

## CHAPTER 155

# BUILDING AND CONSTRUCTION REGULATIONS

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**155.01 PURPOSE.** The purpose of this chapter is to provide for safety, health and public welfare through structural strength and stability, means of egress, adequate light and ventilation and protection to life and property from fire and hazards incident to the design, construction, alteration, removal or demolition of buildings and other structures; safe wiring and electrical appliances; safe gas piping and appliances; safe heating devices; safe and sanitary design, construction, installation, quality of materials, location, operation and maintenance of plumbing, heating, ventilating, comfort cooling, refrigeration systems, incinerators and other miscellaneous heat-producing appliances and other installations, equipment and appliances regulated herein.

**155.02 EFFECT OF PROVISIONS ON CITY AND INDIVIDUAL LIABILITY.** The inspection and control of buildings and repair work or the granting of certificates or the issuance of permits by the Code Enforcement Officer or inspectors shall not tend to make the City liable on account of such control or granting of such certificates or issuing of permits, or lessen the liability which would otherwise exist of persons owning, installing, building or repairing such buildings or other structures; electrical wires, apparatus, poles, conduits, etc.; gas appliances or piping; plumbing, heating or mechanical installation, appliance or equipment; or any other activity regulated herein.

**155.03 ENFORCEMENT.** It is the duty of the Code Enforcement Officer to enforce all of the provisions of this chapter.

**155.04 RIGHT TO ENTER OR STOP WORK.** The Code Enforcement Officer and inspectors shall have the right at any time to enter any building or premises in the City in the performance of official duties and to order and compel the suspension of any work being done in violation of the provisions of this chapter and to prohibit the use of any materials in violation of this chapter. The Code Enforcement Officer and inspectors shall have the power to stop any work where the same in any way is in violation of the provisions of this chapter or in any way will affect the health, safety or welfare of the public. The Code Enforcement Officer and inspectors shall have the power to cause the removal of all electrical wires or the turning off of all electrical current where the circuits interfere with the work of the Fire Department, and to cause the removal of all gas, sewer, water or mechanical pipes, fixtures, equipment and appliances where the same interfere in any way with the health, safety or welfare of the public.

**155.05 PERMIT FEE; BUILDING.** Fees for permits for the construction of any building or repair thereof shall be paid to the City as required under the *International Building Code*. No permit fee will be charged for churches, schools, or charitable organizations.

**155.06 INSPECTIONS REQUIRED IN CASE OF VIOLATION.** Additional inspections shall be required where there is reason to believe that construction, alterations or installations are being made not in accordance with the regulations laid down in this chapter, or when written objections are filed by any party interested or affected by said construction or alteration and the Council finds objections are well taken, or when the Health Officer or Fire Chief requests the Council to have an inspection made. The Council shall, in any of the above events when an additional inspection is required, order the Code Enforcement Officer or inspector, as the case may be, to make said inspection and report back such official's or inspector's findings to the Council within two (2) days from the time said inspection is required.

**155.07 SETTING FEES FOR ADDITIONAL INSPECTIONS.** Whenever the Council orders an inspection to be made under the provisions of Section 155.06, it shall assess a reasonable fee adequate to cover the cost of the inspection.

**155.08 INSPECTION CERTIFICATES.** It is unlawful to use any altered, repaired or newly constructed building, to turn on any electrical current, to use any gas appliance or piping, to use any plumbing, or to do anything for which approval is required by this chapter, without first securing a certificate from the Code Enforcement Officer of a satisfactory inspection.

**155.09 REMOVAL OF VIOLATIONS.** Any person who erects any building, structure, or addition thereto, or makes any installation or uses any equipment or appliance contrary to the provisions of this chapter shall be given ten (10) days' notice in writing by the Code Enforcement Officer to remove the same, and if such removal is not completed within said time, the Code Enforcement Officer shall cause the same to be done, and report the same to the Clerk, and the costs of removal shall be charged to the person committing such violation. The costs and expense may be collected by an action brought in the name of the City against such party, or may be collected by a special assessment upon the real estate upon which such violation occurs, all in the manner and form as provided for special assessments.

**155.10 TECHNICAL CODES ADOPTED BY REFERENCE.** For the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and maintenance of buildings and structures; electrical wiring, equipment and appliances; gas piping, equipment and appliances, plumbing, heating, ventilating, comfort cooling piping, equipment and appliances; minimum health and safety standards in housing; and other matter regulated therein, the following codes, copies of which are on file in the Clerk's office, are hereby adopted by the City and incorporated herein by reference, subject to all deletions, modifications, amendments and conflicting provisions contained in this Code of Ordinances:

1. *International Building Code*, 2009 Edition, published by the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, is hereby adopted by reference as the general requirements for building construction, with the following amendments:

- Delete section 101.2 and insert in lieu thereof the following new section:

101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location,

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maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

Exception: Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the International Residential Code, as amended.

- Delete section 101.4 and sections therein.

- Delete section 102.6 and insert in lieu thereof the following new section:

102.6 Existing Structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as specifically covered in this code or the state fire code, or as deemed necessary by the building code commissioner for the general safety and welfare of the occupants and the public.

- Delete sections 103 and 105 and sections therein.

- Delete section 106 and sections therein.

- Delete section 113 and sections therein.

- Delete section 202 definitions for 'Awning', 'Basement', 'Boarding House', 'Building', 'Building Line', 'Building Official', 'Canopy', 'Dwelling', 'Dwelling Unit', 'Height, Building', 'Lot', 'Marquee', 'Person', 'Publicway', 'Story', 'Townhouse', 'Yard'.

- Delete section 906.1 and insert in lieu thereof the following new section:

906.1 Where required. Portable fire extinguishers shall be installed in the following locations:

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.
2. Within 30 feet of commercial cooking equipment.
3. In areas where flammable or combustible liquids are stored, used or dispensed.
4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 1415.1 of the International Fire Code.
5. Where required by the sections indicated in Table 906.1.
6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.

- Delete section 907.2.2 and insert in lieu thereof the following new

section: 907.2.2 Group B. A manual fire alarm system shall be installed in Group B Occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.
3. The Group B fire area contains a Group B ambulatory health care facility.
4. The Group B fire area contains an educational occupancy for students above the twelfth grade with an occupant load of 50 or more persons.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

- Delete section 907.2.3 and insert in lieu thereof the following new section:

907.2.3 Group E. In the absence of a complete automatic sprinkler system, a complete automatic detection system shall be installed throughout the entire Group E occupancy. A Group E occupancy with a complete automatic sprinkler system shall be provided with a fire alarm system with a minimum of corridor smoke detection, at a

maximum spacing of 30 feet on center, and heat or smoke detection in any hazardous or nonoccupied areas. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

Exceptions:

1. Group E occupancies with an occupant load of less than 50.
2. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:
  - 2.1 Interior corridors are protected by smoke detectors with alarm verification.
  - 2.2 Auditoriums, cafeterias, gymnasiums and the like are protected by heat detectors or other approved detection devices.
  - 2.3 Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
  - 2.4 Off-premises monitoring is provided.
  - 2.5 The capability to activate the evacuation signal from a central point is provided.
  - 2.6 In buildings where normally occupied spaces are provided with a two-way communication system between such spaces and a constantly attended receiving station from which a general evacuation alarm can be sounded, except in locations specifically designated by the fire code official.
3. Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an approved automatic sprinkler system, the notification appliances will activate on sprinkler water flow and manual activation is provided from a normally occupied location.

- Add the following new section 1003.8:

1003.8 Location of Preschool through Second Grade Students. In Group E occupancies, rooms normally occupied by preschool, kindergarten or first grade students shall not be located above or below the level of exit discharge. Rooms normally occupied by second grade students shall not be located more than one story above the level of exit discharge.

- Add the following new section 1100:

1100. Any building or facility which is in compliance with the applicable requirements of 661 Iowa Administrative Code Chapter 302 shall be deemed to be in compliance with any applicable requirements contained in the International Building Code concerning accessibility for persons with disabilities.

- Delete chapter 29.

- Amend section 3001.2 by adding the following new unnumbered paragraph after the introductory paragraph:

Notwithstanding the references in Chapter 35 to editions of national standards adopted in this section, any editions of these standards adopted by the elevator safety board in 875 Iowa Administrative Code Chapter 72 are hereby adopted by reference. If a standard is adopted by reference in this section and there is no adoption by reference of the same standard in 875 Iowa Administrative Code Chapter 72, the adoption by reference in this section is of the edition identified in Chapter 35.

- Amend section 3401.3 by deleting "International Private Sewage Disposal Code" and inserting in lieu thereof "567 Iowa Administrative Code Chapter 69."

- Delete appendices A through K.

- Delete all references to the "International Plumbing Code" and insert in lieu thereof "state plumbing code."

- Delete all references to the "ICC Electrical Code" and insert in lieu thereof "National Electrical Code, 2008 edition as amended by Ordinance 878, Le Mars Code of Ordinances."

- Delete all references to the “International Fuel Gas Code” and insert in lieu thereof “rule 661 Iowa Administrative Code 301.9(103A).”

2. *International Residential Code*, 2009 Edition, published by the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, is hereby adopted by reference as the requirements for construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal, and demolition of detached one- and two-family dwellings multiple single-family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures, with the following amendments:

- Delete sections R103, R105 and R112 and sections therein.

NOTE: The values for table R301.2(1) shall be determined by the location of the project and referenced footnotes from table R301.2(1).

- Delete section R202 definitions for ‘Accessory Structure’, ‘Basement’, ‘Building’, ‘Building Line’, ‘Building Official’, ‘ Dwelling’, ‘ Dwelling Unit’, ‘Height, Story’, ‘Lot’, ‘Manufactured Home’, ‘Townhouse’, and ‘Yard’. - Delete chapter 11.

- Delete all references to the “International Plumbing Code” and insert in lieu thereof “state plumbing code.”

- Delete section R310.1 and insert in lieu thereof the following new section:

R310.1 Emergency escape and rescue required. Basements and every sleeping room shall have at least one operable emergency and rescue opening. Such opening shall open directly into a public street, public alley, yard or court. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches above an adjacent permanent interior standing surface. The adjacent permanent interior standing surface shall be no less than 36 inches wide and 18 inches deep and no more than 24 inches high. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with section R310.2. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

Exception: Basements used only to house mechanical equipment and not exceeding total floor area of 200 square feet.

- Delete section R313.1.

NOTE: Deletion of section R313.1, which would have required the installation of sprinklers in newly constructed townhouses, is consistent with 2010 Iowa Acts, Senate Joint Resolution 2009.

- Delete section R313.2.

NOTE: Deletion of section R313.2, which would have required the installation of sprinklers in newly constructed one- and two-family residences, is consistent with 2010 Iowa Acts, Senate Joint Resolution 2009.

- Amend section R322.1.7 by striking the words “Chapter 3 of the International Private Sewage Disposal Code” and inserting in lieu thereof 567 Iowa Administrative Code Chapter 69.

- Delete section R907.3 and insert in lieu thereof the following new section:

R907.3 Recovering versus replacement. New roof coverings shall not be

installed without first removing all existing layers of roof or roof coverings where any of the following conditions exist:

1. Where the existing roof or roof covering is water-soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is wood shake, slate, clay, cement or asbestos cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

- Delete chapter 24 and sections therein and insert in lieu thereof the following new section:

All fuel gas piping installations shall comply with rule 661 Iowa Administrative Code 301.9(103A).

- Delete chapters 25 to 33 and sections therein, except for section P2904, and insert in lieu thereof the following new section:

All plumbing installations shall comply with the state plumbing code as adopted by the state plumbing and mechanical systems board pursuant to Iowa Code Chapter 105. Exception: Factory-built structures, as referenced by Iowa Code section 103A.10(3), that contain plumbing installations are allowed to comply with either the state plumbing code or with the International Plumbing Code, 2009 Edition, published by the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041. The manufacturer's data plate must indicate which plumbing code was utilized for compliance with this rule, as required by 661 Iowa Administrative Code paragraph 16.610(15)"e".

- Delete chapters 34 to 43 and sections therein and insert in lieu thereof the following new section:

All electrical installations shall comply with National Electrical Code, 2008 Edition, as amended by Ordinance 878, Le Mars Code of Ordinances.

- Delete appendices A through Q.

3. *International Mechanical Code*, 2009 Edition, published by the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, is hereby adopted by reference as the requirements for the design, installation, maintenance, alteration, and inspection of mechanical systems that are permanently installed and utilized to provide control of environmental conditions and related processes within buildings, with the following amendments:

- Delete sections 103, 106 and 109 and sections therein.

- Delete section 403 and insert in lieu thereof the following new section:

#### SECTION 403 MECHANICAL VENTILATION

Mechanical ventilation systems shall be designed in accordance with the provisions of ASHRAE Standard 62.1-2007, "Ventilation for Acceptable Indoor Air Quality," published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1791 Tullie Circle, N.E., Atlanta, GA 30329. -

Delete appendices A and B.

- Delete all references to the "International Plumbing Code" and insert in lieu thereof "state plumbing code."

- Delete all references to the "ICC Electrical Code" and insert in lieu thereof "National Electrical Code, 2008 edition, as amended by Ordinance 878, Le Mars Code of Ordinances.

- Delete all references to the "International Fuel Gas Code" and insert in lieu thereof "rule 661 Iowa Administrative Code 301.9(103A)."

4. *National Electrical Code*, 2011 Edition, published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471, is adopted with the following amendments:

- Add the following exceptions to section 210.8, paragraph (A), subparagraph (2):
  - (A) Exception No.1 to (2): Receptacles that are not readily accessible.
  - (B) Exception No.2 to (2): A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is a cord-and-plug connected in accordance with 400.7(A)(6), (A)(7), or (A)(8).
  - (C) Receptacles installed under the exceptions to 210.8(A)(2) shall not be considered as meeting the requirements of 210.52(G).
- Add the following exceptions to section 210.8, paragraph (A), subparagraph (5):
  - (A) Exception No.2 to (5): Receptacles that are not readily accessible.
  - (B) Exception No.3 to (5): A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is a cord-and-plug connected in accordance with 400.7(A)(6), (A)(7), or (A)(8).
  - (C) Receptacles installed under the exceptions to 210.8(A)(5) shall not be considered as meeting the requirements of 210.52(G).

5. *Plumbing Code*. Administrative rule 641 – Chapter 25 (105), Iowa Administrative Code, is hereby adopted by reference as the requirements for plumbing installations.

6. *International Existing Building Code*, 2009 Edition, published by the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, is hereby adopted by reference as the requirements for repair, alteration, change of occupancy, addition, and relocation of existing buildings, with the following amendments:

- Delete section 101.1.
- Delete section 101.4.2 and insert in lieu thereof the following new section:  
101.4.2 Buildings Previously Occupied. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as specifically covered in this code or the Le Mars Code of Ordinances, or as deemed necessary by the building code official for the general safety and welfare of the occupants and the public.
- Delete section 101.5.4.
- Delete section 101.5.4.1.
- Delete section 101.5.4.2.
- Delete section 101.7.
- Delete sections 103 and 105 and sections therein.
- Delete sections 106.1, 106.3.1, 106.3.3, 106.5, and 106.6.
- Delete sections 108, 109, 110, 112, 113, 114, 115, 116 and 117 and sections therein.
- Delete section 605.
- Delete section 706.
- Delete section 806.
- Delete section 912.8.
- Delete chapters A1 through A5.
- Delete appendix B and insert in lieu thereof the following new section:  
Any building or facility subject to this rule shall comply with the provisions of 661 Iowa Administrative Code – Chapter 302.
- Delete resource A.
- Delete all references to the “International Plumbing Code” and insert in lieu



thereof “state plumbing code.”

- Delete all references to the “ICC Electrical Code” and insert in lieu thereof “National Electrical Code, 2011 Edition, as amended by Ordinance 897, Le Mars Code of Ordinances.
- Delete all references to the “International Fuel Gas Code” and insert in lieu thereof rule 661 Iowa Administrative Code – 301.9(103A).

NOTE 1: *International Existing Building Code*, 2009 Edition, Resource A, provides guidelines for evaluating fire ratings of archaic materials and assemblies which may be used by designers and code officials when evaluating compliance with provisions of this chapter.

NOTE 2: Except for elevators excluded from the jurisdiction of the Iowa Division of Labor Services by the provisions of Iowa Code section 89A.2, each elevator is required to comply with any applicable requirements established by the Iowa Division of Labor Services and is subject to enforcement of any applicable regulations by Iowa Division of Labor Services.

NOTE 3: Except for boilers and pressure vessels excluded from the jurisdiction of the Iowa Division of Labor Services by the provisions of Iowa Code 89.4, each boiler or pressure vessel is required to comply with any applicable requirements established by the Iowa Division of Labor Services and is subject to enforcement of any applicable regulations by the Iowa Division of Labor Services.

Any Boiler which is subject to requirements established by the Iowa Department of Natural Resources is required to comply with any such requirements and is subject to enforcement of any applicable regulations by the Iowa Department of Natural Resources.

This rule is intended to implement Iowa Code sections 103A.41 through 103A.45.

7. Energy Code. The International Energy Conservation Code – Commercial and Residential Provisions, 2012 Edition, published by the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, is adopted by reference as the energy code, with the following amendments:

- Delete section C101.1.
- Delete section C101.2 and insert in lieu thereof the following new section:  
C101.2 Scope. This code applies to commercial buildings and the buildings’ sites and associated systems and equipment as defined pursuant to 661 – subrule 303.1(2).
- Delete section C103.3.1.
- Delete section C104.1 and insert in lieu thereof the following section:  
C104.1 General. Construction or other work that is required to be inspected by State law or local ordinance shall be in accordance with sections C104.2 through C104.8.
- Delete sections C108 and C109 and all sections contained herein.
  
- Delete section R101.1.
- Delete section R101.2 and insert in lieu thereof the following new section:  
R101.2 Scope. This code applies to residential buildings and the building sites and associated systems and equipment as defined pursuant to 661 – subrule 303.1(2). The remodeling or renovation of one-and-two family dwelling units is not within the scope of this code.
- Delete section R103.3.1.
- Delete section R103.3.2.
- Delete section R103.3.3.
- Delete section R104.1 and insert in lieu thereof the following new section:  
R104.1 General. Construction or other work that is required to be inspected by State law or local ordinance shall be in accordance with sections R104.2 through R104.8. The State Fire Marshal shall have authority to perform audits to ensure compliance with the requirements of this code. When local governments conduct

compliance audits, the information may be provided to the Department of Energy or to the State Fire Marshal in a timely way. Local governments may contract with the State Fire Marshal to conduct audits.

- Delete sections R108 and R109 and all sections contained therein.

- Delete section R402.1.1 and insert in lieu thereof the following new section:

R402.1.1 Insulation and Fenestration Criteria. The building thermal envelope shall meet the requirements of Table R402.1.1 based on the climate zone specified in Chapter 3.

Table R402.1.1

Table R402.1.1 Insulation and Fenestration Requirements by Component <sup>a</sup>										
Climate Zone	Fenestration U-Factor <sup>b</sup>	Skylight U-Factor <sup>b</sup>	Glazed Fenestration SHGC <sup>b,e</sup>	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value <sup>e</sup>	Floor R-Value	Basement Wall R-Value <sup>c</sup>	Slab R-Value & Depth <sup>d</sup>	Crawl Space Wall R-Value
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13+5 <sup>h</sup>	8/13	19	5/13 <sup>f</sup>	0	5/13
4	0.35	0.55	0.40	49	20 or 13+5 <sup>h</sup>	8/13	19	10/13	10, 2ft	10/13
5	0.32	0.55	NR	49	20 or 13+5 <sup>h</sup>	13/17	30 <sup>g</sup>	15/19	10, 2ft	15/19
6	0.32	0.55	NR	49	20 or 13+5 <sup>h</sup>	15/20	30 <sup>g</sup>	15/19	10, 4ft	15/19
7 & 8	0.32	0.55	NR	49	20+5 or 13+10 <sup>h</sup>	19/21	30 <sup>g</sup>	15/19	10, 4ft	15/19

<sup>a</sup> R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.

<sup>b</sup> The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. EXCEPTION: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed .30.

<sup>c</sup> “15/19” means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. “15/19” shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. “10/13” means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

<sup>d</sup> 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 Climate Zones 1 through 3 for heated slabs.

<sup>e</sup> There are no SHGC requirements in the Marine Zone.

<sup>f</sup> Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.

<sup>g</sup> Or insulation sufficient to fill the framing cavity, R-19 minimum.

<sup>h</sup> First value is cavity insulation; second value is continuous insulation or insulated siding. Therefore, “13+5” means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.

<sup>i</sup> The second R-value applies when more than half the insulation is on the interior of the mass wall.

- Delete section R402.4.1.2 and insert in lieu thereof the following new section:

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding 5 air changes per hour in Climate Zones 1 and 2, and 4 air changes per hour in Climate Zones 3 through 8. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 pascals). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed beyond the intended weatherstripping or other infiltration control measures;
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures;
3. Interior doors, if installed at the time of the test, shall be open;
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed;
5. Heating and cooling systems, if installed at the time of the test, shall be turned off; and
6. Supply and return registers, if installed at the time of test, shall be fully open.

- Delete section R403.2.2 and insert in lieu thereof the following new section:  
R403.2.2 Sealing (mandatory). Ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with either the International Mechanical Code or International Residential Code, as applicable.

EXCEPTIONS:

1. Air-impermeable spray foam products shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems.

Duct tightness shall be verified by either of the following:

1. Post-construction test: Leakage to outdoors shall be less than or equal to 4 cfm (113.3 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area or total leakage shall be less than or equal to 6 cfm (170 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.
2. Rough-in test: Total leakage shall be less than or equal to 6 cfm (170 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm (85 L/min) per 100 square feet (9.29 m<sup>2</sup>) of conditional floor area.

Testing shall be conducted by an approved third party. A written report of the results shall be signed by the party conducting the test and proved to the code official.

EXCEPTION: The duct leakage test is not required for ducts and air handlers located entirely within the building thermal envelope unless cavities are used for returns.

- Delete section R403.2.3 and insert in lieu thereof the following new section:  
R403.2.3 Building Cavities (mandatory). Building framing cavities shall not be used as supply ducts. Building framing cavities may be used as return ducts if both of the following conditions exist:

1. Ducts must be tested for duct leakage in accordance with section R403.2.2.
2. Exterior wall cavities shall not be used for return ducts.

**155.11 MINIMUM WIDTH OF BUILDINGS AND STRUCTURES.** The minimum width of buildings or structures constructed or established for use as dwellings in the City shall be not less than twenty-two (22) feet wide as measured across the narrowest dimension of the dwelling unit or units thereof; however, the minimum width requirement shall not apply in large scale residential developments, mobile homes and/or manufactured home courts.