

## **ARTICLE VI. ONE AND TWO FAMILY DWELLING CODE**

### **DIVISION 1. GENERALLY**

#### **Sec. 5-96. Scope.**

This article shall govern the minimum requirements to safeguard the health, safety, and welfare of the public by regulating and controlling the design, construction, prefabrication, equipment or appliance installation, quality of materials, use and occupancy, and the repair of one (1) and two (2) family detached dwellings and townhouses not more than three (3) stories in height with or without a loft per Section R101.2.1 as follows:

1. New Construction and Substantial Reconstruction as defined in section R202 shall comply with all requirements of this article and Article XIV (Green Building Code)
2. Substantial additions to existing buildings that are valued at less than 50% of the assessed value of the building as per State Department of Assessment and Taxation (SDAT) do not need to shall comply with all requirements of this article, but do not need to comply with Article XIV (Green Building Code).
3. Demolition meeting the definition in section 5-68 must obtain a demolition permit and be subject to an evaluation of historic significance. Demolition may still be subject to an evaluation of historic significance, Applicants should refer to Chapter 25, Section 25.14.01.d prior to any proposed exterior demolition.

**Secs. 5-97 – 5-100. Reserved.**

### **DIVISION 2. ADMINISTRATION AND ENFORCEMENT**

#### **Sec. 5-101. International Residential Code for One and Two-Family Dwellings--Adopted.**

The International Code Council (ICC) International Residential Code for One and Two-Family Dwellings, 2015 Edition, as modified herein, is hereby adopted as the residential code for the City. One (1) copy of such publication as adopted shall be housed by the Inspection Services Division and made available for inspection by the public during regular office hours. Any amendment or change in such publication promulgated by the International Code Council shall not become a part of this article until adopted by ordinance. References to other ordinances and codes of the City shall be interpreted and applied in accordance with the terms and effect of such ordinances and codes at the time of such application and interpretation.

#### **Sec. 5-102. Same--Amendments.**

The ICC International Residential Code for One and Two-Family Dwellings, 2015 Edition (IRC), is amended as follows:

*Section R101.1* of the IRC is amended to read as follows:

**R101.1. Title.** These provisions shall be known as the *Residential Code for One- and Two-family Dwellings of City of Rockville*, and shall be cited as such and will be referred to herein as “this code”.

*Section R101.2.1* is added to the IRC to read as follows:

**R101.2.1 Additional scope and repairs.** Accessory structures and townhouses with lofts, not exceeding a total of four stories in height and meeting the requirements of Sections R309, R310 and R311 and other applicable requirements of this code. Repairs involving building structures existing at the time of adoption of or amendment of this Article shall comply with this Article or Article XIII.

*Section R105.2* of the IRC is amended to read as follows:

**(a) R105.2 Work exempt from permit.** Permits shall not be required for the following, however properties in Historic District Zones require “Certificates of Approval (permits)” for exterior alterations as per (b). Exemption from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

**(b) See Chapter 25, Article 14 of the Rockville City Code:** Historic District Zone

**Building:**

1. Retaining walls that support a surcharge of less than 2 feet in height, as measured from the lower grade level to the grade level on the high side of the wall.
2. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons (18,927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
3. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade and not over any basement or story below.
4. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
5. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
6. Swings and other playground equipment accessory to a one-or two- family dwelling.
7. Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
8. Re-roofing or residing an existing home without removing any structural components.
9. Patio/decks that are not greater than 4” in height above ground level, Height is measured from top of patio/decking to ground at lowest point.

**Electrical:**

1. Listed cord-and-plug connected temporary decorative lighting.
2. Reinstallation of attachment plug receptacles but not the outlet therefore.
3. Replacement of branch circuit overcurrent devices of the required capacity in the same location.
4. Electrical wiring, devices, appliances apparatus or equipment operating at less than 25 volts and not capable of supplying more than 50 watts of energy.
5. Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.
6. Removal and replacement of stoves, disposals, ranges. Lighting fixtures, or similar appliances and equipment, not to include base board heaters.
7. Portable generators 10KW or less.

**Gas:**

1. Portable heating, cooking or clothes drying appliances.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
3. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

**Mechanical:**

1. Portable heating appliances.
2. Portable ventilation appliances.
3. Portable cooling units.
4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems containing 10 pounds (4.54 kg) or less of refrigerant or that are actuated by motors of 1 horsepower (746 W) or less. (Window AC units).
8. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

**Plumbing:**

1. The clearing of stoppages or the removal and reinstallation of fixtures (i.e., water closets), provided such repairs do not involve or require the replacement or rearrangement of valves or pipes.
2. The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.

*Section R105.3.1.1 of the IRC is deleted.*

*Section R105.5* of the IRC is amended to read as follows:

**R105.5 Expiration.** Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within six (6) months after its issuance, or if the work authorized by such permit does not continue to progress or is abandoned for a period of six (6) months after the last approved/valid inspection. Before such work recommences, a new permit shall be first obtained and the appropriate fees shall be paid.

The fees shall be one-half the amount required for a new permit for such work, provided no changes have been made or will be made in the original construction documents for such work.

*Section R105.5.1* is added to the IRC to read as follows:

**R105.5.1 Extensions.** The code official can extend the time for action by the permittee if there is reasonable cause. A permittee holding an unexpired permit shall have the right to apply for an extension, in writing, for time to complete such work. The extension shall be requested for a justifiable cause.

*Sections R106.1. 4* and *R106.3.3* of the IRC are deleted.

*Section R107.1* of the IRC is amended to read as follows:

**R107.1 Temporary structures.** The building official is authorized to issue a permit for temporary structures. Temporary structures are those used for only limited duration events or outdoor recreational purposes, and not as carports, garages, or storage rooms. Temporary structures may be erected for a period not to exceed a total of 90 days in any 12-month period. The size and location of temporary structures must meet the requirements of Chapter 25 (Zoning) of the Rockville City Code. Temporary structures of less than 144 square feet in area are exempt from permit, but must meet all other requirements of this section and of Chapter 25 (Zoning) of the Rockville City Code.

*Sections R109.1.1* and *R109.1.2* of the IRC are amended to read as follows:

**R109.1.1 Foundation inspection.** Includes footing inspection, foundation walls, waterproofing, drainage, and back-fill, and ground floor slab. A wall check (house location survey) must be prepared and certified by a Maryland Registered Land Surveyor and submitted for approval to the building official within 14 days of the footing inspection approval. Slab inspections will not be conducted until such survey is received and approved.

**R109.1.2 Plumbing, mechanical, gas and electrical systems inspection.** Rough inspection of plumbing, mechanical, gas and electrical systems shall be made prior to concealment and as often as required by the applicable code document.

*Section R109.1.3* of the IRC is deleted.

*Section R109.1.4* of the IRC is amended to read as follows:

**R109.1.4 Frame and masonry inspection.** Inspection of framing and masonry construction shall be made after the roof, masonry, all framing, fire stopping, draft stopping, and the plumbing, mechanical and electrical rough-in work is complete. The building, electrical, mechanical and plumbing rough-in inspections shall be requested at the same time. Floor framing located 36 inches or closer to the ground must be inspected prior to installing any flooring materials. An inspection is required for masonry fireplaces after the fireplace and first flue section are completed.

*Sections R109.1.5.2 through R109.1.5.4* are added to the IRC to read as follows:

**R109.1.5.2 Insulation inspection.** Inspections of insulation shall be made after all close-in inspections have been approved. All manufacture information used to demonstrate compliance with fenestration U-factors and glazed fenestration SHGC must be affixed to each window and door at the time of this inspection.

**R109.1.5.3 Wall bracing inspection.** Inspection shall be made after all wall bracing is completed and prior to the installation of any water-resistive barrier (house-wrap).

**R109.1.5.4 Water-resistance barrier (house-wrap) inspection.** Inspection of the water resistance barriers shall be made after installation of the required barrier per section R703.2 has been installed and prior to any wall coverings being applied.

*Section R109.1.6* of the IRC is amended to read as follows:

**R109.1.6 Final inspection.** Final inspection shall be made after the permitted work is complete and prior to occupancy. The building, electrical, mechanical and plumbing final inspections shall be requested at the same time.

*Section R109.1.6.1* of the IRC is deleted.

*Section R109.4* of the IRC is amended to read as follows:

**R109.4 Approval required.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the building official. The building official upon notification shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or shall notify the permit holder or an agent of the permit holder wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the building official. Any required

inspections disapproved twice for the same violation will be subject to re-inspection fees adopted by resolution of the Mayor and Council. Re-inspection fees must be paid before any further inspections can be performed at the building site. Any work done without proper inspections will be subject to special inspection fees as adopted by resolution of the Mayor and Council.

*Section R110.1* of the IRC is amended to read as follows:

**R110.1 Use and occupancy.** No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building official has issued a certificate of occupancy. Issuance of a certificate of occupancy shall not occur until the building has been inspected and found to be in compliance with the provisions of this code and all other applicable laws and ordinances. Temporary certificates of occupancy will not be issued for one and two family dwellings.

**Exceptions:**

1. Certificates of occupancy are not required for work exempt from permits under Section R105.2.
2. Accessory buildings or structures.

*Sections R110.2* and *R110.3* of the IRC are deleted.

*Section R110.4* of the IRC is amended to read as follows:

**R110.4 Temporary occupancy.** Temporary certificates of occupancy will not be issued for one-and two-family dwellings.

*Section R112* of the IRC is amended to read as follows:

**R112.1 Administrative Appeals.**— Administrative appeals shall be administered in accordance with Chapter 5, Article I, Section 5-12 of the Rockville City Code

*Section R114.1* of the IRC is amended to read as follows:

**R114.1 Notice to owner or the owner's authorized agent.** Upon notice from the building official that work on any building, structure, electrical, gas, mechanical or plumbing system is being done contrary to the provisions of this code or in an unsafe and dangerous manner, such work shall be immediately stopped. The stop work order shall be verbal or in writing and shall be given to the owner of the property, or to his agent, or to the person doing the work, and shall state the specific violations and the conditions under which work will be permitted to resume.

*Section R202 Definitions* of the IRC are hereby amended by adding and amending definitions as follows:

**ACCESSORY BUILDING.** A building subordinate to, and located on the same lot with a main building, the use of which is clearly incidental to that of the main building or to the use of the land, and which is not attached by any part of a common wall or common roof to the main building.

**ACCESSORY STRUCTURE.** A structure, the use of which is customarily associated with and clearly incidental and subordinate to a legally established principal structure and which is located on the same lot. Coated fabric type materials, woven or non-woven cloth, or fabric/ textile materials cannot be used in the construction, installation and/or assembly of any permanent accessory structure for which a permit is required. This includes but is not limited in scope to the following materials: Polyvinyl (PVC) coated, polyester coated, rubber or neoprene coated, nylon coated, polyurethane coated, vinyl coated/laminated material.

**ADDITION.** A modification to an existing building which increases the gross floor area. Any increase in building height or lot coverage is subject to current zoning standards.

**ADDITION, SUBSTANTIAL.** An addition that increases the gross floor area by more than 1500 square feet.

**ALTERATION.** Any construction or renovation to an existing structure other than repair or addition that requires a permit. Also, a change in a mechanical system that involves an extension, addition or change to the arrangement, type or purpose of the original installation that requires a permit. Properties in Historic District Zones require “Certificates of Approval” from the Historic District Commission for all exterior alterations.

**COOL ROOF RATING COUNCIL.** The independent, non-profit organization that maintains a third-party rating system for radiative properties of roof surfacing materials.

**ENERGY STAR.** The joint program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy designed to identify and promote energy-efficient products and practices.

**FAMILY.** An individual, or two (2) or more persons all of whom are related to each other by blood, marriage, domestic partnership, adoption, guardianship or other duly authorized custodial relationship, and not more than two (2) other unrelated persons as long as all of the occupants are living together as a single housekeeping group in a dwelling unit, or a group of not more than five (5) persons who are not collectively related to each other by blood, marriage, domestic partnership, adoption, guardianship or other duly authorized custodial relationship, and are living together as a single housekeeping group in a dwelling unit.

**LOW LEAD CONTENT.** Low lead content means:

- (1) containing not more than 0.2% lead for solder and flux;
- (2) containing not more than 8% lead by dry weight for pipes and pipe fittings;
- (3) containing a percentage of lead for plumbing fittings and fixtures that is in compliance with standards established under Section 1417 of the federal Safe Drinking Water Act (42 USC Section 300g-6); and
- (4) containing not more than a weighted average lead content of 0.25% for the wetted surfaces of a pipe, pipe fitting, plumbing fitting, or fixture intended to dispense water for human consumption through drinking or cooking; or
- (5) meeting NSF standards 372 and 61-Annex G.

**NEW CONSTRUCTION.** An entirely new building or structure.

**ONSITE RENEWABLE ENERGY SYSTEM.** Includes, but is not limited to, photovoltaic panels, solar thermal collectors and wind systems located on or directly adjacent to the building site.

**SUBSTANTIAL RECONSTRUCTION.** Removal of 50% or more of the gross floor area of an existing structure where reconstruction is proposed in the scope of work for the area to be removed or demolished.

**TOWNHOUSE LOFT.** An additional story in one-family townhouses contained between the roof eaves and ridge, which may contain habitable rooms and does not exceed sixty percent(60%) of the floor area below.

**VEGETATED ROOF.** A layer of vegetation growing in a medium on top of a drainage layer and a synthetic, waterproof membrane on the roof of a structure.

**WEIGHTED AVERAGE LEAD CONTENT.** Weighted average lead content means:

- (1) identifying each component of a pipe, pipe fitting, plumbing fitting, or fixture that water flows through and comes into contact with during normal operation;
- (2) identifying the percentage lead content of each component of the pipe, pipe fitting, plumbing fitting, or fixture;
- (3) determining the wetted surface area of the pipe, pipe fitting, plumbing fitting, or fixture;
- (4) determining the percentage of the total wetted surface area of the pipe, pipe fitting, plumbing fitting, or fixture represented in each component;
- (5) calculating the contributing percent lead for each component that comes into contact with water by multiplying the percentage of lead content of the component by the percentage of total wetted surface area represented by the component; and
- (6) calculating the sum of each contributing percent lead value determined for each component under item (5) of this subsection.



Table R301.2 (1) of the IRC is amended to read as follows:

**TABLE R301.2 (1)**  
**CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY <sup>f</sup>	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP <sup>e</sup>	ICE BARRIER UNDERLAYMENT REQUIRED <sup>b</sup>	FLOOD	AIR FREEZING INDEX <sup>i</sup>	MEANS ANNUAL TEMP <sup>g</sup>
	SPEED <sup>d</sup> (mph)	TOPOGRAPHICAL EFFECTS <sup>k</sup>	Special wind region <sup>l</sup>	Wind-borne debris zone <sup>m</sup>		WEATHERING <sup>a</sup>	FROST LINE DEPTH <sup>p</sup>	TERMITE <sup>c</sup>					
30	90 115	NO	NO	NO	B	SEVERE	24"	MODERATE TO HEAVY	13° F	YES	YES	1,000	50° F

Section R301.3.1 of the IRC is added to read as follows:

**R301.3.1 Residential Building Height.** The height of residential buildings shall conform with Chapter 25 Zoning, Section 25.10.05 of the Rockville City Code. A certified building height shall be provided by the builder after all framing and roofing is complete but BEFORE any close-in approvals will be given. The building height shall be measured and certified by a qualified person who is approved by the Chief of Inspection Services Division.

Section R302.1 of the IRC is amended by replacing the reference to “Section P2904” with NFPA 13D.

Section R302.1 Exception 3 of the IRC is amended to read as follows:

3. Detached tool sheds and storage sheds, playhouses and similar structures are not required to provide wall protection based on location on the lot provided the floor area does not exceed 200 square feet. Projections beyond the exterior wall shall not extend over the lot line.

Section R302.6.1 of the IRC is added to read as follows:

**R302.6.1 Separation required in townhouses with loft.** The garage in a townhouse with loft totaling four floors must be separated from the rest of the dwelling by one hour fire resistance rated assemblies supported by at least one-hour fire protected construction.

Section R302.13 exception 1 of the IRC is amended by removing the reference to Section P2904

*Section R303.3* of the IRC is amended to read as follows:

**R303.3 Bathrooms.** Bathroom, water closet compartments and other similar rooms shall be provided with a mechanical ventilation system, designed in accordance with the Mechanical Code. Exhaust air from the space shall be exhausted directly to the outdoors.

*Section R306.3* of the IRC is amended to read as follows:

**R306.3 Sewage disposal.** All plumbing fixtures shall be connected to a sanitary sewer.

**Exception:** Bathtubs, showers, lavatories, clothes washers and laundry trays are not required to discharge to the sanitary drainage system where those fixtures discharge to systems complying with Sections P2910 and P2911.

*Section R309.1* of the IRC is amended to read as follows:

**R309.1 Floor surface.** Garage floor surfaces shall be of approved noncombustible material. The garage floor must be at least four inches below combustible materials and adjacent dwelling floor. The floor must be sloped to facilitate the movement of liquids toward the main vehicle entry doorway.

*Section R309.5* of the IRC is deleted.

*Section R310.3.2.1* of the IRC is amended by deleting the exception.

*Section R312.1.1.1* of the IRC is added to read as follows:

**R312.1.1.1 Retaining wall guards.** Retaining walls with a difference in grade level on either side of the wall exceeding 4 feet and within 2 feet of a walk, path, parking lot or driveway on the high side shall have guards not less than thirty-six (36) inches in height.

*Section R313* of the IRC is amended to read as follows:

## **SECTION R313**

### **FIRE SUPPRESSION SYSTEMS**

**R313.1 Automatic Fire Suppression Systems Required.** Complete fire suppression systems shall be installed and maintained in full operating condition, in compliance with the most recently adopted edition of NFPA 13D *Standard for the Installation of Sprinkler Systems in One and Two-Family Dwelling and Manufacture Homes*, in all attached or

detached single family dwellings and townhouses for which building permit applications for new construction, substantial additions and substantial reconstruction, as defined herein, have been submitted to the City of Rockville.

**R313.2 Insulation Value for Sprinkler Piping Protection.** Insulation installed on sprinkler piping, for the protection of freezing, shall have a minimum R-value of 30. Insulation shall not be blown-in or loose fill and shall be installed to prevent the compaction of the insulation.

*Section R314.3 of the IRC is amended as follows:*

5. In each townhouse loft.

*Section R319.1 of the IRC is amended by replacing the value of “4 inches (102mm)” with “5 inches (122.5mm)”*

*Section R401.4.1 of the IRC is deleted.*

*Section R403.1 of the IRC is amended to read as follows:*

**R403.1 General.** All exterior walls, bearing walls, columns and piers shall be supported on solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems which shall be of sufficient design to support safely the loads imposed as determined from the character of the soil, and except when erected upon solid rock or otherwise protected from frost, shall extend below the frost line. Minimum concrete compressive strength shall be 2,000 psi. at 28 days. When existing carports and other unenclosed areas are enclosed with walls, footings meeting the requirements of this section must be provided for all exposed slab sides. Accessory buildings over one hundred forty-four (144) square feet in area must be supported on footings meeting the requirements of this section. Minimum sizes for concrete footings shall be as set forth in Table No. 403.1 and Figure 403.1(1). Footings for wood foundations shall be in accordance with the details set forth in Figure Nos. 403.1(2) and 403.1(3). Concrete footings shall be designed and constructed in accordance with the provision of Section R403 or in accordance with ACI 332.

*Section R403.1.4.1 of the IRC is amended by deleting the Exceptions.*

*Section R403.5 is added to the IRC to read as follows:*

**R403.5 Exterior deck footings.** The minimum footing size shall be sixteen (16) inches by sixteen (16) inches, by eight (8) inches in depth, with the bottom of the footing a

minimum of twenty-four (24) inches below grade. Increased size or load factors may require a larger footing as determined by the code official.

*Section R406.1* of the IRC is amended by adding the words “crawl spaces” after “interior spaces” in the first sentence.

*Section R406.2* of the IRC is amended by removing the portion of the first sentence “In areas where a high water table or severe soil-water conditions are known to exist”.

*Section R506.2.3* of the IRC is amended to read as follows:

**R506.2.3 Vapor retarder.** A 6 mil (0.006 inch; 152 mm) polyethylene or approved vapor retarder with joints lapped not less than 12 inches (304 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where no base course exists.

*Exception:* The vapor retarder is not required for the following:

1. Garages, utility buildings and other unheated accessory structures.
2. Driveways, walks, patios and other flatwork not likely to be enclosed and heated at a later date.

*Section R507.4.1* is added to the IRC to read as follows:

**R507.4.1 Stair treads.** Stairs shall be constructed using stringers spaced every eighteen (18) inches on-center maximum or as required by section R507.3.5.

*Sections R905.1.3* and *R905.1.4* are added to the IRC to read as follows:

**R905.1.3 Cool roof requirement.** Roof coverings for roof slopes less than or equal to two units vertical in 12 units horizontal (less than 17-percent slope) for buildings and covered parking shall conform to this section. Replacement, including any change to design or materials, of the roof of a building or structure in a Historic District Zone must be approved by the Historic District Commission. A minimum of 75% of the entire roof surface not used for roof penetrations, onsite renewable energy systems, or vegetated roofing systems shall be covered with products that comply with the following:

1. Have a minimum initial solar reflective index (SRI) of 78, as described in Section R905.1.4; or
2. Comply with the criteria for the U.S. EPA’s Energy Star Program Requirements for Roof Products – Eligibility Criteria.

**Exception:**

1. Roofs used to shade or cover parking and roofs over semi-heated spaces or used as outdoor recreation space by the occupants of the building shall be permitted to be either landscaped or have a minimum initial *SRI* of 29. A

default *SRI* value of 35 for new concrete without added color pigment is allowed to be used in lieu of measurements.

2. Terraces on setbacks comprising less than 25% of the area of the largest floor plate in the building.
3. Roofs ballasted at a minimum weight of 17 pounds per square foot with limestone or ballast with a solar reflectance of at least 30% shall be permitted to comprise part or all of the 75% required area coverage.
4. Vegetated roofs and onsite renewable energy systems shall be permitted to comprise part or all of the 75% required area coverage.

**R905.1.4 Solar Reflective Index.** The solar reflective index (SRI) shall be calculated in accordance with ASTM E1980 for medium-speed wind conditions. The SRI shall be based upon solar reflectance as measured in accordance with ASTM E1918 or ASTM C1549, and the thermal emittance as measured in accordance with ASTM E408 or ASTM C1371. For roofing products, the values for solar reflectance and thermal emittance shall be determined by a laboratory accredited by a nationally recognized accreditation organization, such as the Cool Roof Rating Council CRRC-1 Product Rating Program, and shall be labeled and certified by the manufacturer.

*Section R1001.13* is added to the IRC to read as follows:

**R1001.13 Fireplaces.** New wood-burning fireplaces shall have gasketed doors and outdoor combustion air.

*Chapter 11* of the IRC is amended in its entirety to read as follows:

## CHAPTER 11 ENERGY EFFICIENCY

### Section N1101

#### General

**N1101.1 Scope.** This chapter governs the design and construction of residential buildings for energy efficiency. Residential buildings shall be designed and constructed in accordance with Chapters 1[RE], 2[RE], 3[RE], 4[RE] and 5[RE]] of the International Energy Conservation Code, 2015 Edition as amended per Article VIII of this Chapter of the Rockville City Code.

*Section M1502.4.2* of the IRC is amended to read as follows:

**M1502.4.2 Duct installation.** Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be

sealed in accordance with Section M1601.4.1 and shall be mechanically fastened. Ducts shall not be joined with screws or similar fasteners that protrude into the inside of the duct.

Sections P2601.1 and P2601.2 of the IRC are amended to read as follows:

**P2601.1 Scope.** Plumbing materials and installation shall conform to the requirements of Chapters 25 through 32 of this Code, and to the requirements of Chapter 5, Article XI, Plumbing Code, of the Rockville City Code. Where there are conflicts between the two codes, the requirements of the Rockville City Code shall prevail.

Section P2601.3 of the IRC is deleted

Section P2602 of the IRC is deleted in its entirety.

Section P2705.1 of the IRC is amended by deleting item #7.

Table P2903.2 of the IRC is amended to read as follows:

**TABLE P2903.2  
MAXIMUM FLOW RATES AND CONSUMPTION FOR PLUMBING FIXTURES AND  
FIXTURE FITTINGS<sup>b</sup>**

<b>PLUMBING FIXTURE OR FIXTURE FITTING</b>	<b>PLUMBING FIXTURE OR FIXTURE FITTING CONSUMPTION</b>
Lavatory faucet	1.5 gpm at 60 psi
Shower head <sup>a</sup>	2.0 gpm at 80 psi
Sink faucet	1.5 gpm at 60 psi
Water closet <sup>c</sup>	1.28 gallons per flushing cycle

For SI: 1 gallon per minute = 3.785 L/m,  
1 pound per square inch = 6.895 kPa

- a. A handheld shower spray shall be considered a shower head.
- b. Consumption tolerances shall be determined from references standards.
- c. Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.

Section P2903.7 of the IRC is amended to read as follows:

**P2903.7 Size of water-service mains, branch mains and risers.** The minimum size water service pipe shall be 1 inch. The size of water service mains, branch mains and risers shall be determined according to water supply demand {gpm(L/m)}, available water pressure {psi(kPa)} and friction loss caused by the water meter and developed length of pipe {feet (m)}, including equivalent length of fittings. The size of each water distribution system shall be determined according to the procedure outlined in this section or by other design methods conforming to acceptable engineering practice and approved by the administrative authority:

1. Obtain the minimum daily static service pressure {psi(kPa)} available (as determined by the local water authority) at the water meter or other source of supply at the installation location. Adjust this minimum daily static pressure {psi (kPa)} for the following conditions:
  - 1.1 Determine the difference in elevation between the source of supply and the highest water supply outlet. Where the highest water supply outlet is located above the source of supply, deduct 0.5 psi (3.4 kPa) for each foot (305 mm) of difference in elevation. Where the highest water supply outlet is located below the source of supply, add 0.5 psi (3.4 kPa) for each foot (305 mm) of difference in elevation.
  - 1.2 Where a water pressure reducing valve is installed in the water distribution system, the minimum daily static water pressure available is 80 percent of the minimum daily static water pressure at the source of supply or the set pressure downstream of the pressure reducing valve, whichever is smaller.
  - 1.3 Deduct all pressure losses caused by special equipment such as a backflow preventer, water filter or water softener. Pressure loss data for each piece of equipment shall be obtained from the manufacturer of such devices.
  - 1.4 Deduct the pressure in excess of 8 psi (55 kPa) caused by installation of special plumbing fixtures, such as temperature controlled showers and flush-o-meter tank water closets. Using the resulting minimum available pressure, find the corresponding pressure range in Table P2903.7.
2. The maximum developed length for water piping is the actual length of pipe between the source of supply and the most remote fixture, including either hot (through the water heater) or cold water branches multiplied by a factor of 1.2 to compensate for pressure loss through fittings. Select the appropriate column in Table P2903.7 equal to or greater than the calculated maximum developed length.
3. To determine the size of water service pipe, meter and main distribution pipe to the building using the appropriate table, follow down the selected “maximum developed length” column to a fixture unit equal to, or greater than the total installation demand calculated by using the “combined” water supply fixture unit column of Table P2903.6. Read the water service pipe and meter sizes in the first

left-hand column and the main distribution pipe to the building in the second left-hand column on the same row.

4. To determine the size of each water distribution pipe, start at the most remote outlet on each branch (either hot or cold branch) and, working back toward the main distribution pipe to the building, add up the water supply fixture unit demand passing through each segment of the distribution system using the related hot or cold column of Table P2903.6. Knowing demand, the size of each segment shall be read from the second left-hand column of the same table and a maximum developed length column selected in Steps 1 and 2, under the same or next smaller size meter row. In no case does the size of any branch or main need to be larger than the size of the main distribution pipe to the building established in Step 3.

Installation of additional fixtures at an existing building will require evaluation of the size of the water distribution system, as outlined in this section, and an increase in line and meter size if required by the additional fixture demand.

*Section P2903.9.3 of the IRC is amended to read as follows:*

**P2903.9.3 Fixture valves and access.** Shut off valves shall be required on each new fixture supply pipe to each plumbing appliance and to each plumbing fixture. Valves shall be accessible.

*Section P2904 of the IRC is deleted in its entirety.*

*Section P2906.3 of the IRC is deleted in its entirety.*

*Section P2906.4 of the IRC is amended to read as follows:*

**P2906.4 Water service pipe.** Water service pipe installed underground between the main and the property line and from the property line to the structure to be supplied shall be ABS pipe with 12 AWG tracer wire attached or type "K" copper tubing with silphos/brazed joints only for sizes up to and including two (2) inches. In case type "K" copper tubing is unavailable, type "L" copper tubing may be used in an emergency when authorized by the City. Water service pipe installed underground and outside of the structure, shall have a minimum working pressure rating of 160 psi at 73° F (1100 kPa at 23° C).

*Table P2906.4 of the IRC is deleted.*

*Section P2906.4.2 of the IRC is amended to read as follows:*



**P2906.4.2 Water service installation.** Trenching, pipe installation and backfilling shall be in accordance with Section P2604. Sewers and water servicing pipe shall be installed below the recorded frost penetration, but in no case less than two (2) feet two (2) inches for sewer and two (2) feet six (6) inches for water. Water-service pipe is permitted to be located in the same trench with a building sewer provided such sewer is constructed of materials listed for underground use within a building in Section P3002.1. When water-service pipes are laid in the same trench with a building sewer, the water-service pipe is placed on a solid ledge at least twelve (12) inches above and twelve (12) inches to one (1) side of the highest point in the sewer line. In no case shall the water-service pipe be less than two (2) feet six (6) inches below grade. If the building sewer is not constructed of materials listed in Section P3002.1, the water-service pipe shall be separated from the building sewer by a minimum of 5 feet (1524 mm), measured horizontally, of undisturbed or compacted earth or placed on a solid ledge at least 12 inches (305 mm) above and to one side of the highest point in the sewer line.

Exception: The required separation distance shall not apply where a water service pipe crosses a sewer pipe, provided that the water service pipe is sleeved to at least 5 feet (1524 mm), horizontally from the sewer pipe centerline, on both sides of the crossing with pipe materials listed in Tables P3002.1(1), P3002.1(2) or P3002.2.

*Section P2906.5.1 is added to the IRC to read as follows:*

**P2906.5.1 Under concrete slabs.** Inaccessible water distribution piping under slabs shall be copper water tube Type M, brass, or cast-iron pressure pipe, all installed with approved fittings or bends. Any material subject to corrosion shall be protected when used in corrosive soils. Joints in copper pipe or tube installed in a concrete floor slab or under a concrete floor slab on grade shall be installed using wrought-copper fittings and brazed joints.

*Section P3001.1 of the IRC is amended to read as follows:*

**P3001.1 Scope.** The provisions of this chapter shall govern the materials, design, construction and installation of sanitary drainage systems. Plumbing materials shall conform to the requirements of this chapter. The drainage, waste and vent (DWV) system shall consist of all piping for conveying wastes from plumbing fixtures, appliances and appurtenances, including fixture traps; above-grade drainage piping; below-grade drains within the building (building drain); below- and above-grade venting systems; and piping to the public sewer.

*Chapter 34 and Section E3401.1 of the IRC is amended to read as follows:*

**E3401.1 Applicability.** The electrical requirements shall conform to the most recently adopted edition of the NFPA National Electrical Code as provided for in Chapter 5, Article VII of the Rockville City Code.

*Chapters 35 through 43 of the IRC are deleted in their entirety.*

*Appendix F Passive Radon Gas Controls of the IRC is adopted in its entirety.*

*Appendix H Patio Covers of the IRC is adopted and amended to read as follows:*

## **APPENDIX H**

### **Patio Covers**

#### **Section AH101**

##### **General**

**AH101.1 Scope.** Patio covers shall conform to the requirements of this appendix chapter.

#### **Section AH102**

##### **Definitions**

**Patio covers.** Permanent one-story structures not exceeding 13 feet (3657 mm) in height. Enclosure walls shall be permitted to be of any configuration, provided the open or glazed area of the longer wall and one additional wall is equal to at least 65 percent of the area below a minimum of 6 feet 8 inches (2032 mm) of each wall, measured from the floor. Openings shall be permitted to be enclosed with (1) insect screening, (2) glass conforming to the provisions of Section R308, or (3) any combination of the foregoing. Plastics (with the exception of multi-wall polycarbonate sheet products used as roofing), canvas, tarpaulin, and other type of fabric or pliable material may not be used in the construction of patio covers. Patio covers must meet the size and location requirements of Chapter 25 of the Rockville City Code.

**Patio structure.** A structure not greater than 3,000 square feet in floor area and not over fifteen feet (15') in height, the use of which is customarily accessory to and incidental to that of the dwelling(s) and which is located on the same lot. Coated fabric type materials, woven or non-woven cloth, or fabric/ textile materials cannot be used in the construction, installation and/or assembly of any permanent accessory structure for which a permit is required. This includes but is not limited in scope to the following materials: Polyvinyl (PVC) coated, polyester coated, rubber or neoprene coated, nylon coated, polyurethane

coated, vinyl coated/laminated material. Patio structures must meet the size and location requirements of Chapter 25 of the Rockville City Code.

### **Section AH103**

#### **Permitted Uses**

**AH103.1 General.** Patio covers shall be permitted to be detached from or attached to dwelling units. Patio covers shall be used only for recreational, outdoor living purposes and not as carports, garages, storage rooms or habitable rooms.

### **Section AH104**

#### **Design Loads**

**AH104.1 General.** Patio covers shall be designed and constructed to sustain, within the stress limits of this code, all dead loads plus a minimum vertical live load of 10 pounds per square foot (0.48 kN/m<sup>2</sup>) except that snow loads shall be used where such snow loads exceed this minimum. Such covers shall be designed to resist the minimum wind loads set forth in Table R301.2(1).

*Appendix K Sound Transmission* of the IRC is adopted in its entirety.

**Secs. 5-103 – 5-110. Reserved.**