



RULE-MAKING ORDER

CR-103 (June 2004) (Implements RCW 34.05.360)

Agency: State Building Code Council

- Permanent Rule
 Emergency Rule

Effective date of rule:

Permanent Rules

- 31 days after filing.
 Other (specify) July 1, 2007 (If less than 31 days after filing, a specific finding under RCW 34.05.380(3) is required and should be stated below)

Effective date of rule:

Emergency Rules

- Immediately upon filing.
 Later (specify) _____

Any other findings required by other provisions of law as precondition to adoption or effectiveness of rule?

- Yes No If Yes, explain:

Purpose: To adopt and amend the 2006 International Residential Code, WAC 51-51

Citation of existing rules affected by this order:

Repealed: 4
 Amended: 20
 Suspended:

Statutory authority for adoption: RCW 19.27.074 and RCW 19.27.020

Other authority RCW 19.27 and RCW 34.05

PERMANENT RULE ONLY (Including Expedited Rule Making)

Adopted under notice filed as WSR 06-16-112 on August 1, 2006 (date).
 Describe any changes other than editing from proposed to adopted version: The new section proposed in R310.6 for access to emergency escape and rescue openings is not adopted; Option 2 related to footings, foundations and wall bracing in sections 403, 404, 602.3, 602.10 and 602.11 is adopted with modifications proposed in public testimony; Section R325.6 related to escape and rescue windows in adult family homes is modified based on public testimony; Appendix G Swimming Pools, Hot Tubs and Spas is included in adoption of the 2007 International Residential Code. If a preliminary cost-benefit analysis was prepared under RCW 34.05.328, a final cost-benefit analysis is available by contacting: N/A

Name: _____ phone () _____
 Address: _____ fax () _____
 e-mail _____

EMERGENCY RULE ONLY

- Under RCW 34.05.350 the agency for good cause finds:
- That immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.
 - That state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this finding:

Date adopted: November 17, 2006

NAME (TYPE OR PRINT)
 John Neff

SIGNATURE

TITLE
 Council Chair

CODE REVISER USE ONLY

**Note: If any category is left blank, it will be calculated as zero.
No descriptive text.**

Count by whole WAC sections only, from the WAC number through the history note.
A section may be counted in more than one category.

The number of sections adopted in order to comply with:

Federal statute:	New	_____	Amended	_____	Repealed	_____
Federal rules or standards:	New	_____	Amended	_____	Repealed	_____
Recently enacted state statutes:	New	_____	Amended	_____	Repealed	_____

The number of sections adopted at the request of a nongovernmental entity:

New	7	Amended	3	Repealed	
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The number of sections adopted in the agency's own initiative:

New	<u>5</u>	Amended	5	Repealed	<u>4</u>
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The number of sections adopted in order to clarify, streamline, or reform agency procedures:

New	_____	Amended	_____	Repealed	_____
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The number of sections adopted using:

Negotiated rule making:	New	_____	Amended	_____	Repealed	_____
Pilot rule making:	New	_____	Amended	_____	Repealed	_____
Other alternative rule making:	New	<u>12</u>	Amended	8	Repealed	4

AMENDATORY SECTION (Amending WSR 04-01-109, filed 12/17/03, effective 7/1/04)

WAC 51-51-003 International Residential Code. The ((2003)) 2006 edition of the *International Residential Code* as published by the International Code Council is hereby adopted by reference with the following additions, deletions, and exceptions: Provided that chapters 11 and 25 through 42 of this code are not adopted. Energy Code is regulated by chapter 51-11 WAC; Plumbing Code is regulated by chapter 51-56 WAC; Electrical Code is regulated by chapter 296-46B WAC or Electrical Code as adopted by the local jurisdiction. Appendix G Swimming Pools, Spas and Hot Tubs is included in adoption of the International Residential Code.

AMENDATORY SECTION (Amending WSR 04-01-109, filed 12/17/03, effective 7/1/04)

WAC 51-51-008 Implementation. The International Residential Code adopted by chapter 51-51 Washington Administrative Code (WAC) shall become effective in all counties and cities of this state on July 1, ((2004)) 2007.

AMENDATORY SECTION (Amending WSR 04-01-109, filed 12/17/03, effective 7/1/04)

WAC 51-51-0102 Section R102--Applicability.

R102.5 Appendices. Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance. An appendix adopted by a local jurisdiction shall not be effective unless approved by the state building code council pursuant to RCW 19.27.060 (1) (a).

R102.7.2 Moved buildings. Buildings or structures moved into or within a jurisdiction shall comply with the provisions of this code, the International Building Code (chapter 51-50 WAC), the International Mechanical Code (chapter 51-52 WAC), the International Fire Code (chapter 51-54 WAC), the Uniform Plumbing Code and Standards (chapters 51-56 and 51-57 WAC), the Washington State Energy Code (chapter 51-11 WAC) and the Washington State

Ventilation and Indoor Air Quality Code (chapter 51-13 WAC) for new buildings or structures.

EXCEPTION: Group R-3 buildings or structures are not required to comply if:
1. The original occupancy classification is not changed; and
2. The original building is not substantially remodeled or rehabilitated.

For the purposes of this section a building shall be considered to be substantially remodeled when the costs of remodeling exceed 60 percent of the value of the building exclusive of the costs relating to preparation, construction, demolition or renovation of foundations.

AMENDATORY SECTION (Amending WSR 04-01-109, filed 12/17/03, effective 7/1/04)

WAC 51-51-0202 Section R202--Definitions.

ADULT FAMILY HOME means a dwelling in which a person or persons provide personal care, special care, room and board to more than one but not more than six adults who are not related by blood or marriage to the person or persons providing the services.

CHILD DAY CARE, shall, for the purposes of these regulations, mean the care of children during any period of a 24 hour day.

CHILD DAY CARE HOME, FAMILY is a child day care facility, licensed by the state, located in the dwelling of the person or persons under whose direct care and supervision the child is placed, for the care of twelve or fewer children, including children who reside at the home.

DWELLING UNIT. A single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. Dwelling units may also include the following uses:

1. Adult family homes, foster family care homes and family day care homes licensed by the Washington state department of social and health services.

2. Offices, mercantile, food preparation for off-site consumption, personal care salons or similar uses which are conducted primarily by the occupants of the dwelling unit and are secondary to the use of the unit for dwelling purposes, and which do not exceed 500 square feet (46.4m²).

SMALL BUSINESS. Any business entity (including a sole proprietorship, corporation, partnership or other legal entity) which is owned and operated independently from all other businesses, which has the purpose of making a profit, and which has fifty or fewer employees, or which has a million dollars or less per year in gross sales, of window products.

UNUSUALLY TIGHT CONSTRUCTION. Construction meeting the following requirements:

1. Walls exposed to the outside atmosphere having a continuous water vapor retarder with a rating of 1 perm (57 ng/s·m²·Pa) or less with openings gasketed or sealed;
2. Openable windows and doors meeting the air leakage requirements of the *International Energy Conservation Code*, Section 502.1.4; and
3. Caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical and gas lines, and at other openings; or
4. Buildings built in compliance with the 1986 or later editions of the Washington State Energy Code chapter 51-11 WAC, Northwest Energy Code, or Super Good Cents weatherization standards or equivalent.

AMENDATORY SECTION (Amending WSR 04-01-109, filed 12/17/03, effective 7/1/04)

WAC 51-51-0311 Section R311--Means of egress.

R311.1 General. Stairways, ramps, exterior exit balconies, hallways and doors shall comply with this section.

EXCEPTION: Stairs or ladders within an individual dwelling unit used ~~((to gain))~~ for access to areas of 200 square feet (18.6 m²) or less, and not containing the primary bathroom or kitchen.

~~((R311.6.3.3 Continuity. Handrails where required on ramps shall be continuous for the full length of the ramp. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1.5 inches (38 mm) between the wall and the handrails. At least one handrail shall extend in the direction of ramp run not less than 12 inches (305 mm) horizontally beyond the top and bottom of the ramp runs.))~~

AMENDATORY SECTION (Amending WSR 04-01-109, filed 12/17/03, effective 7/1/04)

WAC 51-51-0313 Section R313--Smoke alarms.

~~((R313.3 Family child day care homes. In family child day care homes operable smoke alarms shall be located in all sleeping and napping areas. When the family child day care home has more than one story, and in family child day care homes with basements, an operable smoke alarm shall be installed on each story and in the basement. In family child day care homes where a story or basement is split into two or more levels, the smoke alarm shall be installed in the upper level, except that when the lower level~~

~~contains a sleeping or napping area, an operable smoke alarm shall be located on each level. When sleeping rooms are on an upper level, the smoke alarm shall be placed at the ceiling of the upper level in close proximity to the stairway. In family child day care homes where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by 24 inches or more, smoke alarms shall be installed in the hallway and the adjacent room. Smoke alarms shall sound an alarm audible in all areas of the building.))~~ **R313.2 Location.** Smoke alarms shall be installed in the following locations:

1. In each sleeping room.

2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.

3. On each additional story of the dwelling, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

4. In napping areas in family child day care homes.

When more than one smoke alarm is required to be installed within an individual dwelling unit, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit.

NEW SECTION

WAC 51-51-0317 Section R317--Dwelling unit separation.

R317.2 Townhouses. Each townhouse shall be considered a separate building and shall be separated by fire-resistance-rated wall assemblies meeting the requirements of Section R302 for exterior walls.

EXCEPTION: A common 2-hour fire-resistance-rated wall is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. Penetrations of electrical outlet boxes shall be in accordance with Section R317.3.

R317.2.1 Continuity. The fire-resistance-rated wall or assembly separating townhouses shall be continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance-rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed accessory structures.

Where a story extends beyond the exterior wall of a story below:

1. The fire-resistance-rated wall or assembly shall extend to the outside edge of the upper story; or

2. The underside of the exposed floor-ceiling assembly shall be protected as required for projections in Section R302.

AMENDATORY SECTION (Amending WSR 04-01-109, filed 12/17/03, effective 7/1/04)

WAC 51-51-0325 Section R325--Adult family (~~(child day care)~~) homes.

SECTION R325
ADULT FAMILY ((CHILD DAY CARE)) HOMES

~~((R325 Family Child Day Care Homes. For family child day care homes with more than six children, each floor level used for family child day care purposes shall be served by two remote means of egress. Exterior exit doors shall be operable from the inside without the use of keys or any special knowledge or effort.~~

~~Basements located more than 4 feet below grade level shall not be used for family child day care homes unless one of following conditions exist:~~

~~1. Stairways from the basement open directly to the exterior of the building without entering the first floor, or~~

~~2. One of the two required means of egress discharges directly to the exterior from the basement level, and a self closing door is installed at the top or bottom of the interior stair leading to the floor above, or~~

~~3. One of the two required means of egress is an operable window or door, approved for emergency escape or rescue, that opens directly to a public street, public alley, yard or exit court, or~~

~~4. A residential sprinkler system is provided throughout the entire building in accordance with National Fire Protection Association Standard 13d.~~

~~Floors located more than 4 feet above grade level shall not be occupied by children in family day care homes.~~

~~EXCEPTIONS:~~

- ~~1. Use of toilet facilities while under supervision of an adult staff person.~~
- ~~2. Family child day care homes may be allowed on the second story if one of the following conditions exists:~~
 - ~~2.1 Stairways from the second story open directly to the exterior of the building without entering the first floor, or~~
 - ~~2.2 One of the two required means of egress discharges directly to the exterior from the second story level, and a self-closing door is installed at the top or bottom of the interior stair leading to the floor below, or~~
 - ~~2.3 A residential sprinkler system is provided throughout the entire building in accordance with National Fire Protection Association Standard 13d.~~

~~Every sleeping or napping room in a family child day care home shall have at least one operable window for emergency rescue.~~

~~EXCEPTION:~~ Sleeping or napping rooms having doors leading to two separate means of egress, or a door leading directly to the exterior of the building.

~~Rooms or spaces containing a commercial-type cooking kitchen, boiler, maintenance shop, janitor closet, laundry, woodworking shop, flammable or combustible storage, or painting operation shall be separated from the family child day care area by at least one-hour fire-resistive construction.~~

~~EXCEPTION:~~ A fire-resistive separation shall not be required where the food preparation kitchen contains only a domestic cooking range.

and the preparation of food does not result in the production of smoke or grease laden vapors.))

R325.1 General. This section shall apply to all newly constructed adult family homes and all existing single family homes being converted to adult family homes. This section shall not apply to those adult family homes licensed by the state of Washington department of social and health services prior to July 1, 2001.

R325.2 Submittal Standards. In addition to those requirements in Section 106.1, the submittal shall identify the project as a Group R-3 Adult Family Home Occupancy. A floor plan shall be submitted identifying the means of egress and the components in the means of egress such as stairs, ramps, platform lifts and elevators. The plans shall indicate the rooms used for clients and the sleeping room classification of each room.

R325.3 Sleeping Room Classification. Each sleeping room in an adult family home shall be classified as:

1. Type S - where the means of egress contains stairs, elevators or platform lifts.
2. Type NS1 - where one means of egress is at grade level or a ramp constructed in accordance with R311.6 is provided.
3. Type NS2 - where two means of egress are at grade level or ramps constructed in accordance with R311.6 are provided.

R325.4 Types of Locking Devices. All bedroom and bathroom doors shall be openable from the outside when locked.

Every closet shall be readily openable from the inside.

R325.5 Smoke Alarm Requirements. All adult family homes shall be equipped with smoke alarms installed as required in Section R313. Alarms shall be installed in such a manner so that the fire warning may be audible in all parts of the dwelling upon activation of a single device.

R325.6 Escape Windows and Doors. Every sleeping room shall be provided with emergency escape and rescue windows as required by Section R310. No alternatives to the sill height such as steps, raised platforms or other devices placed by the openings will be approved as meeting this requirement.

R325.7 Fire Apparatus Access Roads and Water Supply for Fire Protection. Adult family homes shall be served by fire apparatus access roads and water supplies meeting the requirements of the local jurisdiction.

NEW SECTION

WAC 51-51-0326 Section R326--Family child day care homes.

SECTION R326
FAMILY CHILD DAY CARE HOMES

R326 Family Child Day Care Homes. For family child day care homes with more than six children, each floor level used for family child day care purposes shall be served by two remote means of egress. Exterior exit doors shall be operable from the inside without the use of keys or any special knowledge or effort.

Basements located more than 4 feet below grade level shall not be used for family child day care homes unless one of following conditions exist:

1. Stairways from the basement open directly to the exterior of the building without entering the first floor; or

2. One of the two required means of egress discharges directly to the exterior from the basement level, and a self-closing door is installed at the top or bottom of the interior stair leading to the floor above; or

3. One of the two required means of egress is an operable window or door, approved for emergency escape or rescue, that opens directly to a public street, public alley, yard or exit court; or

4. A residential sprinkler system is provided throughout the entire building in accordance with National Fire Protection Association Standard 13d.

Floors located more than 4 feet above grade level shall not be occupied by children in family day care homes.

EXCEPTIONS:

1. Use of toilet facilities while under supervision of an adult staff person.
2. Family child day care homes may be allowed on the second story if one of the following conditions exists:
 - 2.1 Stairways from the second story open directly to the exterior of the building without entering the first floor; or
 - 2.2 One of the two required means of egress discharges directly to the exterior from the second story level, and a self-closing door is installed at the top or bottom of the interior stair leading to the floor below; or
 - 2.3 A residential sprinkler system is provided throughout the entire building in accordance with National Fire Protection Association Standard 13d.

Every sleeping or napping room in a family child day care home shall have at least one operable window for emergency rescue.

EXCEPTION: Sleeping or napping rooms having doors leading to two separate means of egress, or a door leading directly to the exterior of the building.

Rooms or spaces containing a commercial-type cooking kitchen, boiler, maintenance shop, janitor closet, laundry, woodworking shop, flammable or combustible storage, or painting operation shall be separated from the family child day care area by at least one-hour fire-resistive construction.

EXCEPTION: A fire-resistive separation shall not be required where the food preparation kitchen contains only a domestic cooking range, and the preparation of food does not result in the production of smoke or grease laden vapors.

NEW SECTION

WAC 51-51-0327 Section R327--Protection against radon.

R327.1 Protection Against Radon. The radon control provisions of Appendix F of this code shall apply to buildings constructed in High Radon Potential Counties (zone 1) designated in Table AF101 (1). The radon control provisions of Appendix F of this code shall also apply to all buildings constructed using the provisions of Section R408.3 Unvented crawl space compliance method.

NEW SECTION

WAC 51-51-0403 Section R403--Footings.

R403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems which shall be of sufficient design to accommodate all loads specified in Section R301 and to transmit the resulting loads to the supporting soil within the limitations determined from the characteristics of the soil. Footings shall be supported on undisturbed natural soil or engineered fill. Foundation walls complying with Section R404 or stem walls complying with Section R403.1.3 shall be permitted to support exterior walls, exterior braced wall lines and exterior braced wall panels provided they are supported by continuous footings.

R403.1.2 Braced Wall Panels in Seismic Design Categories D₀, D₁ and D₂. The braced wall panels at exterior and interior walls of buildings located in Seismic Design Categories D₀, D₁ and D₂ shall be supported by foundations.

EXCEPTIONS:

1. In buildings in Seismic Design Categories D₀ and D₁, and in one-story buildings in Seismic Design Category D₂, interior braced wall panels are not required to be supported by foundations, provided no building plan dimension perpendicular to the interior braced wall lines is greater than 50 feet.
2. In two-story buildings in Seismic Design Category D₂, interior braced wall panels are not required to be supported by foundations, provided all of the following conditions are met:
 - 2.1. No building plan dimension perpendicular to the interior braced wall lines exceeds 50 feet;
 - 2.2. The distances between braced wall lines do not exceed twice the building width measured parallel to the braced wall lines;
 - 2.3. The braced wall panels at the first story are continuously supported by floor joists, blocking or floor beams; and
 - 2.4. The heights of braced wall panels in under-floor spaces do not exceed 48 inches (1219 mm).

R403.1.2.1 Foundations. Foundations at braced wall panels shall be constructed of masonry or concrete foundation walls in accordance with Sections R402 and R404, and masonry or concrete footings in accordance with Sections R402 and R403.

EXCEPTIONS:

1. In under-floor spaces, cripple walls shall be permitted to substitute for masonry or concrete foundation walls provided they comply with the following:
 - a. They are located directly below the interior braced wall panels above;
 - b. They are braced in accordance with Sections R602.10.2 and R602.10.11.4 for cripple wall bracing; and
 - c. They are supported by footings complying with Sections R402 and R403, except that the footing of a foundation supporting an interior braced wall panel is not required to be continuous.
2. Footings of foundations supporting interior braced wall panels are not required to be continuous but shall be constructed beyond the ends of foundation walls, stem walls and cripple walls supporting braced wall panels for a minimum distance of 4 inches and a maximum distance of the footing thickness. The footing extension is not required at intersections with other footings.

R403.1.3 Seismic reinforcing in Seismic Design Categories D₀, D₁ and D₂. Concrete footings of buildings assigned to Seismic Design Categories D₀, D₁ and D₂ shall comply with this section and have minimum reinforcement as specified by Section R403.1.3.1 or R403.1.3.2. Bottom reinforcement shall be located a minimum of 3 inches (76 mm) from the bottom of the footing.

Where a construction joint is created between a concrete footing and a concrete stem wall, minimum vertical reinforcement of

one No. 4 bar shall be provided at not more than 4 feet (1219 mm) on center. The bars shall extend to 3 inches (76 mm) clear of the bottom of the footing, have a standard hook, and extend into the stem wall the lesser of 2 inches (49 mm) clear of the top of the wall and 14 inches (357 mm).

Where a solidly grouted masonry stem wall is supported on a concrete footing, minimum vertical reinforcement of one No. 4 bar shall be provided at not more than 4 feet (1219 mm) on center. The bars shall extend to 3 inches (76 mm) clear of the bottom of the footing, have a standard hook, and extend into the stem wall to 2 inches (49 mm) clear of the top of the wall.

Masonry stem walls without solid grout and vertical reinforcing are not permitted.

Concrete and masonry stem walls shall comply with the requirements of Section R404 for foundation walls.

EXCEPTION: In detached one- and two-family dwellings of light-framed construction and three stories or less above grade, plain concrete footings supporting walls, columns or pedestals are permitted.

R403.1.3.1 Foundation stem walls. Foundation stem walls shall have installed a minimum of one No. 4 bar within 12 inches (305 mm) of the top of the stem wall and one No. 4 bar located 3 inches (76 mm) to 4 inches (102 mm) from the bottom of the footing.

R403.1.4 Minimum depth. All exterior footings shall be placed at least 12 inches (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also comply with Sections R403.1.4.1 through R403.1.4.2.

R403.1.4.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extend below the frost line specified in Table R301.2(1);
2. Construct in accordance with Section R403.3;
3. Construct in accordance with ASCE 32; or
4. Erect on solid rock.

EXCEPTIONS:

1. Protection of freestanding accessory structures with an area of 600 square feet (56 m²) or less and an eave height of 10 feet (3048 mm) or less shall not be required.
2. Protection of freestanding accessory structures with an area of 400 square feet (37 m²) or less, of other than light-framed construction, with an eave height of 10 feet (3048 mm) or less shall not be required.
3. Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

R403.1.6 Anchorage at braced wall panels. Where braced wall panels are supported by monolithic slabs, footings or foundations, the wood sole plates, wood sill plates or cold-formed steel bottom tracks shall be anchored to the slab cast monolithically with a footing, footing or foundation in accordance with this section.

The wood sole or sill plate shall be anchored to the monolithic slab, footing or foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) and not less than seven bolt diameters from each end of the plate section. Bolts shall be at least 1/2 inch (13 mm)

in diameter and shall extend a minimum of 7 inches (178 mm) into masonry or concrete. A nut and washer shall be tightened to a snug-tight condition on each bolt to the plate.

Cold-formed steel framing systems shall be fastened to wood sill plates or anchored directly to the foundation in accordance with 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.
2. Walls 24 inches (610 mm) in total length or shorter connecting offset braced wall panels shall be anchored to the footing or 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 as specified in Figure R602.10.5 at the corners.
3. Walls 12 inches (305 mm) in total length or shorter connecting offset braced wall panels shall be permitted to be connected to the footing or foundation without anchor bolts. The wall shall be attached to adjacent braced wall panels as specified in Figure R602.10.5 at the corners.

R403.1.6.1 Foundation anchorage in Seismic Design Categories C, D₀, D₁ and D₂. In addition to the requirements of Section R403.1.6, the following requirements shall apply to wood light-frame structures in Seismic Design Categories D₀, D₁ and D₂ and wood light-frame townhouses in Seismic Design Category C.

1. Interior braced wall sill plates shall be anchored to footings or foundations with anchor bolts spaced at not more than 6 feet (1829 mm) on center and located within 12 inches (305 mm) from the ends of each plate section when supported on a continuous foundation.

2. The maximum anchor bolt spacing shall be 4 feet (1219 mm) for buildings over two stories in height.

3. Plate washers complying with 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 or in braced wall lines.

4. Stepped cripple walls shall conform to Section R602.11.3.

5. Where wood foundations in accordance with Sections R402.1 and R404.2 are used, the force transfer shall have a capacity equal to or greater than the connections required by Section R602.11.1 or the braced wall panel shall be connected to the wood foundations in accordance with the braced wall panel-to-floor fastening requirements of Table 602.3(1).

NEW SECTION

WAC 51-51-0404 Section R404--Foundation and retaining walls.

R404.1 Concrete and masonry foundation walls. Concrete and masonry foundation walls shall be selected and constructed in accordance with the provisions of Section R404 or in accordance with ACI 318, ACI 332, NCMA TR68-A or ACI 530/ASCE 5/TMS 402 or other approved structural standards. When ACI 318, ACI 332 or ACI 530/ASCE 5/TMS 402 or the provisions of Section R404 are used to design concrete or masonry foundation walls, project drawings, typical details and

specifications are not required to bear the seal of the architect or engineer responsible for the design, unless otherwise required by the state law of the jurisdiction having authority.

Foundation walls that meet all of the following shall be considered laterally supported:

1. Full basement floor shall be 3.5 inches (89 mm) thick concrete slab poured tight against the bottom of the foundation wall.

2. Floor joists and blocking shall be connected to the sill plate at the top of the wall by the prescriptive method called out in Table R404.1(1), or; shall be connected with an approved connector with listed capacity meeting Table 404.1(1).

3. Bolt spacing for the sill plate shall be no greater than per Table R404.1(2).

4. Floor shall be blocked perpendicular to the floor joists. Blocking shall be full depth within two joist spaces of the foundation wall, and be flat-blocked with minimum 2-inch by 4-inch (51 mm by 102 mm) blocking elsewhere.

5. Where foundation walls support unbalanced load on opposite sides of the building, such as a daylight basement, the building aspect ratio, L/W, shall not exceed the value specified in Table R404.1(3). For such foundation walls, the rim board shall be attached to the sill with a 20 gage metal angle clip at 24 inches (610 mm) on center, with five 8d nails per leg, or an approved connector supplying 230 pounds per linear foot (3.36 kN/m) capacity.

EXCEPTION: Foundations constructed entirely of concrete with stem walls not exceeding 5 feet (1524 mm) in height and supporting less than 4 feet (1220 mm) of unbalanced backfill are exempt from the lateral bracing requirements of Section R404.1.

TABLE R404.1.1(3)
10-INCH MASONRY FOUNDATION WALLS WITH REINFORCING
WHERE $d > 6.75$ INCHES*

(no changes to Table R404.1.1(3) or footnotes)

R404.3 Wood sill plates. Wood sill plates shall be a minimum of 2-inch by 4-inch nominal lumber. Sill plate anchorage shall be in accordance with Sections R403.1.6 and R602.11.

NEW SECTION

WAC 51-51-0408 Section R408--Under-floor space.

R408.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement) shall have ventilation openings through foundation walls or exterior walls.

R408.2 Openings for under-floor ventilation. The minimum net area of ventilation openings shall not be less than 1 square foot

(0.0929 m²) for each 300 square feet (28 m²) of under-floor area. In addition, a ground cover that meets the requirements of Section 502.1.6.7 of the Washington State Energy Code (chapter 51-11 WAC) shall be installed. One ventilating opening shall be within 3 feet (914 mm) of each corner of the building, except one side of the building shall be permitted to have no ventilation openings. Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed 1/4 inch (6.4 mm):

1. Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick.
2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick.
3. Cast-iron grill or grating.
4. Extruded load-bearing brick vents.
5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier.
6. Corrosion-resistant wire mesh, with the least dimension being 1/8 inch (3.2 mm).

NEW SECTION

WAC 51-51-0602 Section R602--Wood wall framing.

R602.3 Design and construction. Exterior walls of wood light-framed construction shall be designed and constructed in accordance with the provisions of this chapter and Figures R602.3(1) and R602.3(2) or in accordance with AF&PA's NDS. Components of exterior walls shall be fastened in accordance with Table R602.3(1) through R602.3(4). Exterior walls covered with foam plastic sheathing shall be braced in accordance with Section R602.10. Structural sheathing shall be fastened directly to structural framing members.

R602.3.4 Bottom (sole) plate. Studs shall have full bearing on a 2-inch nominal (38 mm) or larger plate or sill having a width at least equal to the width of the studs.

R602.10 Wall bracing. All exterior walls shall be braced in accordance with this section. In addition, interior braced wall lines shall be provided in accordance with Section 602.10.11. For buildings in Seismic Design Categories D₀, D₁ and D₂, walls shall be constructed in accordance with the additional requirements of Sections R602.10.11 through R602.11.3.

R602.10.2 Cripple wall bracing.

R602.10.2.1 Seismic Design Categories Other than D₃. In Seismic Design Categories other than D₃, cripple walls supporting exterior walls or interior braced wall panels as required in Section R403.1.2 and R403.1.2.1 shall be braced with an amount and type of bracing as required for the wall above in accordance with Table

R602.10.1 with the following modifications for cripple wall bracing:

1. The percent bracing amount as determined from Table R602.10.1 shall be increased by 15 percent; and

2. The wall panel spacing shall be decreased to 18 feet (5486 mm) instead of 25 feet (7620 mm).

R602.10.2.2 Seismic Design Category D₂. In Seismic Design Category D₂, cripple walls supporting exterior walls or interior braced wall panels as required in Section R403.1.2 and R403.1.2.1 shall be braced in accordance with Table R602.10.1.

R602.10.2.3 Redesignation of cripple walls. In any Seismic Design Category, cripple walls are permitted to be redesignated as the first story walls for purposes of determining wall bracing requirements. If the cripple walls are redesignated, the stories above the redesignated story shall be counted as the second and third stories, respectively.

R602.10.5 Continuous wood structural panel sheathing. When continuous wood structural panel sheathing is provided in accordance with Method 3 of Section R602.10.3 on all sheathable areas of all exterior walls including areas above and below openings, braced wall panel lengths are not required to be in accordance with Section R602.10.4 provided they are in accordance with Table R602.10.5. Wood structural panel sheathing shall be installed at corners in accordance with Figure R602.10.5. The bracing percentages in Table R602.10.1 for Method 3 shall be permitted to be multiplied by a factor of 0.9 for exterior walls with a maximum opening height that does not exceed 85 percent of the wall height or a factor of 0.8 for exterior walls with a maximum opening height that does not exceed 67 percent of the wall height.

TABLE R602.10.5

LENGTH REQUIREMENTS FOR BRACED WALL PANELS IN A CONTINUOUSLY SHEATHED WALL^{a,b}

(no proposed changes to contents of Table R602.10.5)

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 pound per square foot = 0.0479 kN/m².

a. Linear interpolation shall be permitted.

b. Full-height sheathed wall segments on either side of garage openings that support roofs of light-framed construction only, with roof covering dead loads of 3 psf or less shall be permitted to have a 4:1 height-to-width ratio.

c. Walls on either or both sides of openings in garages attached to fully sheathed dwellings shall be permitted to be built in accordance with Section R602.10.6.2 and Figure R602.10.6.2 except that a single sill plate shall be permitted and two anchor bolts shall be placed at 1/3 points. In addition, tie-down devices shall not be required and the vertical wall segment shall have a maximum 6:1 height-to-width ratio (with height being measured from top of header to the bottom of the sill plate). This option shall be permitted for the first story of two-story applications in

Seismic Design Categories A through C.

R602.10.6 Alternate braced wall panel construction methods. Alternate braced wall panels shall be constructed in accordance with Sections R602.10.6.1 and R602.10.6.2.

R602.10.6.1 Alternate braced wall panels. Alternate braced wall panels constructed in accordance with one of the following provisions shall be permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.10.4. The maximum height and minimum width of each panel shall be in accordance with Table R602.10.6.

1. In one-story buildings, each panel shall be sheathed on one face with 3/8-inch-minimum-thickness (9.5 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table R602.3(1) and blocked at all wood structural panel sheathing edges. Two anchor bolts installed in accordance with Figure R403.1(1) shall be provided in each panel. Anchor bolts shall be placed in from each end of the panel a horizontal distance of one-fourth the panel width. Each panel end stud shall have a tie-down device fastened to the foundation, capable of providing an uplift capacity in accordance with Table R602.10.6. The tie-down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation which is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom. When the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch by 12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first story of two-story buildings, each braced wall panel shall be in accordance with Item 1 above, except that the following:

2.1 The wood structural panel sheathing shall be provided on both faces;

2.2 Sheathing edge nailing spacing shall not exceed 4 inches on center; and

2.3 Anchor bolts shall be placed at the center of the panel width and in from each end of the panel a horizontal distance of one-fifth the panel width (three total).

R602.10.7 Panel joints. All vertical joints of panel sheathing shall occur over, and be fastened to, common studs. Horizontal joints in braced wall panels shall occur over, and be fastened to, common blocking of a minimum 2 inches in nominal thickness.

EXCEPTION: Blocking is not required behind horizontal joints in Seismic Design Categories A and B and detached dwellings in Seismic Design Category C when constructed in accordance with Section R602.10.3, braced-wall-panel construction Method 3 and Table R602.10.1, Method 3, or where permitted by the manufacturer's installation requirements for the specific sheathing material.

R602.10.8 Connections. Braced wall panel bottom (sole) plates shall be fastened to the floor framing and top plates shall be connected to the framing above in accordance with Table R602.3(1). Sill plates shall be fastened to the footing, foundation or slab in accordance with Sections R403.1.6 and R602.11. Where joists are perpendicular to the braced wall lines above, blocking shall be provided under and in line with the braced wall panels. Where joists are perpendicular to braced wall lines below, blocking shall be provided over and in line with the braced wall panels. Where joists are parallel to braced wall lines above or below, a rim joist or other parallel framing member shall be provided at the wall to permit fastening per Table R602.3(1). For buildings in Seismic Design Categories D_0 , D_1 and D_2 , braced wall panels shall also be fastened in accordance with Section R602.11.2.

R602.10.9 Interior braced wall support. This section is not adopted. See Section R403.1.2.

R602.10.10 Design of structural elements. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in Sections R602.10 through R602.10.9, those portions shall be designed and constructed in accordance with accepted engineering practice.

R602.10.11 Bracing in Seismic Design Categories D_0 , D_1 and D_2 . Structures located in Seismic Design Categories D_0 , D_1 and D_2 shall have exterior and interior braced wall lines.

R602.10.11.1 Braced wall line spacing. Spacing between braced wall lines in each story shall not exceed 25 feet (7620 mm) on center in both the longitudinal and transverse directions.

EXCEPTION: In one- and two-story buildings two adjacent braced wall lines shall not exceed 35 feet (10,363 mm) on center in order to accommodate an area not exceeding 900 square feet (84 m^2) in each dwelling unit. Spacing between all other braced wall lines shall not exceed 25 feet (7620 mm).

R602.10.11.2 Braced wall panel location. Exterior braced wall lines shall be provided with a braced wall panel located at each end of the braced wall line.

EXCEPTION: For braced wall panel construction Method 3 of Section R602.10.3, the braced wall panel shall be permitted to begin no more than 8 feet (2438 mm) from each end of the braced wall line provided one of the following is satisfied:

1. A minimum 24-inch-wide (610 mm) panel is applied to each side of the building corner and the two 24-inch-wide (610 mm) panels at the corner shall be attached to framing in accordance with Figure R602.10.5; or
2. The end of each braced wall panel closest to the corner shall have a tie-down device fastened to the stud at the edge of the braced wall panel closest to the corner and to the foundation or framing below. The tie-down device shall be capable of providing an uplift allowable design value of at least 1,800 pounds (8 kN). The tie-down device shall be installed in accordance with the manufacturer's recommendations.

R602.10.11.3 Collectors. A designed collector shall be provided if a braced wall panel is not located at each end of a braced wall line as indicated in Section R602.10.11.2 or, when using the Section R602.10.11.2 Exception, if a braced wall panel is more than 8 feet (2438 mm) from each end of a braced wall line.

R602.10.11.4 Cripple wall bracing. In addition to the requirements of Section R602.10.2, where interior braced wall panels occur without a foundation below, the length of parallel exterior cripple wall bracing shall be one and one-half times the length required by Table R602.10.1. Where cripple walls braced using Method 3 of

Section R602.10.3 cannot provide this additional length, the capacity of the sheathing shall be increased by reducing the spacing of fasteners along the perimeter of each piece of sheathing to 4 inches (102 mm) on center.

R602.10.11.5 Sheathing attachment. Adhesive attachment of wall sheathing shall not be permitted in Seismic Design Categories C, D₀, D₁ and D₂.

R602.11 Framing and connections for Seismic Design Categories D₀, D₁ and D₂. The framing and connection details of buildings located in Seismic Design Categories D₀, D₁ and D₂ shall be in accordance with Sections R602.11.1 through R602.11.3.

R602.11.1 Wall anchorage. Braced wall line sill plates shall be anchored to concrete or masonry foundations in accordance with Sections R403.1.6 and R602.11. For all buildings in Seismic Design Categories D₀, D₁ and D₂ and townhouses in Seismic Design Category C, plate washers, a minimum of 0.229 inch by 3 inches by 3 inches (5.8 mm by 76 mm by 76 mm) 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 (5 mm) larger than the bolt diameter and a slot length not to exceed 1-3/4 inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut.

R602.11.2 Interior braced wall panel connections. Interior braced wall panels shall be fastened to floor and roof framing in accordance with Table R602.3(1), to required foundations in accordance with Section R602.11.1, and in accordance with the following requirements:

1. Floor joists parallel to the top plate shall be toe-nailed to the top plate with at least 8d nails spaced a maximum of 6 inches (152 mm) on center.

2. Top plate laps shall be face-nailed with at least eight 16d nails on each side of the splice.

R602.11.3 Stepped foundations. Where stepped foundations occur, the following requirements apply:

1. Where the height of a required braced wall panel that extends from foundation to floor above varies more than 4 feet (1220 mm), the braced wall panel shall be constructed in accordance with Figure R602.11.3.

2. Where the lowest floor framing rests directly on a sill bolted to a foundation not less than 8 feet (2440 mm) in length along a line of bracing, the line shall be considered as braced. The double plate of the cripple stud wall beyond the segment of footing that extends to the lowest framed floor shall be spliced by extending the upper top plate a minimum of 4 feet (1219 mm) along the foundation. Anchor bolts shall be located a maximum of 1 foot and 3 feet (305 and 914 mm) from each end of the plate section at the step in the foundation.

3. Where cripple walls occur between the top of the foundation and the lowest floor framing, the bracing requirements for a story shall apply.

4. Where only the bottom of the foundation is stepped and the lowest floor framing rests directly on a sill bolted to the foundations, the requirements of Section R602.11.1 shall apply.

NEW SECTION

WAC 51-51-0613 Section R613--Exterior windows and glass doors.

R613.4 Testing and labeling. Exterior windows and sliding doors shall be tested by an approved independent laboratory, and bear a label identifying manufacturer, performance characteristics and approved inspection agency to indicated compliance with AAMA/WDMA/CSA 101/I.S.2/A440. Exterior side-hinged doors shall be tested and labeled as conforming to AAMA/WDMA/CSA 101/I.S.2/A440 or comply with Section R613.6.

EXCEPTION:

1. Decorative glazed openings.
2. Custom exterior windows and doors manufactured by a small business shall be exempt from all testing requirements in Section R-613 of the International Residential Code provided they meet the applicable provisions of Chapter 24 of the International Building Code.

NEW SECTION

WAC 51-51-0806 Section R806--Roof ventilation.

R806.4 Conditioned attic assemblies. This section is not adopted.

NEW SECTION

WAC 51-51-1201 Section M1201--General.

M1201.1 Scope. The provisions of Chapters 12 through 24 shall regulate the design, installation, maintenance, alteration and inspection of mechanical systems that are permanently installed and utilized to provide control of environmental conditions within buildings. These chapters shall also regulate those mechanical systems, system components, equipment and appliances specifically addressed in this code.

EXCEPTION: The standards for liquefied petroleum gas installations shall be the 2004 Edition of NFPA 58 (Liquefied Petroleum Gas Code) and the 2006 Edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code).

AMENDATORY SECTION (Amending WSR 04-01-109, filed 12/17/03, effective 7/1/04)

WAC 51-51-4300 Chapter 43--Referenced standards.

Washington State Building Code Standard 31-2
STANDARD TEST METHOD FOR PARTICULATE EMISSIONS FROM FIREPLACES

~~((Insert following page 524))~~

See Section R1004.1, *International Residential Code*
Standard is located in *International Building Code*, Chapter 35

NEW SECTION

WAC 51-51-60101 Appendix F radon control methods.

AF101.1 General. This appendix contains requirements for new construction in jurisdictions where radon-resistant construction is required.

Inclusion of this appendix by jurisdictions shall be required in high radon potential counties as determined in Figure AF101 and as listed in Table AF101(1).

Unvented crawl spaces are not permitted in any high radon potential county. In other areas, requirements of this appendix apply to any structure constructed with unvented crawl spaces as specified in R408.3.

[FIGURE AF101 EPA MAP OF RADON ZONES LEGEND]



- ZONE 1 HIGH POTENTIAL (GREATER THAN 4 pCi/L)^a[Red/Darkest]
- ZONE 2 MODERATE POTENTIAL (FROM 2 TO 4 pCi/L)[Orange/Midrange]
- ZONE 3 LOW POTENTIAL (LESS THAN 2 pCi/L)[Yellow/Lightest]

a. pCi/L standard for picocuries per liter of radon gas. EPA recommends that all homes that measure 4 pCi/L and greater be mitigated.

The United States Environmental Protection Agency and the United States Geological Survey have evaluated the radon potential in the United States and have developed a map of radon zones designed to assist building officials in deciding whether radon-resistant features are applicable in new construction.

The map assigns each of the 3,141 counties in the United States to one of three zones based on radon potential. Each zone designation reflects the average short-term radon measurement that can be expected to be measured in a building without the implementation of radon control methods. The radon zone designation of highest priority is Zone 1. Table 1 of this appendix lists the Zone 1 counties illustrated on the map. More detailed information can be obtained from state-specific booklets (EPA-402-R-93-021 through 070) available through State Radon Offices or from U.S. EPA Regional Offices.

TABLE AF101(1) HIGH RADON POTENTIAL (ZONE 1) COUNTIES^A

WASHINGTON: Clark, Ferry, Okanogan, Pend Oreille, Skamania, Spokane, Stevens.

a. EPA recommends that this county listing be supplemented with other available state and local data to further understand the radon potential of Zone 1 areas.

NEW SECTION

WAC 51-51-60103 Section AF103--Requirements.

AF103.1 General. The following construction techniques are intended to resist radon entry and prepare the building for post-construction radon mitigation, if necessary (see Figure AF102). These techniques are required in high radon potential counties

designated in Table AF101(1).

REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 51-51-0101	Section R101--Title, scope and purpose.
WAC 51-51-0324	Section R324--Adult family homes.
WAC 51-51-2401	Section G2401 (101)--General.
WAC 51-51-2415	Section G2415 (404)--Piping system installation.