bracing.	
R602.10.1.4 Braced wall panel Location Modification: **The location requirements for braced wall construction are now grouped together in a single section & adds several figures.**	The 2009 IRC limits the combined total inset distance to 12.5 feet while still allowing inflexibility to inset a panel a distance of 12.5 feet from 1 end. New text clarifies that all of the braced wall panels are allowed to be offset 4 feet from the line that establishes the braced wall line & the total out-to-out offset of brace wall panels is not more than 8 feet.	

R602.10.2 Intermittent Brace wall Panel Construction Methods Modification: **The bracing methods of the 2006 IRC listed as types 1-8 & 2 alternate braced wall panel methods have been grouped into 1 table & given a 2-3 letter abbreviation to make the section more user friendly.**	The code now uses the term 'intermittent' to describe bracing methods utilizing isolated braced wall panels & to clearly differentiate these methods from continuous sheathing methods are now placed in tabular format with description, illustrative icon & connection criteria. R602.10.2 the construction of intermittent braced wall panels shall be in accordance with 1 of the methods listed in Table 602.10.2 R602.10.2.1 intermittent braced wall panels shall have gypsum wall board installed on the side of the wall opposite the bracing material. Gypsum wall board shall be not less than 1/2 inch in thickness & be fastened in accordance with Table R702.3.5 for interior gypsum wall board. Exceptions: 1. Wall panels that are braced in accordance with methods GB, ABW, PFG & PFH. 2. When an approved interior finish material with an in-plane shear resistance equivalent to gypsum board is installed. 3. For methods DWB, WSP, SFB, PBS, PCP & HPS, omitting gypsum wall board is permitted. The new tabular format is intended to make it easier for code users to understand the options available. The reorganization & labeling intended to clarify the prescriptive bracing provisions & the 2 distinct paths for compliance-intermittent & continuous methods-to promote consistent application. provide the length of bracing in Tables R602.10.1.2(1) & R602.10.1.2(2) IS MULTIPLIED BY A FACTOR OF 1.5. The prohibition of adhesive attachment of wall sheathing in Seismic Design Categories C, D0, D1, & D2 is relocated from section 602.10.11.5 of the 2006 IRC.	
R602.10.3 Minimum Length of Braced Wall Panels Modification: **The code now recognizes braced wall panels less than 48 inches but not less than 36 inches in length in SDC A,B &C.**	R602.10.3 replaces & modifies the 2006 R602.10.4. The amount of bracing is now expressed as the minimum total length of braced wall panels measured in the direction of the braced wall line. In most cases, the length of the braced wall panel in the 2009 IRC is equal to the actual length of the braced wall panel in the horizontal direction, provided it is not less than 48 inches. The added text in Section R602.10.3 mirrors the footnotes of the referenced tables in advising that the amount of gypsum board required by the applicable table must be doubled when gypsum board is applied to only 1 side.	
R602.10.3.2 Method ABW-Alternate Braced Wall Panels Modification: A new figure replaces much of the text in this section to more clearly illustrate the construction details for alternate braced wall panels, now described as bracing method ABW	R602.10.3.2 replaces & modifies the 2006 R602.10.6. The construction details for minimum materials, concrete reinforcement, hold-downs, anchoring, fastening & splicing are more clearly illustrated in drawing form rather than detailed code language. Much of the text of this section has been deleted in favor of the new figure without making technical changes to the method of construction.	Alternate braced wall panel construction (ABW), is 1 of the more complicated provisions in the bracing section. Other editorial changes to this section reflect the preferred terminology in an effort to provide accuracy consistency.

R602.10.3.3 Method PFH-Portal Frame with Holds-Down Modification: The alternate bracing method for a braced wall panel adjacent to a door or window opening, typically used at large overhead garage door openings, is now known as portal frame with holds-down (Method PFH).	R602.10.3.3 replaces & modifies the 2006 R602.10.6.2. The braced wall segments in Figure R602.10.6.2 are now labeled as 'portal frames,' a term that more accurately describes the configuration, prompting a change to designate this method of bracing as portal frame with holds-down (Method PFH). The text describing the materials & connection details has been deleted in favor of Figure R602.10.3.2 for illustrating this method of bracing construction. There is a minor revision which clarifies that 2 anchor bolts are required at the portal frame panel.	
R602.10.4 Continuous Sheathing Modification: The code now recognizes the practice of mixing intermittent bracing methods with the continuous sheathing method. The continuous sheathing method of bracing has undergone extensive revision & expansion to provide more flexibility in the design of & construction of dwellings.	R602.10.4 replaces & modified the 2006 R602.10.5 In an effort to clearly differentiate intermittent from continuous bracing methods, the continuous sheathing provisions are no longer tied to wood structural panel bracing method WSP (formerly method 3). Table R602.10.5 has been deleted & the minimum total length of braced wall panels for continuous sheathing appears in the applicable column of either Table R602.10.1.2(1), when wind controls, or Table R602.10.1.2(2). when seismic controls. The tabular value is no longer based on adjacent opening heights expressed as a percentage of wall heights. Amounts of required bracing are expressed as the length of braced wall panels in feet rather than a percentage of the braced wall line. The expanded section R602.10.4 established 3 separate & distinct methods for bracing with continuous sheathing & assigns to the table fro intermittent sheathing methods. The alternates for wood structural panel adjacent to garage openings (CS-G) & continuous portal frame (CS-PF) were developed from the footnotes that appeared in the 2006 IRC Table R602.1.5. Section R602.10.4 requires continuous wood structural panel sheathing on all sheathable surfaces on 1 side of braced wall lines of exterior walls. This change permits other bracing methods to be used at other braced wall lines at any story. The code clarifies the requirements for a minimum 24 inches wood structural panel on both sides of the corner at each end of the continuously sheathed braced wall line. A hold down device with a capacity of 800 lbs. installed on the corner stud of the end panel of the braced wall line that provides overturning restraint is permitted to substitute the 24 inch corner return segment that is perpendicular to the braced wall line.	In SDC A,B & C where the basic wind speed is less than or equal to 100 mph, the code permits mixing of methods in the same story & from story to story. When using the continuous sheathing method in seismic Design Categories D0,D1 & D2, or where wind speed exceeds 100 mph, mixing is not permitted on the same story. When using the continuous portal frame method, the total amount of bracing in the braced wall line must still meet the applicable tabular values for continuous wall sheathing.

R602.10.6 & R602.10.7 Braced Wall Panel Connections & Support Modification: **Requirements for braced wall panel connection to wood framing have been revised & the code now recognizes masonry stem wall construction for supporting braced wall panels & prescribes reinforcing when those walls are 48 inches or less in length.**	R602.10.6 Braced wall panels shall be connected to floor framing or foundation as follows: 1. Where joists are perpendicular to a braced wall panel above or below, a rim joist, band joist or blocking shall be provided along the entire length of the braced wall panel in accordance with Figure R602.10.6(1). Fastening of top & bottom wall plates to framing, rim joist, band joist and/or blocking shall be in accordance with Table R602.3(1). 2. Where joists are parallel to a braced wall panel above or below, a rim joist, end joist or other parallel framing member shall be provided directly above & below the braced wall panel in accordance with Figure R602.10.6(2). Where a parallel framing member cannot be located directly above or below the panel, full depth blocking at 16 inch spacing shall be provided between the parallel framing members to each side of the braced wall panel in accordance with Figure R602.10.6(2). Fastening of blocking and wall plates shall be accordance with Table R602.3(1) & Figure R602.10.6(2). 3. Connections of braced wall panels to concrete or masonry shall be in accordance with section R403.1.6. * R602.10.7 Braced wall Panel support shall be provided as follows: 1. Cantilevered floor joists, supporting braced wall lines, shall comply with section R502.3.3. Solid blocking shall be provided at the nearest bearing wall location. In seismic Design Categories A, B & C where the cantilever is not more than 24 inches a full height rim joist instead of solid blocking shall be provided. 2. Elevated post or pier foundations supporting braced wall panels shall be designed in accordance with accepted engineering practice. 3. Masonry stem walls with a length of 48 inches or less supporting braced wall panels shall be reinforced in accordance with Figure R602.10.7. Masonry stem walls with a length greater than 48 inches supporting braced wall panels shall be constructed in accordance with section R403.1 Braced wall panels constructed in accordance with section R602.10.3.2 & R602.10.3.3 shall be attached to masonry stem walls.	The change also clarifies that these bracing connection requirements apply to the individual braced wall panel segments, not the entire braced wall line. New figures illustrate the connection options to ensure proper installation without compromising the lateral load resisting capacity. New text also recognizes floor joist cantilever conditions to support braced wall panels consistent with the requirements of section R502.3.3.
R602.10.8 Braced Wall Panel Joints Modification: The exception permitting horizontal joints without blocking in lower SDC has been deleted. The code now permits horizontal joints without blocking for panel sheathing except hardboard panel siding, provided the minimum required amount of bracing is doubled.	R602.10.8 replaces & modifies the 2006 R602.10.7 Blocking is now required for the horizontal joints of braced wall panel sheathing in all SDC. This change also clarifies that blocking is required only for the prescribed braced wall panels, not the entire braced wall line. Blocking at horizontal joints shall not be required in wall segments that are not counted as braced wall panels. Where the bracing length provided is at least twice the minimum length required by Tables R602.10.1.2(1) & R602.10.1.2(2) blocking at horizontal joints shall not be required in braced wall panels constructed using Methods WSP, SFB, GB, PBS or HPS. Gypsum board braced wall panels(method GB) applied horizontally do not require attachment to horizontal blocking at joints	Blocking at intermediate joints increases stiffness to keep braced wall panels from buckling out of plane when subject to in-plane loads. Testing has shown a 50% reduction in the bracing strength of wood structural panels when the blocking is omitted.

602.10.9 Cripple Wall Bracing Modification: **This section has been relocated & the terminology updated to be consistent with other changes to Section R602.10. Required bracing is now measured as length in feet rather than a percentage of the braced wall line & is determined from the wind or seismic table, whichever is greater value.**	R602.10.9 replaces & modifies the 2006 R602.10.2. Table602.10.1 has been replaced by separate Tables R602.10.1.2(1) & R602.10.1.2(2) for determining the total length of bracing to resist the predominant loads from either wind or seismic forces. The 8 types of bracing using isolated braced wall panels & previously represented by numbers are now known as intermittent bracing methods & have been relabeled with short abbreviations. Method WSP now represents wood structural panel bracing replacing the method 3 designation.	
R602.11 Wall Anchoring Clarification: **Braced wall panel connections to wood framing at interior & exterior wall locations have been consolidated in the appropriate connections provisions in section 602.10.6**	Section602.11 now includes only those provisions related to anchorage of the braced wall line to concrete & masonry foundations. As part of the effort to reorganize the all bracing provisions of sections 602.10 & 602.11, redundant language has been removed & all provisions related to braced wall panel connections to wood framing of floor & roof/ceiling diaphragms are now located in section R602 .10.6. Section 602.11, Wall Anchorage, consolidates requirements for anchoring the sill plate of the braced wall line to a concrete or masonry foundation. Reorganization of this section clarifies that section R403.1.6 applies to the sill anchorage of the braced wall lines for all buildings in SDC A,B, and 1-2 family dwellings in SDC C. The anchorage provisions of section 602.11.1 apply to all buildings in SDCs D0, D1, & D2 and in townhouses in SDC C. The stepped foundation provisions related to wall bracing do not apply to buildings sited in SDC A, B, or C. The code no longer differentiates interior from exterior braced wall panels or braced wall lines.	
R612.1 Window Installation	Window manufactures must provide installation instructions. Installation must comply with the window's installation instructions.	Window and door openings shall be flashed in accordance with section R703.8
R612.2 Window sills	Where the opening of a window is located more than 72 inches above the exterior finished grade or surface below, the lowest part of the window's clear opening must be a minimum of 24 inches above the finished floor of the room where the window is located. <u>Glazing between the floor and 24 inches shall be fixed or have openings such that a 4-inch diameter sphere cannot pass through.</u> 1. Openings that are provided with window fall prevention devices shall comply with section R612.3 & meet requirements of ASTM F 2090. 2. Windows that are provided with opening limiting devices shall comply with Section R612.4, window opening limit devices shall be self acting and shall be positioned to prohibit the free passage of a 4 inch diameter rigid sphere.	

R612.4.2 Operation for emergency escape	Window opening limiting devices shall be designed with release mechanisms to allow for emergency escape through the window opening without the need for keys, tools or special knowledge.	The window opening limiting device shall not reduce the minimum net clear opening area of the window unit below what is required by Section R312.1.1 of the code.
Section/Topic	2009 IRC	Notes/Additional
Wall Covering (chapter 7)		
R702.3.7Horizontal Gypsum Board Diaphragm ceiling	1. Gypsum board permitted on wood joists to create a horizontal diaphragm (see table R702.3.7) 2. Gypsum board MUST be installed perpendicular to ceiling framing members. 3. End joints of adjacent courses of board cannot occur on the same joist. 4. Gypsum board cannot be used to resist lateral forces imposed by masonry or concrete.	Makes IRC more consistent with IBC
R702.4.2 Cement, Fiber Cement and Glass Mat Gypsum Backers	Green gypsum board is no longer allowed to be used as a backer behind tiled tub and shower walls.	Must be in compliance ASTM C 1288,C 1325, C 1178
R703.1.1 General: Draining Exterior Wall Assemblies	A means of draining water that enters the assembly to the exterior must be provided. Protection against condensation in the exterior wall assembly is required	Need to flash properly and ensure weep holes are placed properly.
R703.2,Table R703.4 Water Resistive barrier Performance requirements for wind resistance have been added to the water resistance provisions of exterior wall covering systems. Changes to Table R703.4 clarify the water resistive barrier requirements for various wall covering & cladding systems & update the fastening requirements to reflect current industry practices.	Weather resistant changed to water-resistive barrier Felt(or other approved material) required to be applied over exterior wall studs or sheathing must be continuous to top of walls (even gable end walls) REGARDLESS OF THE TYPE OF SIDING, A WATER-RESISTIVE BARRIER IS REQUIRED *The provisions for whether resistance in section R703.1 have been broken into 2 subsections to recognize both water & wind resistance for exterior wall covering systems.* The omission of a water resistive barrier behind masonry veneer with a 1 inch air space is no longer permitted by Table R703.4. The line item for stone veneer has been changed to 'anchored veneer'. Anchored veneer now includes brick, concrete, masonry & stone that is secured to the structure with the code prescribed metal ties. Other changes include fastening requirements for wood structural panel siding & vinyl siding to recognize current industry & manufacturer's recommendations & rest reports.	This includes all veneer siding, i.e.. VINYL SIDING
R703.6.3 Water Resistive barrier- behind plaster	For wood-based sheathing attached to the building exterior behind plaster, either 2 layers of GRADE D paper applied to the sheathing, or Another vapor barrier equivalent to 2 layers of GRADE D paper	Application is now referenced in R703.6.4

R703.7.3 Lintels Modification: Steel lintels supporting masonry veneer above openings now require a shop coat of rust-inhibitive primer or other protection against corrosion. The 2009 IRC also provides an alternative prescriptive method for supporting veneer above opening measuring up to 18 feet 3 inches in length using a combination of a steel angle & masonry with horizontal reinforcing.	Section R703.7.3 now specifically requires corrosion resistance for steel lintels to inhibit the development of rust & protect the integrity of the masonry veneer. *Steel lintel spans over openings shall to comply with either Table R703.7.3.1 or with prescriptive design of R703.7.3.2.* **R703.7.3.1 The allowable span shall not exceed the values set forth in Table R703.7.3.1** **The new section R703.7.3.2 provides a cost effective alternate to the steel lintel table for spanning large masonry veneer openings such as occur at <u>overhead garage doors.</u> These prescriptive provisions combine a steel angle with masonry veneer & reinforcing above to form the noncombustible lintel. Shoring is required to support steel lintel & veneer for a period of 7 days to allow the mortar to gain sufficient strength for the lintel to support the dead load of the masonry above.**	Handout available for more in depth prescriptive design of section R703.7.3.2
R703.7.4 Masonry Veneer Anchorage modification: **The code now prescribes the minimum embedment & cover dimensions for metal wall ties in the mortar of masonry veneer.**	The new text completes the necessary prescriptive requirements for anchorage of masonry veneer & provides consistency with ACI 530.1/ASCE6/TMS 602 Specification for masonry Structures (MSJC Specification). *The code now prescribes minimum embedment of 1 1/2 inches into the mortar or grout with not less 5/8 inch cover on the face side of the veneer.*	
R703.8 Flashing	1. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish OR the water-resistive barrier 2. flashing is required at all exterior window and door jambs 3. All provisions for self-flashing windows are eliminated	Self-adhered membranes used as flashing shall comply with AAMA 711
R703.11.1.1 & R703.11.2 Vinyl Siding Addition: **The 2009 IRC specifically requires vinyl soffit to be fastened in place in accordance with the industry standards to ensure adequate wind resistance. New provisions of vinyl siding over foam plastic sheathing based on design wind speed & wind exposure category.**	Section R703.11.1 requires vinyl siding, soffit & accessories to be installed with the manufacturer's installation instructions, requirements that have not changed in the 2009 IRC. To provide more guidance to the installer & code user, the IRC now specifies that vinyl soffit must be attached to suitable backing or nailing strips. Section R703.11.2 has been added to improve wind resistance performance for vinyl siding applied over the foam plastic sheathing, a common installation for meeting energy efficient requirements. The code now offers prescriptive fastening requirements for areas with a basic wind speed not greater than 90 mph & a wind Exposure B condition.	

Roof-ceiling Construction (chapter 8)		
R802.3.1 Ceiling joist and Rafter Connections	When Rafter ties are located higher than the top of the wall plates, additional connectors are now required.	refer to Table R802.5.1(9)
Table R802.5.1(1) through Table R802.5.1(8) Rafters spans for common Lumber	Rafter ties and ceilings can no longer be placed higher than the lower one-third of the attic area	This will affect bonus room ceiling-roof construction. OR the rafters shall be supported by a wall or beam designed in accordance with accepted engineering practice.
R807.1 Attic Access	The new text clarifies that measurements are taken from the framing members & not from the insulation. In determining attic height, the measurement is taken from the top of the ceiling joist or truss bottom chord to the bottom of the rafter to truss top chord. The other change to this section clarifies that access openings through a wall require a minimum height of 30 inches.	Buildings with combustible ceiling or roof construction shall have an attic access opening to attic areas that exceed 30 square feet.
Section/Topic	2009 IRC	Notes/Additional
Roof Assemblies (chapter 9)		
Table R905.10.3(1) & Table R905.1.3(2) Metal roof Coverings Standards	New application rates/thickness addressing additional metal roofing materials: - galvanized steel - stainless steel - steel -cold rolled copper	
Section/Topic	2009 IRC	Notes/Additional
Chimneys & Fireplaces (chapter 10)		
R1001 & R1003 Masonry Fireplace & Chimneys	The 2009 IRC adds minimum thickness, parging, & lining requirements to the masonry fireplace smoke chamber provisions & references the applicable standards.	

Additional Significant Changes & Hot Topics

R312.2 Guard Rail Heights	Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches high measured vertically above the adjacent walking surface, **adjacent fixed seating** or the line connecting the leading edges of the tread.	I.E. Bench seat built into deck around the perimeter
R303.3 Bathroom vent fans	Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet one-half of which must be openable.	Exception: The glazed areas shall not be required where artificial light and a mechanical ventilation system are provided. The minimum ventilation rates shall be 50 cfm for intermittent ventilation or 20 cfm for continuous ventilation. ***Ventilation air from the space shall be exhausted directly to the outside .Refer to M1501.1***
R606.2.3 Change in Thickness *masonry walls*	Where walls of masonry of hollow units or masonry bonded hollow walls are decreased in thickness, a course of solid masonry shall be constructed between the wall below and the thinner wall above, or special units of construction shall be used to transmit the loads from face shells or wythes above to those below.	
R404.1.3 Design required	A design in accordance with accepted engineering practice shall be provided for concrete or masonry foundation walls when any of the following conditions exist: 1. Walls subject to hydrostatic pressure from ground water. 2. Walls supporting more than 48 inches of unbalanced backfill that do not have permanent lateral support at the top and bottom.	I.E. Cripple walls in split foyer home
R408.4 crawl access	If mechanical equipment is located under floors minimum size crawl access door will need to be 22inches x 30inches, or larger dimensions are required to be large enough to remove the largest appliance.	M1305.1.4
R408.5 Removal of Debris	The under-floor grade shall be cleaned of all vegetation and organic material. All wood forms used for placing concrete shall be removed before a building is occupied or used for any purpose. ALL CONSTRUCTION MATERIALS shall be removed before building is occupied or used for any purpose.	