

***District of Columbia***

**REGISTER**

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**HIGHLIGHTS**

- Department of Consumer and Regulatory Affairs and the Construction Codes Coordinating Board propose the District of Columbia Construction Codes Supplement of 2017

The July 26, 2019 DC Register has two parts. Refer to Volume 66 - No. 30 - Part 1 to review notices related to the actions of the Council of the District of Columbia, Executive branch, and independent agencies.

# DISTRICT OF COLUMBIA REGISTER

## Publication Authority and Policy

The District of Columbia Office of Documents and Administrative Issuances publishes the *District of Columbia Register* (ISSN 0419-439X) every Friday under the authority of the *District of Columbia Documents Act*, D.C. Law 2-153, effective March 6, 1979, D.C. Official Code § 611 *et seq.* (2012 Repl.). The policies which govern the publication of the *Register* are set forth in the Rules of the Office of Documents and Administrative Issuances (1 DCMR §§300, *et seq.*). The Rules of the Office of Documents and Administrative Issuances are available online at [dcregs.dc.gov](http://dcregs.dc.gov). Rulemaking documents are also subject to the requirements of the *D.C. Administrative Procedure Act*, D.C. Official Code §§2-501 *et seq.* (2012 Repl.).

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## DISTRICT OF COLUMBIA OFFICE OF DOCUMENTS AND ADMINISTRATIVE ISSUANCES

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The second notices of proposed rulemaking published in Volume 66 - No. 30 - Part 2 of the D.C. Register, supersedes the notices of proposed rulemaking published on September 28, 2018 (65 DCR 10111) and reflect changes made in response to comments submitted by the public.

The July 26, 2019 *D.C. Register* has two parts. Refer to Volume 66 - No. 30 - Part 1 for notices related to the actions of the Council of the District of Columbia, Executive branch, and independent agencies.

**DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS  
CONSTRUCTION CODES COORDINATING BOARD**

**NOTICE OF SECOND PROPOSED RULEMAKING**

The Chairperson of the Construction Codes Coordinating Board (Chairperson), pursuant to the authority set forth in Section 10 of the Construction Codes Approval and Amendments Act of 1986 (Act), effective March 21, 1987 (D.C. Law 6-216; D.C. Official Code § 6-1409 (2018 Repl.) and Mayor's Order 2009-22, dated February 25, 2009, as amended, hereby gives notice of the intent to adopt the *2017 District of Columbia Construction Codes*, consisting of:

- (A) The following Model Codes:
1. the 2015 edition of the International Building Code published by the International Code Council (ICC);
  2. the 2015 edition of the International Residential Code published by the International Code Council (ICC);
  3. the 2015 edition of the International Fuel Gas Code published by the International Code Council (ICC);
  4. the 2015 edition of the International Mechanical Code published by the International Code Council (ICC);
  5. the 2015 edition of the International Plumbing Code published by the International Code Council (ICC);
  6. the 2015 edition of the International Property Maintenance Code published by the International Code Council (ICC);
  7. the 2015 edition of the International Fire Code published by the International Code Council (ICC);
  8. the 2013 edition of the Energy Standard for Buildings Except Low-Rise Residential Buildings (ANSI/ASHRAE/IES 90.1-2013) published by the American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc. (ASHRAE), and the 2015 edition of the International Energy Conservation Code-Residential Provisions published by the International Code Council (ICC);
  9. the 2015 edition of the International Existing Building Code published by the International Code Council (ICC);
  10. the 2012 edition of the International Green Construction Code published by the International Code Council (ICC);
  11. the 2015 edition of the International Swimming Pool and Spa Code published by the International Code Council (ICC); and
  12. the 2014 edition of the National Electrical Code (NFPA 70) published by the National Fire Protection Association.
- (B) All additions, insertions, and deletions to the Model Codes, as identified in the *District of Columbia Construction Codes Supplement of 2017*, to be codified in Title 12 of the District of Columbia Municipal Regulations (DCMR), Subtitles A through L (the *District of Columbia Construction Codes Supplement of 2017*); and

- (C) Appendices in the Model Codes that are specifically adopted by the *District of Columbia in the District of Columbia Construction Codes Supplement of 2017*.

This proposed rulemaking would repeal the District of Columbia Construction Codes Supplement of 2013, published at 61 DCR 2782 (March 28, 2014 – Part 2), as amended, which adopted and amended the following model codes: the 2012 edition of the ICC International Building Code; the 2012 edition of the ICC International Residential Code; the 2012 edition of the ICC International Fuel Gas Code; the 2012 edition of the ICC International Mechanical Code; the 2012 edition of the ICC International Plumbing Code; the 2012 edition of the ICC International Property Maintenance Code; the 2012 edition of the ICC International Fire Code; the 2012 edition of the ICC International Energy Conservation Code; the 2012 edition of the ICC International Existing Building Code; the 2012 edition of the International Green Construction Code; the 2012 edition of the International Swimming Pool and Spa Code; and the 2011 edition of the National Fire Protection Association (NFPA 70) National Electrical Code.

This Notice of Second Proposed Rulemaking supersedes the Notice of Proposed Rulemaking published September 28, 2018 (65/40-Part 2 DCR 10111-10973), except with respect to the proposed Property Maintenance Code Supplement of 2017 (12-G DCMR) and the proposed Swimming Pool and Spa Code Supplement of 2017 (12-L DCMR). No public comments were received in response to the Notice of Proposed Rulemaking that requested any changes in the proposed Property Maintenance Code Supplement of 2017 or the proposed Swimming Pool and Spa Code Supplement of 2017, and no changes have been made to either of these proposed Supplements. This Second Notice therefore pertains only to the ten proposed District of Columbia Construction Codes Supplements of 2017 that received public comment, and includes changes made in the proposed regulations in response to those public comments.

In order to facilitate identification of text changes between the Notice of Proposed Rulemaking and the Second Notice of Proposed Rulemaking, deletions are shown by ~~striketrough~~ and new text is shown by underline.

Comments on this Second Notice of Proposed Rulemaking must be received no later than thirty (30) days after publication of this notice in the *D.C. Register*. The process for submitting comments is detailed on the final page of this proposed rulemaking.

The Chairperson also hereby gives notice of the intent to take final rulemaking action to adopt this amendment. Pursuant to Section 10(a) of the Act, the proposed amendment will be submitted to the Council of the District of Columbia for a forty-five (45) day period of review, and final rulemaking action will not be taken until the later of thirty (30) days after the date of publication of this notice in the *D.C. Register* or Council approval of the amendment.

**Title 12 DCMR, Subtitles A through L, the DISTRICT OF COLUMBIA CONSTRUCTION CODES SUPPLEMENT OF 2013, is amended as follows:**

**Title 12, Subtitles A through L, is renamed as the DISTRICT OF COLUMBIA CONSTRUCTION CODES SUPPLEMENT OF 2017.**

**Subtitle 12-A, BUILDING CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Building Code Supplement of 2017.**

**Subtitle 12-B, RESIDENTIAL CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Residential Code Supplement of 2017.**

**Subtitle 12-C, ELECTRICAL CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Electrical Code Supplement of 2017.**

**Subtitle 12-D, FUEL GAS CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Fuel Gas Code Supplement of 2017.**

**Subtitle 12-E, MECHANICAL CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Mechanical Code Supplement of 2017.**

**Subtitle 12-F, PLUMBING CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Plumbing Code Supplement of 2017.**

**Subtitle 12-G, PROPERTY MAINTENANCE CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Property Maintenance Code Supplement of 2017.**

**Subtitle 12-H, FIRE CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Fire Code Supplement of 2017.**

**Subtitle 12-I, ENERGY CONSERVATION CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Energy Conservation Code Supplement of 2017.**

**Subtitle 12-J, EXISTING BUILDING CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Existing Building Code Supplement of 2017.**

**Subtitle 12-K, GREEN CONSTRUCTION CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Green Construction Code Supplement of 2017.**

**Subtitle 12-L, SWIMMING POOL AND SPA CODE SUPPLEMENT OF 2013, is repealed in its entirety and replaced with a new Swimming Pool and Spa Code Supplement of 2017.**

**Subtitle 12-M, FEES, is not amended by this rulemaking.**

~~For purposes of clarity, the following table lists each chapter or appendix of the Model Codes amended by the District of Columbia Construction Codes Supplement of 2017:~~

**LIST OF CHAPTERS AND APPENDICES**  
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**2017**

*(refer to District of Columbia Construction Codes Supplement of 2017 for revisions to Model  
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**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-A DCMR BUILDING CODE SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia adopts the 2015 edition of the *International Building Code* (IBC), as amended by this Supplement.

**IBC CHAPTERS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

CHAPTER 1	ADMINISTRATION AND ENFORCEMENT
CHAPTER 2	DEFINITIONS
CHAPTER 3	USE AND OCCUPANCY CLASSIFICATION
CHAPTER 4	SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY
CHAPTER 5	GENERAL BUILDING HEIGHTS AND AREAS
<u>CHAPTER 6</u>	<u>TYPES OF CONSTRUCTION</u>
CHAPTER 7	FIRE AND SMOKE PROTECTION FEATURES
CHAPTER 9	FIRE PROTECTION SYSTEMS
CHAPTER 10	MEANS OF EGRESS
CHAPTER 11	ACCESSIBILITY
CHAPTER 12	INTERIOR ENVIRONMENT
CHAPTER 15	ROOF ASSEMBLIES AND ROOFTOP STRUCTURES
CHAPTER 16	STRUCTURAL DESIGN
CHAPTER 17	SPECIAL INSPECTIONS AND TESTS
CHAPTER 18	SOILS AND FOUNDATIONS
CHAPTER 21	MASONRY
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CHAPTER 29	PLUMBING SYSTEMS
CHAPTER 30	ELEVATORS AND CONVEYING SYSTEMS
CHAPTER 31	SPECIAL CONSTRUCTION
<u>CHAPTER 32</u>	<u>ENCROACHMENTS INTO PUBLIC SPACE, THE PUBLIC RIGHT-OF-WAY OR BUILDING RESTRICTION AREA</u>
CHAPTER 33	SAFEGUARDS DURING CONSTRUCTION
CHAPTER 34	EXISTING BUILDINGS
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<sup>1</sup> The *District of Columbia Building Code (2017)*, referred to as the “*Building Code*,” consists of the 2015 edition of the *International Building Code (International Building Code)*, published by the International Code Council (ICC), as amended by the *Building Code Supplement of 2017 (12-A DCMR)*. The *International Building Code* is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be obtained at: <https://codes.iccsafe.org/public/document/IBC2015>.

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*Strike Section 101 Chapter 1 of the International Building Code in its entirety and insert a new Section 101 Chapter 1 into the Building Code in its place to read as follows:*

**101 GENERAL**

*Strike Section 101 of the International Building Code in its entirety and insert new Section 101 in the Building Code in its place to read as follows:*

**101.1 The Construction Codes.** The 2017 District of Columbia Construction Codes, hereinafter referred to as the “Construction Codes,” shall consist of:

1. The following Model Codes:
  - 1.1 The International Building Code (2015) published by the International Code Council (“ICC”);
  - 1.2 The International Residential Code (2015) published by the ICC;

- 1.3 The National Electrical Code (2014) published by the National Fire Protection Association (“NFPA”);
  - 1.4 The International Fuel Gas Code (2015) published by the ICC;
  - 1.5 The International Mechanical Code (2015) published by the ICC;
  - 1.6 The International Plumbing Code (2015) published by the ICC;
  - 1.7 The International Property Maintenance Code (2015) published by the ICC;
  - 1.8 The International Fire Code (2015) published by the ICC;
  - 1.9 The Energy Standard for Buildings Except Low-Rise Residential Buildings (ANSI/ASHRAE/IES 90.1-2013) published by the American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc. (ASHRAE) and the International Energy Conservation Code-Residential Provisions (2015) published by the ICC;~~and;~~
  - 1.10 The International Existing Building Code (2015) published by the ICC;
  - 1.11 The International Green Construction Code (2012) published by the ICC; and
  - 1.12 The International Swimming Pool and Spa Code (2015);~~and.~~
2. All additions, insertions, and deletions to the Model Codes, as identified in the District of Columbia Construction Codes Supplement of 2017 (the “Construction Codes Supplement”), codified in Title 12 of the District of Columbia Municipal Regulations (DCMR).
  3. Appendices in the Model Codes shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.1.1 Authority to Adopt Construction Codes.** The *Construction Codes* are adopted in the District of Columbia pursuant to the provisions of the *Construction Codes Act (as defined in Section 202.2)*.

~~Construction Codes Approval and Amendments Act of 1986, effective March 21, 1987 (D.C. Law 6-216; D.C. Official Code §§ 6-1401 *et seq.* (2012 Repl. & 2015 Supp.)) (the “Construction Codes Act”).~~

**101.1.2 Administration and Enforcement.** Chapter 1 of 12-A DCMR shall serve as the administrative and enforcement provisions for the *Building Code*, *Residential Code*, *Electrical Code*, *Fuel Gas Code*, *Mechanical Code*, *Plumbing Code*, *Energy Conservation Code*, *Existing Building Code*, *Green Construction Code* and *Swimming Pool and Spa Code*, except as otherwise provided herein. Administrative and enforcement provisions for the *Property Maintenance Code* and the *Fire Code* are set forth in 12-G DCMR, Chapter 1, and 12-H DCMR, Chapter 1, respectively.

**101.1.3 Definitions.** Italicized words and terms shall have the meanings set forth in the *Construction Codes*.

**101.2 Building Code.** The *District of Columbia Building Code 2017* (“*Building Code*”) shall consist of the 2015 edition of the International Building Code (“*International Building Code*”),

as amended by the Building Code Supplement of 2017 (12-A DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.2.1 Appendices.** Provisions in the appendices of the *International Building Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.2.2 Administration and Enforcement.** Chapter 1 of the *International Building Code* is deleted in its entirety. In its place, the provisions of 12-A DCMR A, Chapter 1, shall apply to the *Building Code* and are incorporated herein by this reference.

**101.2.3 Scope.** The provisions of the *Building Code* shall apply to the construction, *alteration*, addition, relocation, enlargement, replacement, *repair*, equipment, use and occupancy, location, maintenance, removal, *demolition* and *raze* of every building or structure or any appurtenances connected or attached to such buildings or structures.

**Exceptions:**

1. Detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures that comply with the Residential Code and Chapters 17, 18, 32, and 33 of the Building Code.
2. Existing buildings undergoing repair, alteration, addition or change of occupancy that comply with the Existing Building Code.
3. Home day care in dwelling units in Group R-3 dwellings that comply with Appendix M of the Residential Code.

**101.2.4 Intent.** The purpose of the *Building Code* is to establish the minimum requirements to provide a reasonable level of safety, public health, and general welfare through structural strength, *means of egress* facilities, stability, sanitation, adequate light and ventilation, energy conservation, accessibility, sustainability, and safety to life and property from fire and other hazards attributed to the built environment, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

**101.3 Residential Code.** The *District of Columbia Residential Code (2017)* (“*Residential Code*”) shall consist of the 2015 edition of the International Residential Code (“*International Residential Code*”), as amended by the Residential Code Supplement of 2017 (12-B DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.3.1 Appendices.** Provisions in the appendices of the *International Residential Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.3.2 Administration and Enforcement.** Chapter 1 of the *International Residential Code* is deleted in its entirety. In its place, the provisions of 12-A DCMR, Chapter 1, shall apply to the *Residential Code* and are incorporated by this reference.

**101.3.3 Scope.** The provisions of the *Residential Code* shall apply to the construction, *alteration*, movement, enlargement, replacement, repair, equipment, use and occupancy, location, *demolition*, and *raze* of detached one- and two-family *dwellings* and *townhouses* not more than three stories above *grade plane* in height with a separate means of egress and their *accessory structures*.

**Exceptions:**

1. Live/work units complying with the requirements of Section 419 of the Building Code shall be allowed to be built as one- and two-family dwellings or townhouses. Fire suppression required by Section 419.5 of the *Building Code*, when a unit is constructed under the *Residential Code*, shall conform to Section 2904 of the Residential Code.
2. Owner-occupied lodging houses with five or fewer guestrooms shall be permitted to be constructed in accordance with the Residential Code when equipped with a fire sprinkler system that is in accordance with Section 2904 of the Residential Code.
3. Detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress, and their accessory structures, shall be permitted to comply with the Building Code defined in Section 101.2.
4. Existing buildings undergoing repair, alteration, change of occupancy, addition to or relocation shall comply with the Existing Building Code defined in Section 101.4.8 or the current Construction Codes.

**101.3.3.1 Home Day Care.** Appendix M of the *Residential Code* shall apply to home day care, including Child Development Homes where oversight is provided by the Office of the State Superintendent of Education or a successor agency, in *dwelling units* within either: (1) detached one- and two-family *dwellings* or townhouses within the scope of the *Residential Code*; or (2) R-3 *dwellings*.

**101.3.4 Intent.** The purpose of the *Residential Code* is to establish the minimum requirements to provide a reasonable level of safety, public health, and general welfare through affordability, structural strength, *means of egress* facilities, stability, sanitation, adequate light and ventilation, energy and resource conservation, and safety to life and property from fire and other hazards attributed to the built environment, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.



**101.4. Electrical Code.** The *District of Columbia Electrical Code (2017)* (“*Electrical Code*”) shall consist of the 2014 edition of the National Electrical Code (“*National Electrical Code*”) published by the National Fire Protection Association (“NFPA”), as amended by the Electrical Code Supplement of 2017 (12-C DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.4.1. Annexes.** Provisions in the annexes to the *National Electrical Code* are provided for informational purposes only, in accordance with Article 90, Section 90.5 of the *National Electrical Code*, unless otherwise specified in the *Construction Codes Supplement*.

**101.4.2 Administration and Enforcement.** The provisions of 12-A DCMR, Chapter 1, shall apply to the *Electrical Code* and are incorporated by this reference, without deletion of Article 90 of the *National Electrical Code* except as specified.

**Exceptions:** Sections 90.1(A), 90.1(C), 90.2, 90.4 and 90.6 of Article 90 of the *National Electrical Code* are deleted in their entirety.

**101.4.3 Scope.** The provisions of the *Electrical Code* shall apply to the design, installation, maintenance, alteration, conversion, changing, repairing, removal, and inspection of electrical conductors, equipment, and raceways; signaling and communications conductors, equipment, and raceways; and optical fiber cables and raceways for the following:

1. Public and private *premises*, including, but not limited to, *buildings*, other *structures*, mobile homes, recreational vehicles, and floating *buildings*.
2. Yards, lots, parking lots, carnivals, circuses, fairs and similar events, and industrial substations.
3. Installation of conductors and equipment that connect to the supply of electricity.
4. Installations used by the electric utility, such as office *buildings*, warehouses, garages, machine shops, and recreational *buildings*, that are not an integral part of a generating plant, substation, or control center.

**Exceptions:**

1. Installations in ships, watercraft other than floating buildings, railway rolling stock, aircraft, or automotive vehicles other than mobile homes and recreational vehicles.

2. Installations underground in mines and self-propelled mobile surface mining machinery and its attendant electrical trailing cable.
3. Installation of railways for generation, transformation, transmission, or distribution of power used exclusively for operation of rolling stock or installations used exclusively for signaling and communications purposes.
4. Installations of communications equipment under the exclusive control of communications utilities located outdoors or in building spaces used exclusively for such installations.
5. Installations under the exclusive control of an electrical utility where such installations:
  - 5.1 Consist of service drops or service laterals, and associated metering, or
  - 5.2 Are on property owned or leased by the electric utility for the purpose of communications, metering, generation, control, transformation, transmission, or distribution of electric energy, or
  - 5.3 Are located in legally established easements or rights-of-way, or
  - 5.4 Are located by other written agreements either designated by or recognized by public service commissions, utility commissions, or other regulatory agencies having jurisdiction for such installations. These written agreements shall be limited to installations for the purpose of communications, metering, generation, control, transformation, transmission, or distribution of electrical energy where legally established easements or rights-of-way cannot be obtained. These installations shall be limited to federal lands, Native American reservations through the U.S. Department of the Interior, Bureau of Indian Affairs, military bases, lands controlled by port authorities and state agencies and departments, and lands owned by railroads.
6. Installations that are part of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with separate means of egress and their accessory structures that comply with the Residential Code.

**101.4.4 Intent.** The purpose of the *Electrical Code* is to establish minimum requirements to safeguard *persons* and property from hazards arising from the use

of electricity, and is not intended as a design specification or as an instruction manual for untrained *persons*.

**101.5 Fuel Gas Code.** The *District of Columbia Fuel Gas Code (2017)* (“*Fuel Gas Code*”) shall consist of the 2015 edition of the International Fuel Gas Code (“*International Fuel Gas Code*”), as amended by the Fuel Gas Code Supplement of 2017 (12-D DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.5.1 Appendices.** Provisions in the appendices of the *International Fuel Gas Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.5.2 Administration and Enforcement.** Chapter 1 of the *International Fuel Gas Code* is deleted in its entirety. In its place, the provisions of 12-A DCMR, Chapter 1, shall apply to the *Fuel Gas Code* and are incorporated by this reference.

**101.5.3 Scope.** The provisions of the *Fuel Gas Code* shall apply to the installation of fuel gas piping systems, fuel gas utilization equipment, gaseous hydrogen systems, and related accessories, as follows:

1. Gaseous hydrogen systems shall be regulated by Chapter 7.
2. The regulations shall cover piping systems for natural gas with an operating pressure of 125 pounds per square inch gauge (psig) (862 kPa gauge) or less, and for LP-gas with an operating pressure of 20 psig (140 kPa gauge) or less, except as provided in Section 402.6.1. Coverage shall extend from the point of delivery to the outlet of the equipment shutoff valves. Piping system requirements shall include design, materials, components, fabrication, assembly, installation, testing, inspection, operation, and maintenance.
3. Requirements for gas utilization equipment and related accessories shall include installation, combustion and dilution air, and venting and connection to piping systems.
4. The requirements for the design, installation, maintenance, alteration, and inspection of mechanical appliances operating with fuels other than fuel gas shall be regulated by the *Mechanical Code*.

**Exception to 101.5.3:** Detached one- and two-family *dwelling*s and *townhouses* not more than three stories above grade plane in height with separate means of egress and their accessory *structures* that comply with the *Residential Code*.

**101.5.3.1 Exempted Installations and Equipment.** The *Fuel Gas Code* shall not apply to the following:

1. Portable LP-Gas equipment of all types that is not connected to a fixed fuel system.
2. Installation of farm equipment such as brooders, dehydrators, dryers and irrigation equipment.
3. Raw material (feedstock) applications except for piping to special atmosphere generators.
4. Oxygen-fuel gas cutting and welding systems.
5. Industrial gas applications using gases such as acetylene and acetylenic compounds, hydrogen, ammonia, carbon monoxide, oxygen and nitrogen.
6. Petroleum refineries, pipeline compressor or pumping stations, loading terminals, compounding plants, refinery tank farms and natural gas processing plants.
7. Integrated chemical plants or portions of such plants where flammable or combustible liquids or gases are produced by chemical reactions or used in chemical reactions.
8. LP-Gas installations at utility gas plants.
9. Liquefied natural gas (LNG) installations.
10. Fuel gas piping in power and atomic energy plants.
11. Proprietary items of equipment, apparatus, or instruments such as gas generating sets, compressors and calorimeters.
12. LP-Gas equipment for vaporization, gas mixing and gas manufacturing.
13. Temporary LP-Gas piping for *buildings* under construction or renovation that is not to become part of the permanent piping system.
14. Installation of LP-Gas systems for railroad switch heating.
15. Installation of LP-Gas and compressed natural gas (CNG) systems on vehicles.

16. Except as provided in Section 401.1.1 of the *Fuel Gas Code*, gas piping, meters, gas pressure regulators, and other appurtenances used by the serving gas supplier in the distribution of gas, other than undiluted LP-Gas.
17. *Building* design and construction, except as specified herein.
18. Piping systems for mixtures of gas and air within the flammable range with an operating pressure greater than 10 psig (69 kPa gauge).
19. Portable fuel cell appliances that are neither connected to a fixed piping system nor interconnected to a power grid.

**101.5.4 Intent.** The purpose of the *Fuel Gas Code* is to establish minimum standards to provide a reasonable level of safety, health, property, and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of fuel gas systems.

**101.6 Mechanical Code.** The *District of Columbia Mechanical Code (2017)* (“*Mechanical Code*”) shall consist of the 2015 edition of the International Mechanical Code (“*International Mechanical Code*”), as amended by the Mechanical Code Supplement of 2017 (12-E DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.6.1 Appendices.** Provisions in the appendices of the *International Mechanical Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.6.2 Administration and Enforcement.** Chapter 1 of the *International Mechanical Code* is deleted in its entirety. In its place, the provisions of 12-A DCMR, Chapter 1, shall apply to the *Mechanical Code* and are incorporated by this reference.

**101.6.3 Scope.** The provisions of the *Mechanical Code* shall regulate 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*. The *Mechanical Code* shall also regulate those mechanical systems, systems components, *equipment* and appliances specifically addressed therein. The installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be regulated by the *Fuel Gas Code*.

**Exception:** Detached one- and two-family *dwelling*s and *townhouses* not more than three stories above grade plane in height with separate means of egress and their accessory *structures* that comply with the *Residential Code*.

**101.6.4 Intent.** The purpose of the *Mechanical Code* is to establish minimum standards to provide a reasonable level of safety, health, property protection and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of mechanical systems.

**101.7 Plumbing Code.** The *District of Columbia Plumbing Code (2017)* (“*Plumbing Code*”) shall consist of the 2015 edition of the International Plumbing Code (“*International Plumbing Code*”), as amended by the Plumbing Code Supplement of 2017 (12-F DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.7.1 Appendices.** Provisions in the appendices of the *International Plumbing Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.7.2 Administration and Enforcement.** Chapter 1 of the *International Plumbing Code* is deleted in its entirety. In its place, the provisions of 12-A DCMR, Chapter 1, shall apply to the *Plumbing Code* and are incorporated by this reference.

**101.7.3 Scope.** The provisions of the *Plumbing Code* shall apply to the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within the District of Columbia. The *Plumbing Code* shall also regulate non-flammable medical gas, inhalation anesthetic, vacuum piping, non-medical oxygen systems and sanitary and condensate vacuum collection systems.

**Exceptions:**

1. Detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with separate means of egress and their accessory structures that comply with the Residential Code.
2. The design and installation of fuel gas distribution piping and equipment, fuel gas fired water heaters, and water heater venting systems shall be regulated by the *Fuel Gas Code*.
3. The design and installation of chilled water piping in connection with refrigeration process and comfort cooling, and hot water piping in

connection with *building* heating, shall conform to the requirements of the *Mechanical Code*.

4. The design and installation of piping for fire sprinklers and standpipes shall conform to the requirements of the *Building Code*. Water and drainage connections to such installations shall be made in accordance with the requirements of the *Plumbing Code*.

**101.7.4 Intent.** The purpose of the *Plumbing Code* is to establish minimum standards to provide a reasonable level of safety, health, property protection and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of plumbing equipment and systems.

**101.8 Property Maintenance Code.** The *District of Columbia Property Maintenance Code (2017)* (“*Property Maintenance Code*”) shall consist of the 2015 edition of the International Property Maintenance Code (“*International Property Maintenance Code*”) as amended by the Property Maintenance Code Supplement of 2017 (12-G DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.8.1 Appendices.** Provisions in the appendices of the *International Property Maintenance Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.8.2 Administration and Enforcement.** Chapter 1 of the *International Property Maintenance Code* is deleted in its entirety. Administration and enforcement provisions for the *Property Maintenance Code* are set forth in 12-G DCMR, Chapter 1.

**101.8.3 Scope.** The provisions of the *Property Maintenance Code* shall apply to all existing residential and nonresidential *premises* and shall constitute minimum requirements and standards for: *premises*, equipment, and facilities for light, *ventilation*, space, heating, sanitation, protection from the elements, a reasonable level of safety from fire and other hazards, and for a reasonable level of sanitary maintenance; the responsibility of *owners*, *operators* and *occupants*; the *occupancy* of existing *premises*; and for administration, enforcement and penalties.

**101.8.4 Intent.** The purpose of the *Property Maintenance Code* is to ensure public health, safety and welfare insofar as they are affected by the continued *occupancy* and maintenance of *premises*. Existing *premises* that do not comply with these provisions shall be altered or repaired to provide a minimum level of health and safety as required therein.

**101.9 Fire Code.** The *District of Columbia Fire Code (2017)* (“*Fire Code*”) shall consist of the 2015 edition of the International Fire Code (“*International Fire Code*”), as amended by the Fire Code Supplement of 2017 (12-H DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.9.1 Appendices.** Provisions in the appendices of the *International Fire Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.9.2 Administration and Enforcement.** Chapter 1 of the *International Fire Code* is deleted in its entirety. Administration and enforcement provisions for the *Fire Code* are set forth in 12-H DCMR, Chapter 1.

**101.9.3 Scope.** The provisions of the *Fire Code* shall establish regulations affecting or relating to *premises*, processes, and safeguards regarding: the hazard of fire and explosion arising from the storage, handling or use of *structures*, materials or devices; conditions hazardous to life, property or public welfare in the occupancy of *premises*; fire hazards on the *premises* from occupancy or operation; and conditions affecting the safety of fire fighters and emergency responders during emergency operations.

**101.9.4 Intent.** The purpose of the *Fire Code* is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion, or dangerous conditions in all *premises*, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

**101.10 Energy Conservation Code.** The *District of Columbia Energy Conservation Code (2017)* (“*Energy Conservation Code*”) shall consist of the *Energy Conservation Code-Commercial Provisions* and the *Energy Conservation Code-Residential Provisions*. The *Energy Conservation Code-Commercial Provisions* shall consist of ANSI/ASHRAE/IES 90.1-2013, Energy Standard for Buildings Except Low-Rise Residential Buildings (“*ASHRAE 90.1*”), as amended by the Energy Conservation Code Supplement of 2017 – Commercial Provisions (12-I[CE] DCMR) of the *District of Columbia Construction Codes Supplement of 2017*. The *Energy Conservation Code-Residential Provisions* shall consist of the Residential Provisions of the 2015 edition of the International Energy Conservation Code (“*International Energy Conservation Code-Residential Provisions*”), as amended by the Energy Conservation Code Supplement of 2017 – Residential Provisions (12-I[RE] DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.10.1 Appendices.** Provisions in the appendices to the *Energy Conservation Code-Commercial Provisions* shall not apply unless specifically adopted in the *Construction Codes Supplement*. The *Energy Conservation Code-Residential Provisions* has no appendices.



**101.10.1.1 Normative and Informative Appendices.** Normative Appendices A, B, C, D and G of ASHRAE 90.1, as amended by the Energy Conservation Code Supplement, are adopted in the District of Columbia as an integral part of the mandatory requirements of the *Energy Conservation Code-Commercial Provisions*, which, for reasons of convenience are placed apart from all other normative elements. Informative Appendices E and F of ASHRAE 90.1 and informative notes located within the *Energy Conservation Code-Commercial Provisions* contain additional information and are not mandatory requirements.

**101.10.1.2 Appendix Z.** Appendix Z to the *Energy Conservation Code-Commercial Provisions* provides an alternative compliance path. See Section ~~101.10.6~~ 101.10.4.

**101.10.2 Administration and Enforcement.** Sections 1, 2 and 4 of *ASHRAE 90.1* and Chapter 1 [RE] of the *International Energy Conservation Code* are deleted in their entirety. In their place, the provisions of 12-A DCMR, Chapter 1, shall apply to the *Energy Conservation Code* and are incorporated by this reference.

### **101.10.3 Scope and General Requirements.**

**101.10.3.1 Scope.** The *Energy Conservation Code* shall apply to *commercial buildings, residential buildings* and the buildings' sites and associated systems and equipment.

#### **Exceptions:**

- 1. Existing Buildings.** Except as specified in 12-A DCMR, Chapter 1, the *Energy Conservation Code* shall not be used to require the removal, alteration or abandonment of, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of the *Energy Conservation Code*.
- 2. Historic Buildings.** ~~Any building or other structure that is listed (either as an individual listing or as a contributing resource to a listed historic district) in the D.C. or National Register of Historic Places shall be exempt from provisions of the Energy Conservation Code, provided that the D.C. Historic Preservation Officer or the Keeper of the National Register of Historic Places certifies that compliance with the that provision of the *Energy Conservation Code* will cause the loss of irretrievable historic components that may lead to the de listing of the building or other structure.~~

Provisions of the *Energy Conservation Code* relating to the construction, *repair, alteration, restoration and movement of structures, and change of occupancy shall not be mandatory for historic buildings provided that a report has been submitted to the code official and signed by the owner, or a registered design professional, or a certification has been submitted to the code official and signed by the State Historic Preservation Office, demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the building.*

3. **Low Energy Buildings.** The following buildings, or portions thereof, separated from the remainder of the building by building thermal envelope assemblies complying with the *Energy Conservation Code* shall be exempt from the building thermal envelope provisions of the *Energy Conservation Code*:
  - a. Buildings, or portions thereof, with a peak design rate of energy usage less than 3.4 Btu/h • ft<sup>2</sup> (10.7 W/m<sup>2</sup>) or 1.0 watt/ft<sup>2</sup> (10.7 W/m<sup>2</sup>) of floor area for space conditioning purposes.
  - b. Buildings, or portions thereof, that do not contain conditioned space.
4. Where the commercial building project complies with one of the alternative compliance paths set forth in Section 101.10.6.  
~~101.10.4.~~
5. Where the residential building project complies with one of the alternative compliance paths set forth in Section 101.10.57.

**101.10.4 Intent.** The *Energy Conservation Code* shall regulate the design and construction of *buildings* for the effective use and conservation of energy over the useful life of each *building*. The *Energy Conservation Code* is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. The *Energy Conservation Code* is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

**101.10.5 Compliance.** *Residential buildings* shall meet the provisions of the *Energy Conservation Code-Residential Provisions*. *Commercial buildings* shall meet the provisions of the *Energy Conservation Code-Commercial Provisions*.

**101.10.5.1 Mixed Occupancy.** Where a building includes both *residential* and *commercial* occupancies, each occupancy shall be separately considered and meet the applicable provisions of the *Energy Conservation Code—Commercial Provisions* or the *Energy Conservation Code—Residential Provisions*.

**101.10.5.2 Compliance Materials.** The *code official* is authorized to approve specific computer software, worksheets, compliance manuals and other similar materials that meet the intent of the *Energy Conservation Code*.

**101.10.6 Alternative Compliance Paths for Commercial Building Projects.** In lieu of the requirements of the *Energy Conservation Code-Commercial Provisions*, *commercial building* projects that comply with one of the alternative compliance paths set forth in Sections 101.10.6.1 through 101.10.6.7 ~~101.4.7.3.4.1, 101.4.7.3.4.2, 101.4.7.3.4.3, or 101.4.7.3.4.4~~ shall be deemed to comply with the *Energy Conservation Code-Commercial Provisions*.

**101.10.6.1 Appendix Z.** Demonstrate compliance with all sections of Appendix Z with the exception of Z5.2 of the *Energy Conservation Code-Commercial Provisions*.

**101.10.6.2 Compliance Utilizing ILFI Living Building Challenge.** Design, construct and certify to the International Living Future Institute's Living Building Challenge program for either full Living Building Challenge or Energy Petal certification. The *owner* shall provide documentation to the *code official* confirming registration with the Living Building Challenge program prior to permit issuance. The *owner* shall have an 18-month period from the date of issuance of the first certificate of occupancy, or from approval of the final inspection, to submit official evidence of certification to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification.

**101.10.6.3 Compliance Utilizing ILFI Zero Energy Building Certification.** Design, construct and certify to the International Living Future Institute's Net Zero Energy Building Certification. The *owner* shall provide documentation to the *code official* confirming registration with the Net Zero Energy program prior to permit issuance. The *owner* shall have an 18-month period from the date of issuance for the project of the certificate of occupancy, or from approval of the final inspection, to submit official evidence of certification to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification.

**101.10.6.4 Compliance Utilizing PHIUS+ and On-Site Solar.** Design, construct and certify to the Passive House Institute United States' PHIUS+ program. The *owner* shall have an ~~an 18-month~~ 18-month period from the date of issuance ~~for the project~~ of the certificate of occupancy ~~for the project~~, or from approval of the final inspection, to submit official evidence of certification by the PHIUS+ program to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification. Additionally, the *owner* must install a solar PV system on the building's roof that offsets the annual net energy use.

**101.10.6.5 Compliance Utilizing PHI and On-Site Solar.** Design, construct and certify to the Passive House Institute program. The *owner* shall have an 18-month period from the date of issuance for the project of the certificate of occupancy, or from approval of the final inspection, to submit official evidence of certification by the PHI program to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification. Additionally, the *owner* must install a solar PV system on the building's roof that offsets the annual net energy use.

**101.10.6.6 Compliance Utilizing LEED and LEED Zero Carbon.** Design, construct, and certify to the LEED Rating System and LEED Zero Carbon Rating System. The *owner* shall provide *approved* documentation to the code official prior to permit issuance (1) confirming registration with the LEED Rating System programs, and (2) an approved pre-construction energy model that is consistent with achieving LEED Zero Carbon certification. Additionally, *owner* must complete "Enhanced Commissioning" requirements during construction. The *owner* shall have an 18-month period from the date of issuance of the certificate of occupancy, or from approval of the final inspection, whichever is later, to submit official evidence of certification to both LEED and LEED Zero Carbon to the *code official*.

**101.10.6.7 Compliance Utilizing LEED and LEED Zero Energy.** Design, construct and certify to the LEED Rating System and LEED Zero Energy Rating System. The *owner* shall provide *approved* documentation to the code official prior to permit issuance (1) confirming registration with the LEED Rating System programs, and (2) an approved pre-construction energy model that is consistent with achieving LEED Zero Energy certification. Additionally, *owner* must complete "Enhanced Commissioning" requirements during construction. The *owner* shall have an 18-month period from the date of issuance for the project of the certificate of occupancy, or from approval of the final inspection, whichever is later, to submit official evidence of certification to both

LEED and LEED Zero Energy to the code official.

**101.10.7 Alternative Compliance Paths for Residential Buildings** In lieu of the requirements of the *Energy Conservation Code-Residential Provisions*, residential building projects that comply with one of the alternative compliance paths set forth in Sections 101.10.7.1 through 101.10.7.9 ~~101.10.7.1, 101.10.7.2, 101.10.7.3, or 101.10.7.4~~ shall be deemed to comply with the *Energy Conservation Code-Residential Provisions*.

**101.10.7.1 Compliance Utilizing ERI.** Achieve Design and construct to an Energy Rating Index (ERI) of “0” in accordance with Section R406 of the *Energy Conservation Code-Residential Provisions*. Verify compliance at the completion of construction per guidance given by the code official.

**101.10.7.2 Compliance Utilizing DCRA Residential Net-Zero Energy Program.** Achieve compliance with the requirements of DCRA’s Residential Net-Zero Energy Program as set forth in an *administrative bulletin*.

**101.10.7.32 Compliance Utilizing ILFI Living Building Challenge.** Design, construct and certify to the International Living Future Institute’s Zero Energy Building Certification (NZEB) standard as listed in Chapter 5 of the *Residential Code*. The owner shall have an ~~12~~18 month period from the date of issuance of the first certificate of occupancy, or approval of the final inspection, to submit official evidence of certification to the code official. The code official, for good cause and upon written request, is authorized to extend the period to submit evidence of certification. Design, construct and certify to the International Living Future Institute’s Living Building Challenge program for either full Living Building Challenge or Energy Petal certification. The owner shall provide documentation to the code official confirming registration with the Living Building Challenge program prior to permit issuance. The owner shall have an 18-month period from the date of issuance of the first certificate of occupancy, or from approval of the final inspection, to submit official evidence of certification to the code official. The code official, for good cause and upon written request, is authorized to extend the period to submit evidence of certification.

**101.10.7.4 Compliance Utilizing ILFI Zero Energy Building Certification.** Design, construct and certify to the International Living Future Institute’s Zero Energy Building Certification. The owner shall provide documentation to the code official confirming registration with the Zero Energy Building program prior to permit issuance. The owner shall have an 18-month period from the date of issuance for the project of the certificate of occupancy, or from approval of the final inspection, to

submit official evidence of certification to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification.

**101.10.7.35 Compliance Utilizing the DOE Zero Energy Ready Home and On-site Solar.** Design, construct and certify to the standards of the Zero Energy Ready Home program of the United States Department of Energy (DOE) ~~listed in Chapter 5 of the *Energy Conservation Code-Residential Provisions*.~~ The *owner* shall have an ~~12~~18-month period from the date of issuance of the certificate of occupancy, or from approval of the final inspection, to submit official evidence of certification to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification. Additionally, the *owner* must install a solar PV system on the roof that offsets the annual net energy use of the home.

**101.10.7.46 Compliance Utilizing PHIUS+ and On-site Solar.** Design, construct and certify to the Passive House Institute United States' PHIUS+ program ~~listed in Chapter 5 of the *Energy Conservation Code-Residential Provisions*.~~ The *owner* shall have an ~~12~~18-month period from the date of issuance of the certificate of occupancy, or approval of the final inspection, to submit official evidence of certification to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification. Additionally, the *owner* must install a solar PV system on the roof that offsets the annual net energy use of the home.

**101.10.7.57 Compliance Utilizing PHI and On-Site Solar.** Design, construct and certify to the Passive House Institute program. The *owner* shall have an 18-month period from the date of issuance of a certificate of occupancy or from approval of the final inspection, whichever is later, to submit official evidence of certification by the PHI program to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification. Additionally, the *owner* must install a solar PV system on the roof that offsets the annual net energy use of the house.

**101.10.7.8 Compliance Utilizing LEED and LEED Zero Carbon.** Design, construct and certify to the LEED for Homes or LEED for Homes Midrise Rating Systems, and LEED Zero Carbon Rating System. The *owner* shall provide *approved* documentation to the *code official* prior to permit issuance (1) confirming registration with the LEED rating system programs, and (2) an *approved* pre-construction energy model that is consistent with achieving LEED Zero Carbon certification. The *owner* shall have an 18-month period from the date of issuance of a certificate of

occupancy for the project or from the date of final inspection approval, whichever is later, to submit official evidence of certification by both LEED and LEED Zero Carbon to the *code official*.

**101.10.7.9 Compliance Utilizing LEED and LEED Zero Energy.** Design, construct and certify to the LEED for Homes or LEED for Homes Midrise Rating Systems, and LEED Zero Energy Rating System. The *owner* shall provide *approved* documentation to the *code official* prior to permit issuance (1) confirming registration with the LEED rating system programs, and (2) an approved pre-construction energy model that is consistent with achieving LEED Zero Energy certification. The *owner* shall have an 18-month period from the date of issuance of a certificate of occupancy for the project or from approval of the final inspection, whichever is later, to submit official evidence of certification by both LEED and LEED Zero Energy to the *code official*.

**101.11 Existing Building Code.** The *District of Columbia Existing Building Code (2017)* (“*Existing Building Code*”) shall consist of the 2015 edition of the International Existing Building Code (“*International Existing Building Code*”), as amended by the Existing Building Code Supplement of 2017 (12-J DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.11.1 Appendices.** Provisions in the appendices of the *International Existing Building Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.11.2 Administration and Enforcement.** Chapter 1 of the *International Existing Building Code* is deleted in its entirety. In its place, the provisions of 12-A DCMR, Chapter 1, shall apply to the *Existing Building Code* and are incorporated by this reference.

**101.11.3 Scope.** The provisions of the *Existing Building Code* shall apply to the repair, alteration, change of occupancy, or relocation of, or *addition to*, *existing buildings*, including *existing buildings* under the jurisdiction of the *Residential Code*.

**101.11.3.1 ~~Definition~~ Residential Code References.** In the *Existing Building Code*, all references to R occupancies in general, or R-3 in particular, shall also refer to any *existing building* or *existing structure* under the jurisdiction of the *Residential Code*.

**101.11.3.2 Residential Code Applicability.** In the *Existing Building Code*, for buildings regulated by the *Residential Code*, references to the *Building Code* shall refer to the *Residential Code*.

**101.11.4 Intent.** The purpose of the *Existing Building Code* is to provide the *code official* with flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to safeguard the public health, safety, and welfare, insofar as they are affected by the repair, alteration, change of occupancy, *addition* or relocation of *existing buildings*.

**101.12 Green Construction Code.** The *District of Columbia Green Construction Code (2017)* (“*Green Construction Code*”) shall consist of the 2012 edition of the International Green Construction Code (“*International Green Construction Code*”), as amended by the Green Construction Code Supplement of 2017 (12-K DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.12.1 Appendices.** Provisions in the appendices of the *International Green Construction Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.12.2 Administration and Enforcement.** Chapter 1 of the *International Green Construction Code* is deleted in its entirety. In its place, the provisions of 12-A DCMR, Chapter 1, shall apply to the *Green Construction Code* and are incorporated by this reference.

**101.12.3 Scope.** The provisions of the *Green Construction Code* shall apply to the construction, *addition*, *alteration*, relocation, *demolition*, and *razing* of every *building* or *structure* and appurtenances connected or attached to such *buildings* or *structures* and to the site on which the *building* or *structure* is located except as otherwise provided in this Section ~~401.4.9.3~~101.12.3 or in the *Green Construction Code*.

**Exceptions:**

1. The *Green Construction Code* shall not apply to the following:
  - a. *Demolition* or *razing* of a *building* or *structure* of less than 10,000 square feet (929 m<sup>2</sup>), unless associated with a new construction, an addition, and/or site work of 10,000 square feet or more (929 m<sup>2</sup>);
  - b. New construction and associated building site development, including construction of an *addition* to an *existing building*, of less than 10,000 square feet (929 m<sup>2</sup>);
  - c. *Alteration* of an *existing building* where the aggregate area of construction or renovation is less than 10,000 square feet; or
  - d. Relocation of *structures* of less than 10,000 square feet (929 m<sup>2</sup>).



2. The *Green Construction Code* shall not apply to the following residential construction:
  - a. Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height above grade plane with a separate means of egress, their accessory structures, and the site or lot upon which these buildings are located.
  - b. Group R-3 residential buildings, their accessory structures, and the site or lot upon which these buildings are located.
3. The *Green Construction Code* shall not be deemed to require the removal, alteration or abandonment of, nor prevent the continued use and maintenance of, an existing building, building system or building component lawfully in existence at the time of adoption of the *Green Construction Code*, unless within the work area of an alteration as defined in Section 101.12.3.1.
  - a. The *Green Construction Code* shall not apply to equipment or systems that are used primarily for industrial or manufacturing.
  - b. The *Green Construction Code* shall not apply to temporary structures *approved* under Sections 107 and 3103 of the *Building Code*.
  - c. Appendix A to the *Green Construction Code* shall not apply to alterations except for Level 3 alterations, or Level 2 alterations 50,000 square feet and larger where 10,000 square feet of the space is being reconfigured.
  - d. Appendix A to the *Green Construction Code* shall not apply to first time tenant fit-outs except for first time tenant fit-outs 10,000 square feet and larger.
4. The *Green Construction Code* shall not apply where a project is within the scope of the Green Building Act of 2006, effective March 8, 2007 (D.C. Law 16-234; D.C. Official Code §§ 6-1451.01 *et seq.* (2018 Repl.)), as amended (“Green Building Act”), and the project complies with the provisions of the Green Building Act and the regulations promulgated thereunder set forth in Section 302 of the *Green Construction Code*.
5. The *Green Construction Code* shall not apply where a project complies with one of the alternative compliance paths set forth in Section 101.12.5.

**101.12.3.1 Applicability to Alteration.** Determination of whether the area threshold would be triggered by an *alteration* of an *existing building* shall be based upon the aggregate area affected by the *alteration*; the work area where the *alteration* is to take place shall be identified in the permit application. An *alteration* includes, but is not limited to, fit out of space in an *existing building* not previously built out and fit out of space following *demolition* of previously built out space in an *existing building*. Areas of an *existing building* beyond the work area of an *alteration* shall not be included to determine if the *Green Construction Code* would be applicable to the *alteration*. Notwithstanding a determination that the size of the work area of an *alteration* would subject the *alteration* to the provisions of the *Green Construction Code*, compliance with the *Green Construction Code* shall not be required for *building* areas, components, and systems that are located outside of the affected work area of the *alteration*.

**101.12.3.2 Applicability to Additions.** Only the aggregate area of a proposed *addition* to an *existing building* shall be used to determine if the provisions of the *Green Construction Code* would be applicable to the work to be undertaken to construct the *addition*. The portion(s) of an *existing building* that would not be altered by the construction of the *addition* shall not be used to determine if the threshold for application of the *Green Construction Code* would be met. If the provisions of the *Green Construction Code* would be applicable to the construction of an *addition*, then only the work to be undertaken in the *addition* shall be subject to the provisions of the *Green Construction Code*; the portion(s) of an *existing building*, *building* components or *building* systems located outside of the *addition* are not required to be brought into compliance with the provisions of the *Green Construction Code*.

**101.12.4 Intent.** The *Green Construction Code* is intended to safeguard the environment, public health, safety and general welfare through the establishment of requirements to reduce the negative impacts and increase the positive impacts of the built environment on the natural environment and *building* occupants. The *Green Construction Code* is not intended to abridge or supersede safety, health or environmental requirements under other applicable codes or ordinances.

**101.12.5. Alternative Compliance Paths.** In lieu of the requirements of the *Green Construction Code*, projects that comply with one of the ~~four~~ alternative compliance paths set forth in Sections 101.12.5.1 through 101.12.5.4 ~~101.4.9~~ shall be deemed to comply with the *Green Construction Code*.

**101.12.5.1 Compliance Utilizing Living Building Challenge.** Projects designed, constructed and certified to be in compliance with the International Living Future Institute's Living Building Challenge standard listed in Chapter 35 shall be deemed to comply with the *Green*

*Construction Code.* The *owner* shall have an 128-month period from the date of issuance for the project of the certificate of occupancy, or the first certificate of occupancy for occupiable space in a *story above grade plane* where a project has multiple certificates of occupancy, to submit evidence of Living Building Challenge certification to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification.

**101.12.5.2 Compliance Utilizing LEED.** Projects designed, constructed and certified to be in compliance with one or more of the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) standards listed in Chapter 35 at the Certified Level or higher shall be deemed to comply with the *Green Construction Code*. The *owner* shall have a 12-month period from the date of issuance for the project of the certificate of occupancy, or the first certificate of occupancy for occupiable space in a *story above grade plane* where a project has multiple certificates of occupancy, to submit evidence of LEED certification to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification. Projects utilizing the LEED alternative compliance path shall also certify using either the EPA's Energy Star New Homes Program or Multifamily High Rise Program, as applicable.

**101.12.5.3 Compliance Utilizing Green Communities.** Affordable housing in Group R-2 occupancies designed, constructed and certified to be in compliance with the Enterprise Community Partners standard listed in Chapter 35 shall be deemed to comply with the *Green Construction Code*. The *owner* shall have a 12-month period from the date of issuance for the Group R-2 occupancy of the certificate of occupancy, or the first certificate of occupancy for occupiable space in a *story above grade plane* where a project has multiple certificates of occupancy, to submit certification of compliance with the applicable Enterprise Community Partners standard to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification. Affordable housing for the purpose of this section shall consist of projects eligible for certification by Enterprise Community Partners or as otherwise defined by the *code official*. New construction projects utilizing the ~~Energy~~Enterprise Green Communities alternative compliance path shall also certify using either the EPA's Energy Star New Homes Program or Multifamily High Rise Program, as applicable.

**101.12.5.4 Compliance Utilizing National Green Building Standard (ICC 700).** Group R-2 occupancies designed, constructed and certified to be in compliance with: (a) the National Green Building Standard, ICC 700, listed in Chapter 35, at the bronze level or higher; and (b) the EPA's

Energy Star New Homes Program or Multifamily High Rise Program, as applicable, listed in Chapter 35, shall be deemed to comply with the *Green Construction Code*. The *owner* shall have a 12-month period from the date of issuance for the Group R-2 occupancy of the certificate of occupancy, or the first certificate of occupancy for occupiable space in a *story above grade plane* where a project has multiple certificates of occupancy, to submit evidence of certification to the *code official*. The *code official*, for good cause and upon written request, is authorized to extend the period to submit evidence of certification.

**101.13 Swimming Pool and Spa Code.** The *District of Columbia Swimming Pool and Spa Code (2017)* (“*Swimming Pool and Spa Code*”) shall consist of the 2015 edition of the International Swimming Pool and Spa Code (“*International Swimming Pool and Spa Code*”), as amended by the Swimming Pool and Spa Code Supplement of 2017 (12-L DCMR) of the *District of Columbia Construction Codes Supplement of 2017*.

**101.13.1 Appendices.** Provisions in the appendices of the *International Swimming Pool and Spa Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.13.2 Administration and Enforcement.** Chapter 1 of the *International Swimming Pool and Spa Code* is deleted in its entirety. In its place, the provisions of 12-A DCMR, Chapter 1, shall apply to the *Swimming Pool and Spa Code* and are incorporated by this reference.

**101.13.3 Scope.** The provisions of the *Swimming Pool and Spa Code* shall apply to the construction, alteration, movement, renovation, replacement, repair and maintenance of aquatic recreation facilities, pools and spas. The pools and spas covered by the *Swimming Pool and Spa Code* are either permanent or temporary, and shall be only those that are designed and manufactured to be connected to a circulation system and that are intended for swimming, bathing or wading.

**101.13.4 Intent.** The purpose of the *Swimming Pool and Spa Code* is to establish minimum standards to provide a reasonable level of safety and protection of health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location and maintenance or use of pools and spas.

**101.13.5 Applicability.** Any pool or spa and related mechanical, electrical and plumbing systems lawfully in existence at the time of the adoption of the *Swimming Pool and Spa Code* shall be permitted to have their use and maintenance continued if the use, maintenance or repair is in accordance with the original design and no hazard to life, health or property is created. Additions, alterations, renovations or repairs to any pool, spa or related system shall conform to the requirements for a new system without requiring the existing systems to

comply with the requirements of the *Swimming Pool and Spa Code* provided that such systems were lawfully in existence at the time of the adoption of the *Swimming Pool and Spa Code*.

**101.13.5.1 Moved Pools and Spas.** Unless covered by Section 101.13. 5, systems that are a part of a pool, spa or system moved indoor within the District of Columbia shall comply with the provisions of the *Swimming Pool and Spa Code* for new installations.

**101.13.6 Other Requirements.** *Owners* and operators of swimming pools and spas shall also comply with the requirements of other District government agencies, including the Department of Health (DOH) regulations set forth in 25-C DCMR, Chapter 64, and the District Department of the Environment (DDOE) regulations set forth in 21 DCMR, Chapter 5.

**101.14 Jurisdiction.** The *Construction Codes* shall apply to *premises* within the limits of the District of Columbia, including *premises* owned, occupied or controlled by the Government of the District of Columbia or any of its independent agencies.

**101.14.1 Federal Premises.** Except as set forth in Section 101.14.1.1, the *Construction Codes* shall not apply to *premises* owned by the United States of America. *Premises* under the exclusive control of an officer of the United States government in his or her official capacity shall be deemed to be owned by the United States of America for purposes of this section, provided that the *premises* shall not be deemed to be under the exclusive control of an officer of the United States government where: (a) the *premises* (or any portions thereof) are leased to the United States of America, but the lessor is responsible for maintenance and repairs to the leased *premises*; or (b) the *premises* are owned by the United States of America, but leased to a *person* or *persons* other than the United States of America for development pursuant to a long-term ground lease or comparable property interest.

**101.14.1.1 Applicability of Environmental Laws and Regulations.** Notwithstanding Section 101.14.1, and even where the *Construction Codes* may not otherwise apply to a particular project, a permit in accordance with Section 105.1 is required for (1) major substantial improvement activities (as defined in 21 DCMR Chapter 5) or (2) land-disturbing activities involving the implementation of stormwater management, erosion and sediment control, or floodplain management measures, and to the extent required by, 21 DCMR Chapter 5, 20 DCMR Chapter 31, or the Soil Erosion and Sedimentation Control Amendment Act of 1994, effective August 26, 1994 (D.C. Law 10-166; D.C. Official Code § 6-1403 (2018 Repl.)).

**101.14.2 Foreign Missions.** The *Construction Codes* shall apply to those *buildings* occupied by or for any foreign government as an embassy or chancery to the extent provided for in Section 206 of the Foreign Missions Act, approved August 24, 1982 (96

Stat. 286; D.C. Official Code § 6-1306(g) (2018 Repl.)), that is, foreign missions shall substantially comply with the *Construction Codes* as required by the U.S. Secretary of State in a manner determined by the Secretary not to be inconsistent with the international obligations of the United States. Notwithstanding the foregoing, a permit shall be required for all land-disturbing activities or major substantial improvement activities as defined by 21 DCMR Chapter 5.

**101.14.3 President or Vice President's Residence.** No permit required under the *Construction Codes* shall be issued if it is determined by the *code official*, defined in Section 103.1 of the *Building Code*, that:

1. The permit affects an area in close proximity to the official residence of the President or Vice President of the United States as close proximity is determined by the United States; and
2. The United States Secret Service has established that the issuance of the permit would adversely impact the safety and security of the President or the Vice President of the United States.

**101.14.4 Structures Located in or Adjacent to Rivers or Bodies of Water.** The *Construction Codes* shall apply to *structures*, including, but not limited to, piers, wharves, jetties, slips, boat storage facilities, marinas, and pilings, located in or adjacent to any river or body of water within the limits of the District of Columbia, pursuant to An Act Relative to the control of wharf property and certain public spaces in the District of Columbia, approved March 3, 1899 (30 Stat. 1377; D.C. Official Code § 10-501.01 (2013 Repl.)). Notwithstanding the foregoing, work affecting navigable waters may also require a permit from the U.S. Army Corps of Engineers pursuant to the Rivers and Harbors Appropriation Act of 1899, effective March 3, 1899 (30 Stat. 1151; 33 USC § 401 (2007)).

*Strike Section 102 of the International Building Code in its entirety and substitute new Section 102 in the Building Code in its place to read as follows:*

## **102                    APPLICABILITY**

**102.1 General.** The provisions of these regulations shall cover all matters affecting or relating to *buildings*, other *structures*, and systems as set forth in Section 101. A *building* or other *structure* shall not be constructed, maintained, extended, repaired, removed or altered in violation of these provisions.

**Exception:** The raising, lowering, or moving of a *building* or other *structure* as a unit, necessitated by a change in legal grade or widening of a street, shall be permitted provided that the *building* or other *structure* is not otherwise altered, that its use or occupancy is not changed, and that the *building* or other *structure* complies with the code provisions originally applicable to the *building* or other structure.

**102.1.1 Code Precedence.** Unless otherwise provided herein, or in the *Construction Codes Act*, the *Construction Codes* shall take precedence over the *Construction Codes Act*, and the *Construction Codes Supplement* shall take precedence over the Model Codes (as defined in Section 101.1), including standards and amendments.

No provision of the *Construction Codes* shall be deemed to modify or amend any provision of the *Zoning Regulations* of the District of Columbia (11 DCMR), as amended, or any relief granted or order issued pursuant thereto (collectively, the “*Zoning Regulations*”), nor shall any provision of those *Zoning Regulations* be deemed to modify or amend any provision of the *Construction Codes*. Where a provision of the *Construction Codes* is deemed to be in conflict with any provision of the *Zoning Regulations*, then a waiver of the applicable provision of the *Construction Codes* must be sought from the *code official*, or there must be relief granted pursuant to the applicable provisions of the *Zoning Regulations* by the *Board of Zoning Adjustment* or as otherwise provided therein. .

**102.1.2 Conflicts.** Where, in any specific case, different sections of the *Construction Codes* specify different materials, methods of construction or other requirements, the most restrictive shall govern. When there is a conflict between a general requirement and a specific requirement within the *Construction Codes*, the specific requirement shall be applicable.

**102.2 Performance of Work in Public Space.** Work performed in *public space*, not specifically addressed in the *Construction Codes*, shall conform to the pertinent standards and permitting requirements of the District of Columbia Department of Transportation (DDOT) and of the District of Columbia Water and Sewer Authority (DC Water). *See, e.g.*, 24 DCMR; D.C. Official Code, Title 10, Chapter 11; 21 DCMR; D.C. Official Code § 8-205.

**102.3 Application of References.** Unless otherwise specifically provided in the *Construction Codes*, all references to article or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such article, section or provision of the *Construction Codes*.

**102.4 Referenced Standards.** The standards referenced in the *Construction Codes* and listed in Chapter 35 of the *Building Code*, in Chapter 44 of the *Residential Code*, in Annex A of the *Electrical Code*, in Chapter 8 of the *Fuel Gas Code*, in Chapter 15 of the *Mechanical Code*, in Chapter 13 of the ~~*International*~~ *Plumbing Code*, in Chapter 8 of the *Property Maintenance Code*, in Chapter 80 of the *Fire Code*, in Section 12 of the *Energy Conservation Code-Commercial Provisions*, in Chapter 6 [RE] of the *Energy Conservation Code-Residential Provisions*, in Chapter 16 of the *Existing Building Code*, in Chapter 12 of the *Green Construction Code*, and in Chapter 11 of the *Swimming Pool and Spa Code*, shall be considered a part of the requirements of the *Construction Codes* to the prescribed extent of each such reference.

**102.4.1 Conflicts.** If conflict arises between the provisions of the *Construction Codes*

~~Act, and the Construction Codes Supplement, the International Codes, or their referenced standards,~~ the provisions of the *Construction Codes Act* shall take precedence. If conflict arises between the *Construction Codes Supplement*, the Model Codes (as defined in Section 101.1), and their referenced standards:

1. The provisions of the *Construction Codes Supplement* shall take precedence over the Model Codes and their referenced standards.
2. The provisions of the Model Codes, other than their referenced standards, shall take precedence over their referenced standards.

**102.5 Severability.** In the event that any part or provision of the *Construction Codes* is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions of the *Construction Codes*.

**102.5.1 Severance of Invalid Provisions.** Any illegal or void part of the *Construction Codes* shall be severed from the remainder of the *Construction Codes* by a court holding such part illegal or void, and the remainder of the *Construction Codes* shall remain effective.

**102.5.2 Decisions Involving Existing Structures.** The invalidity of any provision in any section of the *Construction Codes* as applied to *buildings* and other *structures* constructed prior to the effective date of the *Construction Codes* shall not be held to affect the validity of such section in its application to *buildings* and other *structures* erected after the effective date of the *Construction Codes*.

**102.6 Applicable Codes.** Except as otherwise expressly provided, and without limiting the generality of Section 102.1, the *Construction Codes*, upon adoption pursuant to Section 122, shall apply to: (1) all applications filed with the *Department* on or after the date of adoption; (2) all pending applications filed with the *Department* prior to the date of adoption (except to the extent that a pending application has vested under a prior edition of the *Construction Codes* pursuant to Section 123); (3) all permits or certificates issued by the *code official* on or after the date of adoption (except to the extent that the associated application vested under a prior edition of the *Construction Codes* pursuant to Section 123); and (4) all violations or infractions committed on or after the date of adoption. The legal use and occupancy of any *structure* existing on the effective date of the *Construction Codes*, or for which a permit has already been *approved*, shall be permitted to continue without change.

**Exceptions:**

1. Provisions of the *Building Code*, the *Residential Code*, the *Property Maintenance Code*, or the *Fire Code* that are specifically required to be applied retroactively.
2. Provisions of the *Construction Codes* deemed necessary by the *code official*, as defined in Section 103.1, for the general safety, health and welfare of the occupants



and the public.

**102.7 Violations or Infractions.** The laws and regulations in force on the date that a new edition of the *Construction Codes* is adopted pursuant to Section 122 shall apply with respect to violations or infractions committed prior to said date, whether the prosecutions or adjudications of those violations or infractions are begun before or after said date.

*Strike Section 103 of the International Building Code in its entirety and substitute new Section 103 in the Building Code in its place to read as follows:*

### **103 DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS**

**103.1 Code Official.** The *Director* shall be, and shall hereinafter be referred to as, the *code official* for the enforcement of the provisions of the *Construction Codes*. Where in the *Construction Codes* the term “building official” is used, it shall mean the “*code official*.”

**Exception:** Subject to the provisions of Section 103.2 as to *Fire Code* enforcement.

**103.1.1 Delegation of Authority.** The *Director* and the *Fire Chief* shall have the authority to delegate his or her duties and powers under the *Construction Codes*, but he or she shall remain responsible for the proper performance of those duties and powers.

**103.1.2 Department.** Where used herein the word “*Department*” shall refer to the Department of Consumer and Regulatory Affairs, except that references to “*Department*” in the *Fire Code* shall refer to the D.C. Fire and Emergency Medical Services Department (“Fire Department”).

**103.2 Code Official for the Fire Code.** The *Fire Chief* shall be the *code official* for the enforcement of the *Fire Code*, except that the *Director* shall be the *code official* for enforcement of all provisions of the *Fire Code* pertaining to approval, installation, design, testing, and inspection of (a) new fire protection systems and (b) modifications of existing fire protection systems. The *Fire Chief* shall be the *code official* for maintenance, testing and inspection of all existing fire protection systems.

**103.3 Organization.** The *Director* or the *Fire Chief* shall appoint such number of officers, technical assistants, inspectors and other employees as shall be necessary for the administration of the *Construction Codes*.

**103.3.1 Deputy.** The *code official* is authorized to designate an employee or employees as deputy who shall exercise the powers of the *code official* as delegated during the temporary absence or disability of the *code official*.

**103.4 Conflicts of Interest.** No official or employee of the *Department* shall directly or indirectly engage in any private business transaction or activity, which tends in any way to interfere with the performance of his or her duties, including:

1. **Furnishing of Services.** Being engaged in, or directly or indirectly connected with, the furnishing of labor, materials or appliances for the construction, alteration or maintenance of a *building* under the jurisdiction of the *Construction Codes*, or the preparation of plans or specifications of a *building* under the jurisdiction of the *Construction Codes*, unless the official or employee is the principal *owner* of the *building*.
2. **Conflict with Official Duties.** Engaging in any work which conflicts with official duties or with the interests of the *Department*.
3. **Private Work.** Directly or indirectly engaging with or accepting remuneration from any private person, firm, or corporation for the performance of any work as a designer, architect, engineer, consultant, or inspector, which work is to be submitted to, passed upon, reviewed, or inspected by any officer of the District of Columbia charged with the administration of any portion of the *Construction Codes*.

**103.5 Access to Public Records.** Access to the public records of the *Department* is governed by the Freedom of Information Act, effective March 25, 1977 (D.C. Law 1-96; D.C. Official Code §§ 2-531 *et seq.* (2016 Repl. & 2018 Supp.)) (the “Freedom of Information Act”). The public records of the *Department* (as the term “public records” is defined in An Act To prescribe administrative procedures for the District of Columbia government, approved October 21, 1968 (82 Stat. 1203; D.C. Official Code § 2-502(18) (2016 Repl. & 2018 Supp.)) (the “Administrative Procedure Act”) shall be available for inspection and copying subject to the exemptions and procedures set forth in the Freedom of Information Act.

**103.5.1 Publicly Available Information.** The *Department* shall make the following information available for inspection without a written request:

1. **Permit Documents.** Copies of issued permits, permit applications, and all documents submitted in support of permit applications (including plans);
2. **Certificates of Occupancy.** Copies of issued Certificates of Occupancy; and
3. **Other Information.** Other information and documents that the *Department* makes publicly available on its website.

**103.5.2 Fees for Related Services.** Fees for services rendered in response to information requests, including researching and copying any requested documents, are set forth in 1 DCMR § 408.

**Exception:** Advisory Neighborhood Commissioners shall not be required to pay a fee for researching and copying requested documents intended for official ANC purposes.

*Strike Section 104 of the International Building Code in its entirety and substitute new Section 104 in the Building Code in its place to read as follows:*

## **104 DUTIES AND POWERS OF THE CODE OFFICIAL**

**104.1 General.** The *code official* is hereby authorized and directed to enforce the provisions of the *Construction Codes*. The *code official* shall have the authority to render interpretations of the *Construction Codes* and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of the *Construction Codes*. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in the *Construction Codes*.

**104.1.1 Administrative Bulletins.** The *code official* shall have the authority to promulgate from time to time *administrative bulletins* that shall be effective upon publication in the *D.C. Register*. *Administrative bulletins* shall be titled, numbered, and dated. *Administrative bulletins* shall be publically available at the *Department's* permit center and shall be posted on the *Department's* website.

**104.2 Applications and Permits.** The *code official* shall receive applications, review submittal documents, and issue permits and certificates authorized by the *Construction Codes*, and shall enforce compliance with the provisions of the *Construction Codes*.

**104.3 Notices and Orders.** The *code official* shall have authority to issue all necessary notices or orders to ensure compliance with the *Construction Codes*, and shall have authority to institute administrative and legal actions to correct violations or infractions, including actions pursuant to An Act To provide for the abatement of nuisances in the District of Columbia by the Commissioners of said District, and for other purposes, approved April 14, 1906 (34 Stat. 114; D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl.)) (the "Nuisance Abatement Act"), and the Due Process Demolition Act of 2002, effective April 19, 2002 (D.C. Law 14-114; D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl.)).

**104.4 Inspections.** The *code official* is authorized: (i) to make all inspections necessary to ensure compliance with the *Construction Codes* in accordance with Section 104.6, and (ii) to accept reports of inspection by *approved* agencies. The *code official* is authorized to engage such expert opinion as is deemed necessary to report upon unusual technical issues that arise.

**104.4.1 Post Disaster Event Inspections.** The *code official* is authorized to conduct inspections to determine emergency and disaster related damage to *premises* in the District of Columbia in accordance with the *District of Columbia Damage Assessment Emergency Operations Plan* (September 2015) and any subsequent amendments thereto.

**104.5 Identification.** The *code official*, and authorized representatives of the *code official*, shall carry proper credentials when inspecting *premises* in the performance of duties under the *Construction Codes*.

**104.6 Right of Entry.** Where it is necessary to make an inspection to enforce the provisions of the *Construction Codes*, the *code official* is authorized to enter the *premises*, or any part thereof, at reasonable times to inspect or to perform the duties imposed by the *Construction Codes* subject to applicable law. This authority includes, but is not limited to, situations where the *code official* has reasonable cause to believe that a condition exists in or upon a *premises* that is contrary to or in violation of the *Construction Codes*. Where attempting to gain entrance for inspection, the *code official* and authorized representatives thereof shall present official credentials.

**104.6.1 Occupied residential premises.** With respect to the inspection of an occupied residential portion of any *premises* under the exclusive control of a tenant, the *code official* shall not enter that portion of the *premises* without first having obtained permission from the tenant or other *person* of suitable age and discretion who resides there, unless the *code official* has:

- a. A valid administrative search warrant which permits the inspection, pursuant to D.C. Official Code §§ 11-941 and 42-3509.08 (2012 Repl.), and/or D.C. Superior Court Civil Rule 204; or
- b. A reasonable basis to believe that an imminent danger to the public health, safety or welfare exists requiring immediate entry into that portion of the *premises*.

**104.6.1.1 Contractors and other persons with common authority over the premises.** Where a residential tenant has given access or control to a contractor or other *person* to undertake work on the tenant's portion of the *premises* pursuant to a permit, the *code official* is authorized to obtain consent from the contractor or other *person* with common authority over the *premises* to enter the *premises* for the limited purpose of inspecting the work authorized by such permit.

**104.6.2 Interference with Inspection.** Any *person* who interferes with the *code official* in the performance of authorized duties, or prevents or refuses to allow the *code official* to enter a *premises* or any portion thereof for inspection in the performance of authorized duties, is in violation of the *Construction Codes*.

**104.6.3 Refusal of Entry.** If entry is refused, the *code official* shall have recourse to the remedies provided by law to secure entry, including, but not limited to, application to the Superior Court for an administrative search warrant pursuant to D.C. Official Code §§ 42-3131.02 and 42-3509.08 (2012 Repl.), and Sup. Ct. Civ. R. 204.

**104.7 Retention of Public Records.** The *code official* shall comply with the requirements of the District of Columbia Public Records Management Act of 1985, as amended, effective September 5, 1985 (D.C. Law 6-19; D.C. Official Code §§ 2-1701 *et seq.* (2018 Repl.)) (the "Public Records Act"). Public records of the *Department* (as defined in D.C. Official Code § 2-1701(13)) shall be maintained for the period of time required by law. Records of permit

applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued, and *approved* submittal documents shall be maintained so long as the *building* or other *structure* to which they relate remains in existence, unless otherwise provided for by statute, rule or regulation.

**104.7.1. Flood Hazard Areas.** Retention of records for *premises* located in *flood hazard areas* shall comply with Appendix G.

~~**104.8 Relief from personal liability for official duties.** The *code official* and any officials and employees of the *Department* charged with enforcement of the *Construction Codes*, while acting in their official capacity, shall not be liable personally for any act or omission while he or she is acting within the scope of his or her employment.~~

~~**104.8.1 Defense of suits.** The Office of the Attorney General is authorized to defend, at its sole discretion, the *code official* or any officer or employee of the *Department* in any suit instituted against that individual for actions taken or omissions made while acting within the scope of his or her employment.~~

**104.8 Liability.** The *code official* or *Department* employee charged with the enforcement of the *Construction Codes*, the *Zoning Regulations* or other pertinent laws or regulations, while acting for the District of Columbia in good faith and without malice in the discharge of the duties required by the *Construction Codes*, the *Zoning Regulations* or other pertinent laws or regulations, shall not thereby be civilly or criminally rendered liable personally and are hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

**104.8.1 Legal Defense.** Any suit or criminal complaint instituted against an officer or employee of the *Department* because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of the *Construction Codes*, the *Zoning Regulations* or other pertinent laws or regulations shall be defended by legal representatives of the District of Columbia until the final termination of the proceedings. The *code official* or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of the *Construction Codes*, the *Zoning Regulations* or other pertinent laws or regulations enforced by the *Department*.

**104.9 Approved Materials, Equipment and Devices.** All materials, equipment and devices *approved* for use by the *code official* shall be constructed and installed in accordance with such approval.

**104.9.1 Used Materials, Equipment and Devices.** The use of used materials which meet the requirements of the *Construction Codes* for new materials is permitted. Used *equipment* and devices shall not be reused unless *approved* by the *code official*.

**104.9.2 Unlabeled Products.** Where materials, assemblies or products are required by the *Construction Codes* to be labeled, those materials, assemblies or products which are

not labeled, listed or classified by an *approved* testing agency and which are proposed to be installed in the District of Columbia, shall be tested and labeled by an *approved* testing laboratory or shall be *approved* in accordance with Sections 1701 and 1703 of the *Building Code* at the expense of the applicant, before a permit can be granted for this installation.

**104.9.3 Assembled Components.** Any mechanical or electrical appliance which is not labeled, listed or classified by an *approved* testing agency, which is an assembly of individually labeled or listed subassemblies or components and which is proposed to be installed in the District of Columbia, shall be tested and *approved* in accordance with Section 104.9.2 of the *Building Code*, before a permit can be granted for its installation.

**104.9.4 Modular Structures.** Before erecting or installing in the District of Columbia any factory assembled *structure*, manufactured at a remote site and transported in one or more sections, a complete set of drawings shall be submitted for review prior to the issuance of a building permit. These drawings shall include a certificate of approval by a factory inspection agency that has been *approved* by the *code official*. The drawings shall be submitted to the *code official* for plan review and permitting and shall include a set of the manufacturer's installation specifications and designate the applicable portions of construction that are required to have field inspection by the *code official*, including all utility connections, the marriage line connections and the foundation plate nailing patterns. These drawings shall be stamped by a structural engineer or architect licensed in the District of Columbia, and include the site constructed or assembled foundation system details and specifications. Separate permits issued by the *Department* for plumbing, mechanical, and electrical connections shall be required. Inspections of all work conducted on site shall be in accordance with Section 109. Prior to placement of the factory assembled *structure* on a footing and foundation, all required footing and foundation inspections shall require approval by the *code official*.

**104.10 Modifications.** Wherever there are practical difficulties involved in carrying out the provisions of the *Construction Codes*, the *code official* shall have the authority to grant modifications for individual cases upon application of the *owner* or *owner's* representative; provided, that the *code official* shall first find: (1) that special individual reasons make the strict letter of the *Construction Codes* impractical; (2) that the modification is in compliance with the intent and purpose of the *Construction Codes*; and (3) that such modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of the action granting modification shall be recorded and entered in the appropriate files of the *Department*.

**104.10.1 Procedure for Modifications.** The application for modification shall be submitted on a form provided by the *Department* and sealed by the registered design professional if applicable. The final decision of the *code official* shall be in writing and shall be officially recorded with the application for permit in the permanent records of the *Department*.

**104.10.2 Flood Hazard Areas.** Modifications to any provision required in *flood hazard*

*areas* are also subject to Section G105 of Appendix G.

**104.10.3 Projections.** Modifications to *projection* requirements set forth in Chapter 32 shall also comply with Section 3202.4.

**104.11 Alternative Materials, Equipment, Methods of Construction and Design.** The provisions of the *Construction Codes* are not intended to prevent the use of any material, equipment or method of construction not specifically prescribed by the *Construction Codes*, provided any such alternative has been *approved* by the *Department*. Alternative materials, equipment or methods of construction shall be *approved* when the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of the *Construction Codes*, and that the material, equipment or method offered is, for the purpose intended, at least the equivalent of that prescribed in the *Construction Codes* in quality, strength, effectiveness, *fire-resistance*, durability and safety. Approvals shall conform to Sections 1701 and 1703 of the *Building Code*. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

**104.11.1 Research Reports.** Supporting data, where necessary to assist in the approval of materials, equipment or methods of construction not specifically provided for in the *Construction Codes* shall consist of valid research reports from sources *approved* by the *code official*.

**104.11.2 Tests.** Whenever there is insufficient evidence of compliance with the provisions of the *Construction Codes*, or evidence that a material, equipment or method of construction does not conform to the requirements of the *Construction Codes*, or in order to substantiate claims for alternative materials or methods, the *code official* shall have the authority to require tests as evidence of compliance to be made at no expense to the government of the District of Columbia. Test methods shall be specified in the *Construction Codes* or by other recognized and accepted test standards in the industry. In the absence of recognized and accepted test methods, the *code official* is authorized to approve appropriate testing procedures. Tests shall be performed by an agency *approved* by the *code official*. Reports of such tests shall be retained by the *code official* for the period required for retention of public records.

**104.12 Reasonable Accommodation Under the Fair Housing Act.** Requests for reasonable accommodation under the Fair Housing Act, 42 USC § 3604(f)(3)(B), as amended, shall be made according to the procedures set forth in 14 DCMR § 111.

**104.13 Required Procedure.** Except where provisions of the *Construction Codes* are modified pursuant to Sections 104.10, 104.11 or 104.12, no deviation from the provisions of the *Construction Codes* is permissible. A verbal waiver or verbal grant of permission by the *code official* or any representative thereof shall not give authority to violate or cancel any provisions of the *Construction Codes*, and shall not be relied upon as a basis for deviation from the provisions of the *Construction Codes*.

*Strike Section 105 of the International Building Code in its entirety and substitute new Section 105 in the Building Code in its place to read as follows:*

## **105 PERMITS**

**105.1 Required Permits.** Unless specifically exempted under Section 105.2, an *owner* or authorized agent who intends to undertake any of the activities set forth in items 1 through 5 below, or to cause any such work to be done shall first make application to the *code official* and obtain the required permit(s) relevant to the intended work:

1. Construct, enlarge, alter, repair, move, demolish, raze, or change the occupancy of a *building* or other *structure*; or
2. Erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical, or plumbing system, the installation of which is regulated by the *Construction Codes*, or to cause any such work to be done; or
3. Install tower cranes or other hoisting devices; or
4. Movement, addition, deletion, relocation or redesignation of any *lot line*; or
5. Undertake any other activity regulated by the *Construction Codes*.

**105.1.1 Classification of Permits.** The *code official* is authorized to classify a permit application based on the applicant's stated scope of work. Permit classifications may include, but are not limited to, the following:

1. Building permits.
2. Raze permits.
3. Demolition permits.
4. Trade permits:
  - 4.1. Electrical.
  - 4.2. Gasfitting.
  - 4.3. Mechanical, including refrigeration and HVAC equipment.
  - 4.4. Plumbing.
  - 4.5. Elevators, escalators and other conveying systems.



- 4.6 Fire alarm system and fire suppression system permits.
- 4.7 Boilers and pressure vessels.
- 5. Sign permits (subject to Sections 105.4.5 and 3107).
- 6. Site Development permits (including but not limited to foundation, sheeting and shoring, earthwork, retaining walls and civil sitework (BCIV) permits).
- 7. Miscellaneous permits.
  - 7.1. Projection permits.
  - 7.2. Crane and derrick permits.
  - 7.3. After-hours permits.
  - 7.4. Fences.
- 8. Permits for other work as may be determined by the *code official*, and set forth by the Department in administrative bulletins.

**105.1.2 Compliance with Code.** The permit shall be an authorization to proceed with the work for which the permit was issued {during authorized construction hours} and shall not be construed as authority to violate, cancel or set aside any of the provisions of the *Construction Codes*, except as specifically stipulated by modification granted in accordance with Section 104.10.

**105.1.3 Authorized Hours for Work Pursuant to a Permit.** Authorized hours in the District of Columbia, for work conducted under a permit, are from 7 a.m. to 7 p.m. Mondays through Saturdays, excluding legal public holidays. No work conducted under a permit is authorized on Sundays or legal public holidays without an after-hours permit. Legal public holidays are defined in D.C. Official Code §§ 1-612.02(a) (2016 Repl. & 2018 Supp.).

**Exceptions:**

- 1. Interior work exempt from permit requirements, such as interior painting, wallpapering, carpet installation, cleaning or similar activities performed on the interior of a *structure* shall be allowed outside of authorized construction hours, subject to noise regulations in 20 DCMR.
- 2. Finishing and weather protection activities of concrete where the *code official* determines that such activities are critical to achieving the concrete strength

specified by the designer of record shall be allowed outside of authorized construction hours, subject to noise regulations in 20 DCMR.

**105.1.3.1 Work Outside of Authorized Hours.** No *person* shall engage in any work pursuant to a permit outside of the authorized construction hours specified in Section 105.1.3 including noted exceptions, unless the permit holder has obtained an after- hours permit in compliance with Section 105.4.1.

**105.2 Work Exempted from Permit.** This Section 105.2 sets forth exemptions from permit requirements, subject to historic and *Flood Hazard Area* restrictions set forth in Sections 105.2.5 and 105.2.6 respectively. Exemptions from permit requirements of the *Construction Codes* shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the *Construction Codes* or of any other laws, regulations or ordinances of the District of Columbia.

**Building:**

1. Brick pointing.
2. Caulking, patching and plaster repair of non-rated assemblies.
3. Installation of window screens and storm windows.
4. Repair *in kind* of existing fences.
5. Application of a paint, sealant, stain or other coating to a surface that, when dried, leaves a decorative or protective coating over that surface, provided that (a) the application of fire-retardant paint shall require the issuance of a permit, and (b) a permit may be required for such application under certain circumstances specified in Section 105.2.5.
6. Papering, tiling, carpeting, floor covering, cabinets, countertops and similar finish work.
7. Replacement *in kind* of one of the items listed hereafter. For the purpose of this section, "replacement in kind," means replacement with a feature of like material that replicates the existing feature in proportion, appearance, texture, design, detail and dimensions.
  - 7.1. *Roof covering* or coping.
  - 7.2. Siding.
  - 7.3. Gutters and downspouts and fascia.

- 7.4. Private sidewalks and driveways where the area of land disturbance does not exceed 50 square feet (4.65 m<sup>2</sup>).
- 7.5. Patios where the area of land disturbance does not exceed 50 square feet (4.65 m<sup>2</sup>).
- 7.6. Non-rated suspended ceiling tile.
- 7.7. Not more than 160 square feet (14.9 m<sup>2</sup>) of gypsum board excluding installation of fire-rated gypsum wall board or shaft liner.
8. A single garden storage shed that does not exceed 50 square feet (4.65 m<sup>2</sup>) in area, is less than ten feet (3048 mm) in overall height, is an accessory structure to a *building* of Use Group R-3 or to a *building* under the jurisdiction of the *Residential Code*, and is erected on a lot with no other exempted storage shed.
9. Prefabricated pools, spas or water features, accessory to a Group R-3 occupancy, or accessory to *buildings* under the jurisdiction of the *Residential Code*, which are less than 24 inches (610 mm) deep, do not exceed 1000 gallons (3785.41L), are installed entirely above ground and are not designed or manufactured to be connected to a *circulation system*.
10. Retaining walls that are not over four feet (1219 mm) in height, measured from the bottom of the footing to the top of the wall, only where the area of land disturbance does not exceed 50 square feet (4.65 m<sup>2</sup>).
11. Shade cloth *structures* constructed for horticultural nursery or agricultural purposes, not including service systems.
12. Swings and other playground equipment accessory to detached one- and two-family  *dwellings* and  *townhouses*.
13. A tree house or playhouse, no more than 36 square feet, (3.35 m<sup>2</sup>) in area and accessory to detached one- and two-family  *dwellings* and  *townhouses*.
14. Movable fixtures, cases, racks, counters and partitions not over five feet nine inches (1753 mm) in height.
15. A one-story mausoleum not exceeding 250 square feet (23 m<sup>2</sup>) in footprint area provided the mausoleum: (a) is of Type I or II construction; (b) does not contain any habitable space; and (c) does not require any utility connections. Notwithstanding the applicability of this permit exemption, the person undertaking the proposed work shall comply with soil erosion and sediment control requirements enforced by Department of Energy and the Environment (21 DCMR Chapter 5).

16. The following signs are exempt from permit requirements:
- (a) Signs with an area no greater than 1 square foot (0.09 m<sup>2</sup>);
  - (b) Interior signs that are not substantially visible from the outside of the building;
  - (c) Temporary signs (for less than 180 days) that are not more than 10 square feet (0.93 m<sup>2</sup>) in area and which do not use electricity;
  - (d) Non-commercial signs displayed on private property by the owner or occupant of the property, provided, that the sign:
    - (i) Is not more than 10 square feet (0.93 m<sup>2</sup>) in area;
    - (ii) Does not use electricity; and
    - (iii) Does not require approval by the Commission of Fine Arts, Historic Preservation Review Board or Historic Preservation Office, Office of Planning, or the Chinatown Steering Committee.
  - (e) Other signs exempted from permitting requirements by any regulations adopted pursuant to the *Sign Legislation* (~~as defined in Section 105.4.5, below~~).
17. Structures erected for a period of less than 180 days in a 12-month period that cover an area of 150 square feet (13.9 m<sup>2</sup>) or less and are exempted from permit requirements by Section 3103;
18. Tents and other membrane structures erected for a period of less than 180 days that cover an area of 150 square feet (13.9 m<sup>2</sup>) or less and are exempted from permit requirements by Section 3103.2 of the *Fire Code*.
19. Erection or replacement of fixed or *retractable awnings* projecting 40 inches (1016 mm) or less that are located outside the jurisdiction of the U.S. Commission of Fine Arts or the Historic Preservation Review Board, and are not subject to Section 3202.12, where the *awnings* meet one or more of the following criteria:
- 1. *Awnings* installed on detached one- and two-family *dwelling*s and townhouses not more than three stories above grade in height with a separate means of egress; or
  - 2. *Retractable awnings* installed above the first story.

**Electrical:**

1. Repair portable electrical equipment.
2. Repair lighting fixtures.
3. Repair or replace ballasts, sockets, receptacles, or snap switches.
4. Minor repair work, including the replacement of lamps or the connection of *approved* portable electrical equipment to *approved* permanently installed receptacles, and other minor repairs at existing outlets.
5. Electrical equipment used for radio and television transmissions; however, a permit is required for equipment and wiring for a power supply and the installations of towers and antennas.
6. Listed cord-and-plug connected temporary decorative lighting.
7. Reinstallation of plug receptacles but not the outlets thereof.
8. Replacement of branch circuit overcurrent devices of the required capacity in the same location.
9. Installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

**Gas:**

1. Portable heating appliances.
2. Connection of cooking or clothes drying appliances.
3. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
4. 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 or appliances regulated by the *Construction Codes*.
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 refrigerating systems containing 10 pounds (5 kg) or less of refrigerant or that are actuated by motors of 1 horsepower (746 W) or less.
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 stopping of leaks in drains, water, soil, waste or vent pipe, provided, however, that if any concealed trap, drainage, 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 the *Construction Codes*.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.
3. Repair or replacement of water meters performed by DC Water.
4. Replacement of kitchen and bathroom sink or faucet, supply lines and exposed "p" trap within detached one- and two-family *dwelling*s and *townhouses*.
5. Replacement of a water closet or water closet seal within detached one- and two-family *dwelling*s and *townhouses*.

**105.2.1 [Reserved].**

**105.2.2 Ordinary Repairs.** Permits are not required for ordinary repairs to *buildings*, other *structures* or equipment. Ordinary repairs shall not include:

1. The cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a *structure* affecting the egress requirements; or
2. Addition to, alteration of, replacement or relocation of any standpipe, water

supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

**105.2.3 Public Service Agencies.** A permit shall not be required under the *Construction Codes* for the installation, alteration or repair of equipment and facilities used for generation, transmission, distribution, metering or treatment that is under the ownership or control of public service agencies subject to the jurisdiction of the District of Columbia Public Services Commission or DC Water.

**Exception:** For projects of public service agencies involving land-disturbing activities or major substantial improvement activities as defined in 21 DCMR Chapter 5, and for all work described in Sections 105.2.5 and 105.2.6, a public service agency shall be required to submit a permit application and, as applicable, thereafter obtain a permit for such project.

**105.2.4 Permit Exemptions Subject to Public Space Requirements.** When the proposed scope of work would qualify to be exempted from permit pursuant to Section 105.2 of this chapter, and the work is to occur wholly or partially on *public space*, the applicant shall be responsible for obtaining all public space permit(s) that are required by DDOT.

**105.2.5 Permit Exemptions Not Applicable in Historic Districts or to Historically Designated Structures.** When the proposed scope of work would qualify to be exempted from permit pursuant to Section 105.2 of this chapter, and the work is to occur on the land of or the exterior of *buildings* or other *structures* located in historic districts, or of historically designated *buildings* or other *structures*, an application for a building permit subject only to historic preservation review pursuant to Section 105.1 shall be required for the following work described in Section 105.2 **Building:** 1. Brick pointing; 4. Repair or replacement of fences, except as deemed an ordinary repair; 5. Painting of unpainted exterior masonry at a landmark property; 7. Replacement in kind of one of the listed items (except for interior ceiling tile and gypsum board); 8. Garden storage shed; 9. Prefabricated pools; and 10. Retaining walls. The *code official* shall not issue a permit based on an application subject solely to historic preservation review under this section without the prior review and approval of the Historic Preservation Office.

**105.2.6 Permit Exemptions Not Applicable in Flood Hazard Areas.** When the proposed scope of work would qualify to be exempted from permit requirements pursuant to Section 105.2 of this chapter, and the work is to occur on *premises* wholly or partially within a *Flood Hazard Area*, an application for a permit subject only to review by the *Floodplain Administrator* shall be required. The *code official* shall not issue a permit based on an application subject solely to review by the *Floodplain Administrator* under this section without the prior review and approval of the *Floodplain Administrator* regarding the disposition of the permit application by the *code official*.

**105.3 Application for Permit.** To obtain a permit, the applicant (as defined in Section 105.3.1) shall submit an application for a permit in the form prescribed and provided by the *code official*. Where a permit is required, it shall be obtained by the applicant prior to the commencement of corresponding work, except as provided in Section 105.4.6.

**105.3.1 Authorized Applicant.** Permit applications shall be submitted by the *owner* or lessee of the *premises*, or an authorized agent of either. (The *persons* referred to in 105.3.1 and 105.3.1.1 are referred to collectively as the “applicant”).

**105.3.1.1 Trade Permit Applicant.** A trade permit application shall be submitted only by, or on behalf of, the D.C.-licensed master tradesperson who is to be responsible for supervising the work to be done under a trade permit when issued.

**105.3.1.2 Change in Applicant.** Where a change in the applicant is proposed or occurs during the pendency of an unexpired permit application, whether as the result of a transfer of the *premises* or other circumstances, the permit application shall be deemed abandoned pursuant to Section 105.10 unless:

1. The applicant of record notifies the *code official* of a change in applicant; and
2. The new applicant submits information required by the *code official* on an *approved* form.

If these actions are not completed by (a) the date that is 30 days after the date on which the change of applicant occurs, or (b) the date on which the permit application is approved, whichever is earlier, the permit application shall be deemed abandoned as of such date.

**Exception:** Trade permit applications are not transferable.

**105.3.2 Form and Content of Application.** Unless otherwise specified by the *code official*, the application shall:

1. Be accompanied by any filing fee deposit required pursuant to Section 108.2.1.1 and any other fees required by the *code official* to be paid at the time of filing. All other fees shall be paid prior to issuance of the permit pursuant to Section 108.
2. Clearly identify and describe the work to be covered by the permit for which application is made.
3. Describe the *premises* on which the proposed work is to be done by address and lot and square.



4. Provide sufficient information clearly distinguishing the existing use of the *premises*, or relevant portion thereof, from the proposed use.
5. Indicate the use and occupancy for which the proposed work is intended.
6. Be accompanied by a fully completed intake form and supporting submittal documents as required by Section 106.

**Exception:** Submittal documents are not required for permit applications proposing only a change of use or occupant load where no proposed alterations are to be made. If a code compliance issue needs to be addressed following inspection of the *premises*, submittal documents shall be submitted as directed by the *code official*.

7. Include an accurate breakdown of construction valuation in accordance with Section 108.3.
8. Include name and contact information, including a valid electronic mail address, for all of the following:
  - 8.1 The applicant;
  - 8.2 The permit expediter (if applicable); and
  - 8.3 The D.C. licensed general contractor or construction manager (if known when the application is filed; if not known at the time of filing, this information shall be provided to the *code official* by the applicant as soon as the general contractor or construction manager is selected, but no later than the scheduling of the first inspection).
9. Include the name and contact information, including a valid electronic mail address, for the *person* designated to receive *Department* communications relating to the application and for electronic service of notices and orders related to the permit based on the application.
10. Include the applicant's certification that the information provided in the application is true and correct to the best of the applicant's knowledge, and acknowledging that a false statement in an application may subject the applicant to penalties as listed in Section 105.3.3. Submission of an online application shall be deemed to constitute the certification required under this section.
11. Include the additional information required by Appendix G, Section G104, if the *development site* is located wholly or partially within a *flood hazard area*, including, but not limited to an *elevation certificate* or *floodproofing certificate* where required.

12. Include the “Standards of External Effects” application required by the District of Columbia Zoning Regulations (11-U DCMR, Section 805) if the property is located in a *PDR District*.
13. Include a list of names and addresses of *owners* of adjoining *premises* as identified in the Real Property Tax Database maintained by the Office of Tax and Revenue of the Office of the Chief Financial Officer for work subject to notification requirements in Sections 105.7 and/or 106.2.18.3.
14. Include the name, signature, and license number of the licensed master tradesperson, or licensed elevator contractor or elevator mechanic, responsible for supervising the work as required by Sections 105.4.3 and 105.8, for trade permit applications to authorize work in electrical, mechanical, plumbing, fuel gas systems, or elevators and other conveying systems.
15. Be signed by the applicant (as defined in Section 105.3.1.). Submission of an online application shall satisfy this requirement.
16. Provide such other data and information as required by the *code official*.

**105.3.3 Penalties for False Statements.** False statements in an application shall constitute grounds for permit revocation pursuant to Section 111. Applicants are also subject to criminal penalties pursuant to Section 404 of the District of Columbia Theft and White Collar Crimes Act of 1982, effective December 1, 1982 (D.C. Law 4-164; D.C. Official Code § 22-2405 (2012 Repl. & 2018 Supp.)) for false statements.

**105.3.4 Responsibility to Maintain Current Electronic Mail Address.** While applications are pending for processing and after issuance of a permit, applicants and permit holders are required to inform the *Department* within five days of any changes to the electronic mailing addresses provided in the underlying permit application as specified in Section 105.3.2, Items 8 and 9. The *Department* will provide any required notices or orders to the electronic mail address submitted with the permit application as updated in compliance with this subsection.

**105.3.5 Time Limitation of Application.** An application for a permit for any proposed work shall be deemed to have been abandoned:

1. 180 days after the date of filing, unless such application has been pursued in good faith, an extension has been granted pursuant to Section 105.3.5.1, or a permit has been issued; or
2. Where a change in the applicant occurs and the applicant of record and/or the new applicant fail to comply with the requirements of Section 105.3.1.2.

**105.3.5.1 Extension of Application Time Limitation.** The *code official* is authorized to grant a maximum of two extensions of time, not exceeding 180 days each, for agency consideration of a permit application, provided that the extension is requested in writing and justifiable cause demonstrated. Refunds of the unused portion of the application file deposit shall be made pursuant to Section 108.6.

#### **105.4 Additional Provisions Applicable to Certain Permits.**

**105.4.1 After-Hours Permit.** No *person* shall engage in any work pursuant to a permit outside of the authorized construction hours specified in Section 105.1.2 including noted exceptions, unless the permit holder has obtained an after-hours permit pursuant to the procedures established by the *code official*. Any work authorized by an after-hours permit shall comply with noise regulations set forth in 20 DCMR and to the conditions set forth in Section 105.4.1.1.

**105.4.1.1 After-Hours Permit Impacting Residential Premises.** No permit application for after-hours work in or within 500 feet (152 400 mm) of a *Residence District* or a *Special Purpose District*, or within 500 feet (152 400 mm) of a *premises* with an R occupancy as defined in Chapter 3 of the *Building Code*, shall be approved by the *code official* without written comments or recommendations of evidence of approval by: (a) any Advisory Neighborhood Commission(s) (ANC) whose boundaries (i) encompass the *premises* where the after-hours work will take place or (ii) are within 500 feet (152 400 mm) of the; ~~and (b) if applicable, the ANC whose boundaries encompass premises adjoining the premises where the after-hours work will take place (collectively the “affected premises”);~~ or (b) the ANC Commissioner for the single-member ANC District(s) in which the affected premises are located (or, where such a seat is vacant, the ANC Chair or the ANC Chair’s designee).

**Exceptions** The *code official* is authorized to issue an after-hours permit without the ANC or ANC Commissioner comments or recommendations approval required by Section 105.4.1.1:

1. Where the *code official* determines that emergency conditions exist requiring the after-hours work; or
2. Where the *code official* determines that the public interest necessitates the after-hours work.

**105.4.2 Annual Permit.** In lieu of an individual permit for each alteration to an existing *approved* electrical, gas, mechanical or plumbing system, the *code official* is authorized, upon application therefor, to issue an annual permit allowing alterations to such installations to any person, firm or corporation regularly employing one or more qualified tradespersons in the *building*, other *structure* or on the *premises* owned or operated by the applicant for the permit.

**105.4.2.1 Annual Permit Records.** The person or entity to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The *code official* shall have access to such records at all times or such records shall be filed with the *code official* as designated.

**105.4.3 Trade Permits.** A trade permit is required for any work involving electrical, gasfitting, mechanical, plumbing, elevators and other conveying systems, and boilers, unless the work is exempted from permit requirements by Section 105.2. Trade permits shall be issued only where the following criteria are met:

1. Where required by Section 105.8., the *person* applying for the trade permit must be a master tradesperson licensed in the District of Columbia who will be responsible for performing or supervising the work to be done under such permit in compliance with the licensing requirements for specific trades as set forth in Section 105.8; and
2. Trade permits must be associated with a building permit, except in the following circumstances:
  - a. Where the *code official* determines that the scope of work is such that review of submittal documents is not required pursuant to Section 106.1; or
  - b. Where the *code official* determines that, based on the scope of work proposed, the submission of shop drawings is sufficient to ascertain compliance with the *Construction Codes* and the applicant submits shop drawings as required by the *code official* with the trade permit application.

**105.4.4 Raze Permits.** Before a *raze* permit is issued, the *owner* of the *building* or other *structure* to be razed, or the *owner's* agent, shall post and maintain a notice furnished by the *code official* on the *premises* where the *building* or other *structure* is located. The notice shall front on the street of address of the *building* or other *structure*, or as designated by the *code official*, so as to be readable from the public way. The *raze* permit shall not be issued by the *code official* until the applicant provides an affidavit to the *Department* affirming that the notice has been posted and maintained as required by this section for at least 30 days. This notification requirement shall not apply to any emergency *raze* ordered by the *code official*.

**105.4.4.1 Other Requirements.** Prior to issuing a *raze* permit, the *code official* is authorized to require the *applicant* to submit other clearances and/or information that the *code official* deems necessary, including, but not limited to, asbestos removal, utility disconnects, grading plans, and historic preservation.

**105.4.4.2 Fee.** The applicant for a *raze* permit shall pay a fee for the furnishing of

the notice required under Section 105.1.3.4 in accordance with the applicable fee schedule published in the *D.C. Register*, as amended from time to time.

**105.4.4.3 Fines.** Violations of this section shall be deemed a Class 3 infraction pursuant to 16 DCMR § 3200.

**105.4.4.4 Additional Notifications Required.** Applicants for *raze* permits are also required to comply with Section 106.2.18 where the *raze* work involves any structural work within 3 feet of an adjoining *lot line* or excavation work more than 3 feet below existing grade.

**105.4.5 Sign Permits.** To the extent that the *code official* is designated as the permitting and enforcement official for signs, pursuant to the *Sign Legislation* (as defined in Section 202.2) ~~any District of Columbia laws and regulations, including, but not limited to, An Act To regulate the erection, hanging, placing, painting, display, and maintenance of outdoor signs and other forms of exterior advertising within the District of Columbia, approved March 3, 1931 (46 Stat. 1486; D.C. Official Code Section §§ 1-303.21 et seq. (2012 Repl.)), as amended, and any substantially similar successor legislation, and Mayor's Order 2011-181, dated October 31, 2011 (collectively, the "Sign Legislation")~~, the duties and powers of the *code official* shall be governed by: (a) Chapter 1, 12-A DCMR and (b) Chapter 1, 12-G DCMR, including, but not limited to, the *code official's* authority to receive applications, to review submittal documents and issue permits, to institute administrative and legal actions to correct violations or infractions, and to inspect *premises*.

**105.4.5.1 Adoption of Superseding Sign Regulations. Applicability of Construction Codes to Signs.** Signs shall be designed, constructed installed, displayed and maintained in accordance with the requirements of the *Construction Codes* including, but not limited to, *Building Code* Appendix N, which is hereby expressly adopted and incorporated by reference, and Chapters 7, 15, 16 and 26, except to the extent that such requirements are superseded by regulations adopted by the District of Columbia pursuant to the *Sign Legislation*.

**105.4.6 Permits for Emergency Work.** When necessary to make emergency repairs or replacements to *buildings*, other *structures* or systems, an application for a permit to cover all emergency work shall be submitted no later than the first business day following the performance of such emergency work.

**105.4.7 Site Development Permits.** The *code official* is authorized to issue a site development permit for earth retention or the construction of foundations before the entire plans and specifications for the whole *building* or other *structure* have been submitted, provided adequate information and detailed statements have been filed complying with all pertinent requirements of the *Construction Codes*. Issuance of a site development permit by the *code official* does not constitute assurance that a permit for the entire *building* or *structure* will be granted. The holder of a site development permit

proceeds with the construction at the holder's own risk and without assurance that a permit for the entire *building* or other *structure* will be granted.

**105.5 Action on Application.** The *code official* shall examine or cause to be examined all applications for permit and amendments to applications within a reasonable time after filing. The *code official* may reject an application at the time of filing if the application and required supporting documents are not substantially complete. If the application or the plans do not conform to the requirements of all pertinent laws, the *code official* is authorized to reject such application. The *code official* shall state the reasons for the rejection in writing, citing specific sections of the *Construction Codes*, and stating the applicant's right of appeal under Section 112. If the *code official* is satisfied that the proposed work conforms to the requirements of the *Construction Codes* and all applicable laws, rules, and regulations, the *code official* shall issue a permit as soon as practicable.

**105.5.1 Plan Review by Third-Party Agency.** An applicant shall have the option of using an *approved* third-party agency to perform a code compliance review of a project, at the applicant's expense, pursuant and subject to the provisions of: this Section 105.5.1; D.C. Official Code § 6-1405.02 (2018 Repl. )); and the *Third-Party Program Procedure Manual*.

**105.5.1.1 Notification of Intent to Use Third-Party Agency for Plan Review.** Where a permit applicant wants to use a third party agency for plan review, the applicant shall notify the *Department* of its intent in accordance with the procedures set forth in the *Third Party Program Procedure Manual*.

**105.5.1.2 Acceptance of Certification by Third-Party Agency.** The *code official* is authorized to accept a certification, signed and sealed by the professional-in-charge of the *approved* third-party agency, in accordance with the procedures set forth in the *Third Party Program Procedure Manual*. The *Department* shall complete its review within 15 *business days* after the date of submission of a complete application package to the *Department*, including the required third-party certification. The *code official's* issuance of related permits will be subject to receipt of any required approvals from other reviewing agencies, and compliance with [applicable adjoining *premises* notification requirements].

**105.5.2 Stormwater Management and Erosion and Sediment Control.** A permit shall not be issued for a "major substantial improvement activity" (as defined by 21 DCMR Chapter 5) or a land-disturbing activity regulated by 21 DCMR Chapter 5, until the submitted plans reflect the pertinent features approved by the official charged with the administration and enforcement of 21 DCMR Chapter 5, and the requirements of the Water Pollution Control Act of 1984, effective March 16, 1985 (D.C. Law 5-188; D.C. Official Code §§ 8-103.01 *et seq.* (2013 Repl. & 2018 Supp.)) as amended.

**105.5.3 Flood Hazard Areas.** A permit shall not be issued for work within the scope of Appendix G without review and receipt of comments and recommendations from the *Floodplain Administrator* concerning the *code official's* disposition of the application, as required therein.

**105.5.4 Additional Grounds for Permit Denial.** The *code official* is authorized to deny issuance of a permit to an applicant:

1. Pursuant to D.C. Official Code § 6-1407.01; or
2. Where the *owner*, applicant, general contractor, construction manager, home improvement contractor, *registered design professional*, *registered design professional in responsible charge*, or responsible officer has outstanding fines, penalties, notices or orders imposed under the *Construction Codes*, or if the *code official* determines that the *owner*, applicant, general contractor, construction manager, home improvement contractor, *registered design professional*, *registered design professional in responsible charge*, or responsible officer is in violation of any provision of the *Construction Codes*.

**105.5.4.1 Code Official Authority.** For purposes of Section 105.5.4 and 105.5.5, the *code official* is authorized to request additional information from an applicant to determine whether the applicant has filed under a new organizational form or name, in order to avoid either permit denial under the provisions of Section 105.5.4 or posting of fine amounts under Section 105.5.5.

**105.5.5 Outstanding Fines for Illegal Construction.** Where civil infraction citations for illegal construction under Section ~~443.7~~113.1 have been issued to an applicant, all applicable fine amounts must be posted with the Treasurer of the District of Columbia by the applicant, prior to the issuance of any permit to the applicant. Upon adjudication of said civil infraction citations, any fines or penalties not assessed to the applicant will be refunded. The *code official* in his or her discretion may reduce the amount of the fines required to be posted.

**105.5.6 Approval of Construction Documents.** When the *code official* issues a permit, the *construction documents* shall be *approved*, in writing or by stamp, as "Approved." Unless submitted electronically, one set of *approved construction documents* so reviewed by the *code official* shall be retained by the *code official* and the other sets shall be returned to the applicant.

**105.5.7 Signature on Permit.** The *code official's* signature shall be attached to every permit, or the *code official* may authorize a subordinate to affix a facsimile of the *code official's* signature to permits. The *code official's* signature shall not

be construed as indicating that the construction complies with any other requirement of District law or regulation other than the *Construction Codes* and the *Zoning Regulations*.

**105.6 Posting of Permit.** The permit, or a copy thereof, shall be kept on the work site and conspicuously displayed at a location visible from the street until the completion of work for which the permit is issued. Public information deemed relevant by the *code official* for all permits issued by the *Department* shall be published on the *Department's* website.

**105.6.1 On-Site Retention of Construction Documents.** A legible, printed copy of *approved construction documents* for each permit, of a size sufficient to see all details, shall be kept on-site at all times until a certificate of occupancy for the *premises* subject to the permit is issued or until completion of the work and approval of the final inspection for the work performed at the *premises* under the permit if no certificate of occupancy or new certificate of occupancy is required.

**105.7 Notification of Owners of Adjoining Premises in Certain Districts.** Upon issuance of a permit authorizing work on a *premises* in a *Residential*, *Special Purpose* or *Mixed Use District*, and prior to commencing that work, the permit holder shall provide written notice on an *approved* form to each *owner* of a one-family or two-family *dwelling* on a *lot* adjoining the *premises* on which the work is authorized pursuant to the permit. Delivery of the notification required by this section will be satisfied by mailing the required form to the owner of record of the adjoining *premises* by first-class mail at the address listed in the Real Property Assessment Database maintained by the District of Columbia Office of Tax and Revenue.

**105.8 Duties of Persons Performing Work Pursuant to a Permit.** No *person* shall undertake work pursuant to a permit required by Section 105 without possessing a valid and appropriate business license, professional license and/or trade license in the District of Columbia, pursuant to D.C. Official Code §§ 47-2853.01 *et seq.*, and Titles 16 and 17 DCMR, as applicable.

**105.8.1 General Contractors, Construction Managers and Home Improvement Contractors.** General contractors, construction managers and home improvement contractors are responsible for hiring and/or subcontracting with *persons* who possess the appropriate license(s) to perform the work, and shall, at all times, be responsible for the proper supervision and inspection of the work and to perform the work in compliance with the *Construction Codes* and the *approved construction documents*. The general contractor, construction manager or home improvement contractor is responsible to employ or subcontract with at least one master or qualified individual of the appropriate category to perform the duties of a master or qualified individual for trade permits as specified in Section 105.8.2. Upon request by the *code official*, the general contractor, construction manager or home improvement contractor shall provide a written listing of persons holding qualifications specified in Sections 105.8.2.1 through 105.8.2.5, and other employees or subcontractors, with their respective D.C. license numbers, for each permit in effect.



**105.8.2 Performance of Work Pursuant to Trade Permit.** The *person* to whom a trade permit is issued shall be responsible for performing or supervising the work to be performed under such permit. Work in electrical systems, refrigeration or air conditioning systems, plumbing systems, fuel gas systems, and elevator and conveying systems that requires a permit shall be performed and supervised in accordance with Sections 105.8.2.1 through 105.8.2.5. Registration and licensure requirements of the applicable tradespersons shall be pursuant to D.C. Official Code §§ 47-2853.01 *et seq.* (2015 Repl. & 2018 Supp.) and Titles 16 and 17 DCMR. The *code official* is authorized to request current proof of compliance with this section in the course of inspections of such work.

**105.8.2.1 Electrical Trades.** Electrical work requiring a permit shall be performed by a licensed master electrician, a licensed master electrician limited (low voltage), a licensed journeyman electrician, or a registered apprentice electrician under the supervision of a licensed master electrician. A licensed master electrician limited (low voltage) shall be authorized to supervise electrical work in low voltage systems. Licensure and registration requirements for these tradespersons shall be pursuant to D.C. Official Code §§ 47-2853.91 through 47-2853.93 (2015 Repl. & 2018 Supp.) and Title 17 DCMR, Chapter 2.

**105.8.2.2 Mechanical Trades.** Refrigeration and air-conditioning work requiring a permit shall be performed by a licensed master mechanic, a licensed master mechanic limited, a licensed journeyman refrigeration and air-conditioning mechanic, or a registered apprentice refrigeration and air-conditioning mechanic under the supervision of a licensed master mechanic. A licensed master mechanic limited shall be authorized to supervise refrigeration and air-conditioning work in systems less than 25 compressor horsepower. Licensure and registration requirements for these tradespersons shall be pursuant to D.C. Official Code §§ 47-2853.201 through 47-2853.203 (2015 Repl.) and Title 17 DCMR, Chapters 3 and 15.

**105.8.2.3 Plumbing Trades.** Plumbing work requiring a permit shall be performed by a licensed master plumber/gasfitter, a licensed master gasfitter, a licensed journeyman plumber, a licensed journeyman gasfitter, or a registered apprentice plumber under the supervision of a licensed master plumber/gasfitter. Licensure and registration requirements for these tradespersons shall be pursuant to D.C. Official Code §§ 47-2853.121 through 47-2853.123 (2015 Repl. & 2018 Supp.).

**105.8.2.4 Gasfitting Trades.** Gasfitting work requiring a permit shall be performed by a licensed master plumber/gasfitter, a licensed master gasfitter, a licensed journeyman plumber, a licensed journeyman gasfitter, a registered apprentice plumber, or a registered apprentice gasfitter under the supervision of a licensed master plumber/gasfitter or of a licensed master gasfitter. Licensure and registration requirements for these tradespersons shall be

pursuant to D.C Official Code §§ 47-2853.121 through 47-2853.123 (2015 Repl. & 2018 Supp.).

**105.8.2.5 Elevator and Conveying Systems Trades.** Work in elevators and conveying systems requiring a permit shall be performed by a licensed elevator contractor, an employee of a licensed elevator contractor, a licensed elevator mechanic, or a registered apprentice elevator mechanic under the supervision of a licensed elevator contractor or a licensed elevator mechanic. Licensure and registration requirements for these tradespersons shall be pursuant to D.C Official Code §§ 47-2853.95 through 47-2853.99 (2015 Repl. & 2018 Supp.).

**105.9 Permit Revisions.** The holder of a valid active permit shall be authorized to amend it or to amend the plans, application or other records pertaining to the permit by filing, at any time before completion of the work for which the original permit was issued, by submitting an application for permit revision, accompanied by a copy of the originally *approved* submittal documents and, unless submitted electronically, by two sets of the revised plans. If the *code official* approves a permit revision, and a revised permit is issued, it shall be deemed part of the original permit and shall be kept therewith in the official records of the *Department*. A revision permit shall become invalid upon expiration of the original permit it amends. The extension provisions of Section 105.5.1 shall apply to the original permit and shall only affect the respective revision permits to the extent that the original permit is extended.

**105.9.1 Code Official Authority.** Nothing herein shall preclude the *code official* from requiring submission of a new permit application, in lieu of permit revisions.

**105.10 Expiration of Permit.** Any permit issued shall become null and void, upon occurrence of any one of the following circumstances, unless a permit extension has been obtained under Section 105.11:

1. The authorized work is not begun within 12 months after the permit is issued, or within 180 days after the permit is issued where the permit is issued for work (a) regulated by the *Residential Code* or (b) to occur on *premises* located wholly or partially within a *Flood Hazard Area*; or
2. The authorized work is suspended or abandoned for a period of 12 months, or for 180 days for permits issued for work (a) regulated by the *Residential Code* or (b) to occur on *premises* located wholly or partially within a *Flood Hazard Area*; or
3. The authorized work has not received inspection approval or partial inspection approval for at least one inspection required by Section 109 within a period of 12 months, or within a period of 180 days for permits issued for work (a) regulated by the *Residential Code* or (b) to occur on *premises* located wholly or partially within a *Flood Hazard Area*, which period shall commence on the later of (i) the date

authorized work is begun or (ii) the date of the last approved inspection or partial inspection; or

4. The authorized work has not obtained final inspection approval within 48 months after the permit is issued unless the *code official* grants an extension under Section 105.11.

**105.10.1. Expiration of Permits for Unsafe, Abandoned or Deteriorated Premises.**

Any permit issued for work on *premises* that have been deemed to be unsafe or unfit for human occupancy (in accordance with Sections 115 or 116 of the *Building Code* or Sections 108 or 109 of the *Property Maintenance Code*), or abandoned or deteriorated property (in accordance with D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl.)), shall become null and void if the authorized work is not begun within 30 days after the permit is issued and completed within six months after the date work is begun, unless the permit is extended in accordance with Section 105.611. If the work has not been completed within the 180 day period or any extension period granted by the *code official*, the *Department* is authorized to complete the work in accordance with D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl.) and to seek any other remedies or penalties authorized by law, including monetary fines, criminal prosecution, or court orders directing correction or abatement of the violation.

**105.10.2 Suspended or Abandoned Work.** In determining whether work has been suspended or abandoned under Section 105.10, the *code official* shall have the right to request documentation from the permit holder and to inspect the *premises* for which the permit has been granted.

**105.10.3 Reinstatement of Expired Permit.** The *code official* has the authority to reinstate, in writing, an expired permit upon a showing of applicable extenuating circumstances.

**105.11 Extension of Permit.** A permit may be extended upon written request, prior to expiration and upon a showing of good cause subject to the conditions set forth in this section. The *code official* is authorized to grant no more than four extensions of time, not to exceed 180 days per extension. In no event shall the aggregate extensions of time exceed two years. The *code official* shall have the discretion to inspect the *premises* for which a permit extension has been requested prior to granting an extension.

**105.11.1 Permits for Single-Family Dwellings.** Notwithstanding the provisions of Sections 105.10 and 105.11, the *code official* is authorized to impose a three year time limit to complete construction of new detached single-family dwellings, additions to detached single-family dwellings and new residential accessory structures. The time limit shall begin from the issuance date of the permit. The *code official* is authorized to grant extensions of time if the applicant can demonstrate substantive progress, characterized by approved inspections as specified in this code of at least one inspection within a period of six months or other evidence that would indicate substantial work has been performed.

**105.12 Change in Permit Holder.** Where a change in the permit holder of a valid, unexpired permit is proposed or occurs, whether as the result of a transfer of the *premises* or other circumstances, the permit shall be deemed null and void unless, within 30 days after the date on which the change of permit holder occurs:

1. The permit holder of record notifies the *code official* of a change in permit holder; and
2. The new permit holder submits information required by the *code official* on an *approved* form.

**Exception:** Trade permits are not transferable.

**105.13 Surrender and Cancellation of Permits.** If a permit holder desires to terminate a valid permit, the permit holder shall surrender the permit to the *Department* with a notarized affidavit stating the permit holder's irrevocable renouncement of all rights under the permit. Upon receipt of the surrendered permit and affidavit terminating the permit holder's rights under the permit, the *Department* shall declare the surrendered permit invalid and cancel the permit. The *code official* is authorized to conduct an inspection of the *premises* under Section 104.4 in connection with the surrender or cancellation.

**105.14 Revocation of Permits.** Procedures for revocation of permits are set forth in Section 111. Appeals of permit revocations shall be governed by Section 112.

*Strike Section 107 of the International Building Code in its entirety and substitute new Section 106 in the Building Code in its place to read as follows:*

## 106 SUBMITTAL DOCUMENTS

**106.1 General.** Submittal documents shall consist of *construction documents* (as specified in this Section 106 or as may be required by the *code official*), a statement of *special inspections*, reports, and other data. The *construction documents* shall be prepared by a *registered design professional* where required by the *Construction Codes*. Where special conditions exist, the *code official* is authorized to require additional *construction documents*, including those submittal documents to be prepared by a *registered design professional*.

**Exception:** Where the *code official* deems that the nature of the work applied for is such that review of submittal documents is not necessary to confirm compliance with the *Construction Codes*, the *code official* is authorized to accept and process a permit application without some or all of the otherwise required submittal documents, or to modify the form and content of any otherwise required submittal document, provided, that this exception does not apply where the *Construction Codes* require submittal documents to be prepared by a *registered design professional*.

**106.1.1 Electronic Submission.** Required submittal documents shall be submitted electronically with each permit application.

**Exception:** Applicants are authorized to submit four sets of *construction documents* and one set of all other submittal documents, in lieu of an electronic submission where specified by the *code official*.

Where submittal documents are not required to be submitted electronically, the *code official* is authorized to establish requirements, including but not limited to maximum overall size, for submittal documents acceptable for review.

**106.1.2 Scale of Construction Documents.** All *construction documents* shall be drawn to the scale of not less than 1/8 inch to the foot (10 mm/m).

**Exceptions:**

1. Site Plan; and
2. Building Plat.

**106.2 Construction Documents.** *Construction documents* shall be in accordance with Sections 106.2.1 through 106.2.20.

**106.2.1 Architectural and Engineering Details.** The *code official* shall require adequate details of architectural, structural, accessibility, fire protection, electrical, fuel gas, mechanical, plumbing, energy conservation, and green building provisions to be submitted, including computations, stress diagrams, sound transmission details and other technical data essential to assess compliance with the *Construction Codes*, as further specified in this Section 106. In addition, these construction documents shall include the following:

1. Concrete and masonry strengths, floor and wall design and reinforcement details.
2. Wood Framing design and details.
3. Footing, foundation wall design and details.
4. Roof framing design and details.
5. Interior supporting elements and details.
6. Pre-Manufactured systems referenced in Section 106.2.1.14.
7. Underpinning, sheeting and shoring and associated schedules.

8. Fire rated walls, floors, roofs and other assemblies with details of installation.
9. For exterior alteration of and/or addition to an existing structure, include photograph(s) that clearly depict the condition of the structure's front, rear, sides, roof, and adjoining roofs, as applicable, at the time the permit application is submitted.

**106.2.2 Means of Egress.** The *construction documents* shall show in sufficient detail the location, construction, size and character of all portions of the *means of egress*, including the path of the *exit discharge* to the *public way*, in compliance with the provisions of the *Construction Codes*. In occupancies other than Group R-2, R-3 and I-1 occupancies, the *construction documents* shall designate the number of occupants to be accommodated on every floor and in all rooms and occupiable spaces.

**106.2.3 Exterior Envelope.** The *construction documents* for all *buildings* shall describe the exterior wall envelope, roof envelope and *building* thermal envelope in sufficient detail to determine compliance with the *Construction Codes*. The *construction documents* shall provide details of the exterior wall and roof envelope as required, including materials, flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive membrane, details around openings, fire-resistive construction and fire-resistive protection of wall openings, wall cavities and intersections with floor assemblies, as applicable.

**106.2.3.1 Exterior opening near a lot line.** Where exterior wall openings are provided in accordance with Section 705.8.7, the *construction documents* shall include separate drawings illustrating compliance with all criteria of Section 705.8.7 in its entirety. Drawings shall indicate distances to interior record *lot lines*, adjacent buildings, percentages of exterior openings, protection of openings, and vertical distances above adjacent buildings on the same or adjacent lots as needed to demonstrate compliance with Section 705.8.7.

**106.2.4 Structural Documents.** Before a permit is issued and before work can begin, structural documents shall be submitted in accordance with Section 1603 of the *Building Code*, showing the complete design, with sizes, sections, and relative locations of various structural members, floor elevations, column, or bearing wall centers, and beam or joint sizes and spacings. A geotechnical report shall be provided where required by Sections 1705.6 and 1803. The *code official* shall have the right to require that the structural computations for the *structure* be submitted for review.

**106.2.5 Fire Protection Documents** The applicant shall provide plans and schedules of sufficient detail showing the applicable features and characteristics of all fire protection systems components for any system required by the *Construction Codes* or otherwise proposed to be installed. The *construction documents* shall show the location and type of all fire alarm devices, fire alarm control equipment and panels, fire alarm primary and backup power sources. The *construction documents* shall include sufficient information and detail to adequately describe the elements of any smoke control systems including stair pressurization calculations, equipment location and engineering needs as required by the *Construction Codes*. The *construction documents* shall show the (a) standpipes and (b) automatic sprinkler system infrastructure including the location, size and type of risers, valves, flow and pressure sensors, Siamese connections, fire pump, jockey pump, pump controllers, pump test pipes and other appurtenances of the system, as applicable. The type of sprinkler system and areas and openings requiring special coverage shall be so noted on the *construction documents*. The *construction documents* shall show details of other fire suppression systems, including gaseous and kitchen hood systems. The *construction documents* shall show capacities and loads of the means of egress, maximum travel distances at every floor, remoteness between exits, fire resistance rating of structural members, floors and walls enclosing means of egress, rating of fire doors and fire dampers, fire stop penetration details at rated wall and floor assemblies, location and type of exit signs and emergency lighting. *Construction documents* for work in part of an *existing building* shall include a scoping document listing all floors of the *building* and the extent to which each floor is protected with an automatic fire suppression system.

**106.2.6 Elevator and Other Conveying Systems Documents.** The applicant shall provide plans and schedules of sufficient detail showing the applicable features and characteristics of all conveying systems components for any system required by the *Construction Codes* or otherwise proposed to be installed. The *construction documents* shall clearly show:

1. The location, overall dimensions and type of all vertical transportation systems;
2. The primary and secondary levels of elevator recall, the location and type of elevator lobby smoke detectors, other smoke detectors for elevator recall, as well as other fire alarm and fire suppression devices proposed to be installed in elevator machine rooms, elevator pits and top of elevator hoistways and shall include a sequence of elevator operation in emergency mode when such fire detection equipment is activated;
3. The primary and backup power sources for the elevator equipment;
4. Clearances at top and bottom of hoistway and at elevator equipment

spaces, minimum interior dimensions of cabs, provisions for access to elevator pits, provisions for drainage of elevator pits, provisions for illumination and electric power in elevator machine rooms, elevator hoistways, elevator pits and elevator equipment spaces shall be shown on the *construction documents*, as applicable; and

5. The location of provisions for emergency disconnect of elevator power in elevator pits, elevator machine rooms and elevator equipment spaces, and shall show the location of sprinkler valves and sprinkler flow sensors for systems serving elevator machine rooms and hoistways, as required.

**106.2.7 Electrical Documents.** The applicant shall provide plans and schedules of sufficient detail and clarity showing the location and capacity of all lighting facilities, electrically operated equipment and electrical circuits required for all service equipment of the *building* or other *structure*. All electrically controlled devices, including signal, communicating and lighting systems and associated wiring, wherever required under the provisions of the *Construction Codes*, shall be shown on the electrical plans for the following purposes:

1. Control of emergency lighting systems in places of public assembly and education and, in accordance with Section 1008 of the *Building Code*, and life safety systems for hazardous uses in Sections 414 and 415 of the *Building Code*.
2. Stairway and exit illumination in accordance with Section 1205 and Section 1006 of the *Building Code*, "Exit" sign lighting circuits in accordance with Section 1011 of the *Building Code*, and elevator car illumination in accordance with Chapter 30 of the *Building Code*.
3. Electrical equipment and control of heating, refrigerating and ventilating machinery and devices in accordance with the *Mechanical Code*.
4. Fire protective signaling systems, automatic fire detection systems, fire department communications and supervisory services in accordance with Sections 901.6 through 901.6.3 of the *Building Code* and Section 907 of the *Building Code*.
5. Wiring of signs in accordance with Section 3107, and telecommunication and broadcast towers in accordance with Section 3108 of the *Building Code*.
6. Power control electric operation and circuit wiring of elevators, escalators and other conveying systems in accordance with Chapter 30 of the *Building Code*.



7. Illumination of spaces intended for human occupancy in accordance with Section 1205 of the *Building Code*.
8. Backup emergency and standby power systems.
9. Lighting intensity levels along all required paths of egress.
10. All fire stop penetration details at rated wall and floor assemblies.
11. Fault current calculations.
12. Service Size and load calculations.
13. Riser diagram with details.
14. Panel schedule with details and references.

**106.2.7.1 Exemptions.** Electrical plans shall not be required for the following:

1. Any work exempted from the building permit requirement in accordance with Section 105.2.
2. Repair or replacement in kind of electrical equipment.
3. Work involving only *structures* without equipment regulated by the *Electrical Code*, such as open sheds for storage purposes, detached private garages and other similar spaces not required by the *Construction Codes* to be provided with electric current.
4. Temporary sanitary installations required for construction operations.

**106.2.8 Fuel Gas Documents.** The applicant shall provide *construction documents*, engineering calculations, diagrams and other data, which shall be of sufficient clarity to indicate the location, nature and extent of the fuel gas work proposed and show in detail that the work conforms to the provisions of the *Construction Codes*. *Construction documents* shall indicate where penetrations will be made for installations and shall indicate fire stop penetration details at rated wall and floor assemblies. Plans must include a piping plan with gas riser diagram.

**106.2.9 Mechanical Documents.** The applicant shall provide diagrammatic mechanical equipment or system and mechanical plans, which shall show the

location and arrangement of the mechanical equipment, fuel systems, ductwork and appurtenances, including safety and pressure-controlling devices. The plans shall show in sufficient detail the relevant features and clearances of the appliances and systems, including: fire stop penetration details at rated wall and floor assemblies, and size and type of apparatus; construction of flue, stack or chimney; stack connections; type of fuel; method of operation; and the method of compliance with all the applicable regulations for the class and type of equipment installed.

**106.2.9.1 Exemptions.** Mechanical plans shall not be required for the following:

1. Any work exempted from building permit requirement in accordance with Section 105.2.
2. Repair or replacement in kind of mechanical equipment.
3. Work involving only *structures* without equipment regulated by the *Mechanical Code*, such as open sheds for storage purposes, detached private garages and other similar spaces not required by the *Construction Codes* to be heated.

**106.2.10 Plumbing Documents.** The applicant shall provide plans of each floor and of a typical floor showing the complete plumbing system layout, all plumbing fixtures, total Drainage Fixture Unit (DFU) values, the water supply piping layout, together with building sections showing vertical and diagrammatic elevations of the soil, waste, vent and water supply lines with traps and valves, and the location and size of the public sewer or other disposal system. The plumbing plans shall show in sufficient detail: the layout and spacing of fixtures; the size, material and location of the *building* and storm sewers and drains; the soil, waste, vent and water supply piping; the method or equipment proposed to prevent cross-contamination and backflow; and fire-stop penetration details at rated wall and floor assemblies.

**106.2.10.1 Public Sewer.** Plans for new plumbing or alterations to existing plumbing systems shall be accompanied by a diagram showing the relative elevation of the lowest fixture and the top of the public sewer referred to in the established datum of DC Water. The plans shall show the size, number and location of all new sewer connections. When relevant to the scope of work, the permit applicant shall secure from DC Water the location and other necessary details regarding water and sewer mains to serve the *premises* to be permitted and shall submit this information with the permit application to the *code official*.

**106.2.10.2 Public Water Main.** Where the installation of a water distribution system or the replacement or alteration of an existing water supply system is contemplated, the plumbing plans shall show the location and size of all water lines and branches involved all fixtures or other devices to be supplied, and the minimum water pressure in the main in front of the *building* or other *structure*.

**106.2.10.3 DC Water Certificate of Approval.** A water and sewer Certificate of Approval, issued by DC Water, shall be provided with the plumbing plans for every project where DC Water is requested to furnish new water or sewer service connections.

**106.2.10.4 Exemptions.** Plumbing plans shall not be required for the following:

1. Any work exempted from building permit requirement in accordance with Section 105.2.
2. Repair or replacement in kind of plumbing fixtures.
3. Work involving only *structures* without plumbing fixtures, such as open sheds for storage purposes, detached private garages and temporary installations for exhibition purposes where not designed for sanitary use and not directly connected to a sewage system.
4. Temporary sanitary installations required for construction operations that are not designed to be directly connected to the public sewer system.

**106.2.11 Energy Conservation Documents.** The applicant shall provide plans and schedules of sufficient clarity to indicate the location, nature and extent of the work proposed and show in sufficient detail pertinent data and features of the *building* and the equipment and systems as herein governed, including, but not limited to:

1. Design criteria, exterior envelope component materials, insulation materials and their R-values;
2. Fenestration U-factors and SHGCs;
3. Area-weighted U-factor and SHGC calculations, and mechanical system design criteria;
4. Mechanical and service water heating systems and equipment

- types, sizes and efficiencies;
5. Economizer description, equipment and system controls;
  6. Fan motor horsepower (hp) and controls;
  7. Duct sealing, duct and pipe insulation and location;
  8. Lighting fixture schedule with wattage and control narrative;
  9. Air sealing details; and
  10. Other pertinent data to indicate compliance with the requirements of the *Energy Conservation Code* and relevant laws, ordinances, rules and regulations, as determined by the *code official*.

**106.2.12 Green Building Documents.** The applicant shall provide plans and supporting documents in sufficient detail and clarity to show compliance with the relevant green building construction practices as required by the *Green Construction Code* or an alternative compliance path selected pursuant to Section 101.4.9.412, and with any green building submittal requirements specified by the *code official* as set forth in the Department's *Administrative Bulletins*.

**106.2.13 Zoning Compliance Review Data.** The applicant shall provide to the Zoning Division of the *Department* plans showing orientation of the *lot* as to North, drawn to a scale indicated numerically as well as depicted graphically, and including the following information:

1. The shape, dimensions and topography of the lot to be built upon, in sufficient detail to allow determination of heights above both the existing grade and the proposed finished grade of all proposed *structures*, so as to allow determination of compliance with pertinent height limitations of the *Zoning Regulations*.
2. The width of all public streets and public rights-of-way contiguous to the lot, with elevations at measuring points along them sufficient to determine compliance with the An Act to regulate the height of buildings in the District of Columbia, approved June 1, 1910 (36 Stat. 452; D.C. Official Code § 6-601.05 (2018 Repl.)) as amended.
3. The shape and location in plan of all existing and proposed *structures*, fully dimensioned and labeled, including orientation, elevation in relationship to existing and proposed grades, and distances to lot lines so as to define without ambiguity the dimensions and location of said *structures*.

4. Longitudinal elevations of all existing and proposed *structures* fully dimensioned and shown in relation to the entire lot and the existing and proposed grades, so as to define without ambiguity the dimensions of said *structures*.
5. The parking and loading plans, with labels distinguishing existing facilities from proposed facilities, and the basis for computation of the facilities shown on those plans.
6. The location and elevation of any proposed retaining walls higher than 48 inches (1219 mm) above existing grade.
7. A Zoning Data Summary of the project including, as applicable to the particular requirements of the zone in which the *premises* that are subject to the permit application, at least the following data: lot width, area of the lot, percentage of lot occupancy, height of the *structure* and the location and elevation of the height measurement reference points, gross floor area for each floor level, area of basement, area of cellar, proposed Floor Area Ratio, areas dedicated to each use, width of any proposed side yard, rear yard or court, number of standard and compact parking spaces and dimensions of loading berths and delivery loading spaces.
8. Other information necessary to determine compliance with the *Zoning Regulations*.

**106.2.1.14 Shop Drawings.** Before construction or installation of the elements and systems listed below, the *code official* is authorized to require submission of shop drawings bearing the review stamp of the engineer of record, and bearing the seal and signature of the *registered design professional* who designed the system. Where the project is subject to the mandatory electronic submission requirements in Section 106.1, shop drawings shall be submitted electronically unless otherwise allowed by the *code official*. Where electronic submission is not required, four sets of shop drawings shall be submitted.

1. Structural steel and steel trusses, with connection details.
2. Open web steel joists.
3. Precast and prestressed concrete.
4. Post tensioning.
5. Space frames.

6. Strong backs.
7. Curtain wall.
8. Structural wood trusses, beams, girders, and posts with connection details
9. Concrete mixes.
10. Structural, electrical, and mechanical loads related to new construction installations of elevators, escalators and other conveying systems including, but not limited to, accessibility lifts.
11. Pre-engineered elements.
12. Suspended plaster ceiling systems.
13. Underpinning.
14. Sheeting and shoring.
15. Formwork.
16. Automatic fire suppression systems.
17. Fire alarm systems.
18. Smoke control systems.
19. Commercial kitchen hood suppression systems.
20. Flammable and combustible liquid storage tanks.
21. All installations, modernizations or alterations of elevators and conveying systems.

**Exception for Items 16, 17, and 19:** The *code official* is authorized to accept the following shop drawings without the seal and signature of the *registered design professional* who designed the system:

1. Where the automatic fire suppression systems shop drawing bears the stamp and signature of a National Institute for Certification in Engineering Technology (NICET) Level III Technician certified in

Automatic Sprinkler System Layout or Special Hazards Suppression Systems.

2. Where the fire alarm shop drawing bears the stamp and signature of a NICET Level III Technician certified in Fire Alarm Systems.

**106.2.15 Official Building Plat.** The applicant shall provide an official building plat of a lot that is the subject of an application, issued by the D.C. Office of the Surveyor, in duplicate or by electronic submission, as part of applications for permit involving any of the following:

1. Erection of a new *building* or other *structure*.
2. Addition to an *existing building*.
3. Permanent construction higher than 48 inches (1219 mm) above grade, outside the footprint of *existing buildings*.
4. Construction or alteration of projections into public space.
5. Erection of retaining walls higher than 48 inches (1219 mm).
6. Establishment of a new parking spaces or loading berth(s) external to a *building* or other *structure*, regardless of the amount of work involved.

**106.2.15.1 Plat Information.** The applicant shall show upon the building plat, completely dimensioned and drawn in ink to the same scale as the plat, the following:

1. The outline of all *buildings*, additions, or other *structures* existing and to be constructed, with existing structures labeled and clearly distinguished from those to be constructed;
2. The number, size, shape and location of all open parking spaces, open loading berths, and approaches to all parking and loading facilities, as applicable, external to a *building* or other *structure*, as well as all approaches to all parking and loading facilities existing and to be installed on the lot, whether within or exterior to any *building* or other *structure*, with existing parking and loading facilities labeled and clearly distinguished from those proposed to be added;

3. The grade in elevation datum on the edges of the lot and any change in grade over 5 feet (1524 mm') within the lot, or a statement by the owner or agent that no change in grade over 5 feet (1524 mm') occurs on the lot;
4. Any proposed pervious surface to be used to satisfy zoning requirements; and
5. Other information deemed necessary by the Zoning Administrator to determine compliance with the *Zoning Regulations*. If necessary due to the complexity of the proposed work, the Zoning Administrator is authorized to require the submission of two plats, one depicting existing conditions, including structures and topography, and the other depicting proposed conditions, including structures and topography.

**106.2.15.2 Certification of Plat.** The accuracy of the representation of the location of the *structures* on the plat shall be self-certified by the *owner* or authorized agent for the *owner* of the lot of record or parcel of land, who shall sign a certificate in a form prescribed by the *code official*, printed on the building plat.

**106.2.16 Site Plan.** The applicant shall provide a site plan, which shall not substitute for the official building plat required by Section 106.2.15, whenever the application for permit involves any of the following:

1. Erection of a new *building* or other *structure*.
2. Addition to an *existing building*.
3. Permanent construction outside the footprint of *existing buildings*.
4. Construction or alteration of projections into public space.
5. Erection of retaining walls.
6. A major substantial improvement activity (as defined by 21 DCMR Chapter 5) or a land-disturbing activity regulated by 21 DCMR Chapter 5.
7. *Demolition* or razing of existing *structures* or *buildings*.



8. Installation or replacement of underground utility service connections.
9. Installation or replacement of site drainage systems.
10. Alteration to the path of the *exit discharge* to the *public way*.
11. Construction in whole or in part on a *development site* in whole or in part within a *Flood Hazard Area* as established in 20 DCMR, Chapter 31.

**106.2.16.1 Site Plan Information.** The applicant shall show upon the site plan, completely dimensioned and drawn to a scale indicated numerically and graphically, the following:

1. The site.
2. Its orientation to North.
3. The location and dimensions of all existing structures on the site, labeled if it is to be demolished or to be retained.
4. The location and dimensions of all new construction on the site.
5. The distances from *lot lines*.
6. The established street grades.
7. The existing and proposed finished grades, including any change over five (5) feet across the lot.
8. Any features required to comply with 21 DCMR Chapter 5.
9. Location of the path of the *exit discharge* to the *public way*.
10. Location of utility service lines and connections thereto (with dimensions and all appurtenant features of such connections).
11. Where a *development site* is wholly or partially within a *flood hazard area*, then the *flood hazard area(s)* floodways and identification of *design flood* elevations, as applicable, shall be provided in compliance with Appendix G.

**106.2.17 Flood Hazard Areas – Additional Submission Requirements.** For *development* in a *development site* that is within the scope of Appendix G, the *applicant* shall provide the additional information and data required by Appendix G as part of the permit application.

**106.2.18 Protection of Adjoining Premises-Additional Submission Requirements.**

**106.2.18.1 Underpinning.** Where underpinning is chosen to provide the protection or support of adjoining *premises*, the applicant shall provide such information as the *code official* deems necessary to determine the applicant's compliance with the applicable provisions of the *Construction Codes*.

**106.2.18.2 Excavations.** Where an application for permit proposes excavation work, the *code official* is authorized to require the applicant to submit additional data the *code official* deems necessary to determine the appropriateness of the proposed structural measures to protect the integrity of the soil and *structures* located on the adjoining *premises*.

**106.2.18.3 Notification of Owners of Adjoining Premises.** Notification of *owners* of adjoining *premises* (and *owners* of adjacent *premises* for snow drift loads) shall be provided by the applicant pursuant to the procedures set forth in Section 106.2.18.3.1, where the proposed work involves all or any of the following:

1. Where excavation requiring a permit will occur on the construction site.

**Exception:** Where the *code official* determines that the excavation work will not have any adverse impact on structural or lateral support of the adjoining *premises*.

2. Where there is a need to install permanent or temporary structural support for an adjoining *premises* or portion thereof, including but not limited to underpinning, as a result of the proposed work.
3. Where the proposed work will alter imposed loads on a party wall or any load-bearing member of an adjoining *premises*.
4. Where access to an adjoining *premises* is required to install protective measures or undertake other work required by Section 3307.

5. Where the proposed work will render or potentially render adjoining or adjacent *premises* non-compliant with the Chimney Provisions (as defined in Section 3307.1.1) or with the snow load requirements in Section 1603.1.3 or Section R301.2.3 of the *Residential Code* as applicable.

**Exception:** Notification is not required for applications submitted pursuant to Section 3307.1.4, by the *owner* of an adjoining or adjacent *premises* that has assumed responsibility for any required protective work.

For purposes of this section, a “party wall” shall be defined as “a wall that straddles, or is in close proximity to, a *lot line*, and which is used for structural support by two or more adjoining *buildings* or *structures*.”

**106.2.18.3.1 Evidence of Notification.** As required by this section, and prior to permit issuance, the *applicant* shall provide evidence of notification, consisting of: (1) evidence of the posting required by Section 106.2.18.3.1.1; (2) evidence of the delivery of written notice required by Section 106.2.18.3.1.2; and (3) the affidavit of maintenance required by Section 106.2.18.3.1.3. No permit application within the scope of Section 106.2.18.3 will be granted without the specified evidence of notification, except as provided in Section 106.2.18.3.1.3.

**106.2.18.3.1.1 Required Posting.** A notice of the filing of a permit application within the scope of Section 106.2.18.3 shall be posted by the applicant on the *premises* upon which the permit application seeks authorization to perform the work, and shall comply with the following conditions:

1. The notice shall be posted for a continuous period of at least 30 days, including the 30-day period immediately prior to issuance of the permit.
2. The notice shall be given on a form approved by the *code official* and shall be legible from the *public way* that provides the main entrance to the *premises*, as determined by the *code official*.
3. If the notice is destroyed, damaged, or removed during the posting period, the *applicant* shall promptly replace the notice.
4. Photographic evidence of the required posting shall be submitted to the *code official* by the *applicant*, and the

associated permit(s) shall not be issued without this photographic evidence.

**106.2.18.3.1.2 Required Written Notice.** Prior to submission of a permit application within the scope of Section 106.2.18.3, the *applicant* shall provide written notice in an *approved* form to the *owner* or *owners* of the adjoining *premises* in accordance with one of the methods below:

1. By U.S.P.S. registered or certified mail to the address of the *owner* as maintained in the Real Property Tax Database maintained by the Office of Tax and Revenue of the Office of the Chief Financial Officer; or
2. By proper use of an *approved* private delivery service (such as Federal Express, UPS, or DHL) to the address of the *owner* as maintained in the Real Property Tax Database maintained by the Office of Tax and Revenue of the Office of the Chief Financial Officer.

**106.2.18.3.1.2.1 Evidence of Delivery of Written Notice.** Acceptable evidence of delivery of written notice shall consist of: (1) proof of proper use of registered or certified mail (registered or certified mail sender's receipt); or (2) proof of proper use of an approved private delivery service.

**106.2.18.3.1.3 Affidavit of Maintenance.** Prior to permit issuance, the *applicant* shall submit a notarized affidavit attesting that the posting required by Section 106.2.18.3.1.1 was continuously maintained for the requisite 30-day period of time.

**106.2.18.3.1.4 Substantial Compliance with Notification Requirements.** The *code official* is authorized to grant a permit application, that is otherwise complete, where the *code official* determines, based on a written request submitted to the *code official* by the applicant, the applicant has substantially complied with the provisions of Section 106.2.18.3.1. The determination by the *code official* of substantial compliance is not subject to reconsideration or appeal under Section 112 absent compelling evidence submitted by the *owner* of the adjoining or adjacent *premises* that such *owner* was directly and adversely affected by a lack of notice.

**106.2.18.4 Access to Adjoining Premises.** Where an application proposes work

that will or potentially require Protective Work (as defined in Section 3307) on an adjoining or adjacent *premises*, and such Protective Work will require access to the adjoining or adjacent *premises* by the applicant, a permit shall not be issued until the applicant submits one of the following:

1. A written agreement in an *approved* form signed by the applicant and the *owner* of the adjoining or adjacent *premises* that grants access to the applicant to undertake the Protective Work;
2. A written agreement signed by the applicant and the *owner* of the adjoining or adjacent *premises* that denies access to the applicant and which acknowledges the obligation of the *owner* of the adjoining or adjacent *premises* to be responsible for the Protective Work on such *owner's premises*;
3. A court order granting the applicant access to the adjoining or adjacent *premises* to perform the Protective Work; or
4. A revised work plan that eliminates the need for access to the adjoining or adjacent *premises*.

**Exception:** A limited or temporary right of access to the adjoining *premises* is expressly granted in Sections 3307.2.2 or 3307.4.1 for the specific Protective Work required.

**106.2.19 Covenants and Agreements.** Where a covenant or agreement is required by the *Construction Codes* or drafted in connection therewith (a "*Required Covenant*"), a copy of the *Required Covenant*, certified by the Recorder of Deeds as having been recorded in the Land Records, shall be submitted by the *owner* or authorized agent to the *code official* as and when required by Section 120. The *Required Covenant* shall comply with D.C. Official Code § 6-1405.01(b) (2018 Repl.) and with the provisions of Section 120 as applicable.

**106.2.19.1 Other Agency Covenants.** Where an agency other than the *Department* requires a covenant or agreement relating to proposed construction, including, but not limited to, the covenants specified in Section 120.4 the *applicant* shall comply with such other agency's requirements.

**106.2.20 Construction Noise – Additional Submission Requirements.** No permit for construction, demolition or *raze* shall be issued until the permit applicant has provided as part of the permit application written acknowledgement that the noise emanating from the planned activity will comply with the limitations established by the noise regulations set forth in Title 20 DCMR.

**106.3 Statement of Special Inspections.** A statement of special inspections shall accompany

each application where special inspections and tests are required by Sections 109.3.13 and 1705. Submission of a statement of special inspections complying with Section 1704.3 shall be a condition for permit issuance as specified in Section 1704.2.3.

**106.4 Registered Design Professional.** The design of work for new construction, repair, expansion, addition or alteration projects submitted for permit shall comply with Sections ~~105.3.10.1~~106.4.1 through ~~105.3.10.6~~106.4.6 as applicable.

**106.4.1 Architectural Services.** Where the project involves the practice of architecture, as defined by D.C Official Code § 47-2853.61 (2015 Repl. & 2018 Supp.), the corresponding permit documents shall be prepared by an architect licensed to practice architecture in the District of Columbia. All plans, computations, and specifications required to be submitted in connection with a permit application for such architectural work shall be prepared by or under the direct supervision of an architect with a valid and unexpired District of Columbia architecture license and shall bear the architect's signature and seal in accordance with the laws of the District of Columbia.

**106.4.2 Engineering Services.** Where the project involves the practice of engineering, as defined by D.C Official Code § 47-2853.131 (2015 Repl. & 2018 Supp.), the corresponding permit documents shall be prepared by a professional engineer licensed to practice engineering in the District of Columbia. All plans, computations, and specifications required to be submitted in connection with a permit application for such engineering work shall be prepared by or under the direct supervision of a professional engineer with a valid and unexpired District of Columbia engineer license and shall bear the engineer's signature and seal in accordance with the laws of the District of Columbia.

**Exception:** An architect licensed in the District of Columbia is authorized to perform engineering work that is incidental to the practice of architecture, as permitted by D.C Official Code § 47-2853.61 (2015 Repl. & 2018 Supp.).

**106.4.3 Interior Design Services.** Plans for non-structural alterations and repairs of a building, including the layout of interior spaces, which do not adversely affect any structural member, any part of the structure having a required fire resistance rating, or the public safety, health or welfare, and which do not involve the practice of architecture and engineering as defined by D.C Official Code §§ 47-2853.61 and 47-2853.131 (2015 Repl. & 2018 Supp), shall be deemed to comply with this section when such plans are prepared, signed and sealed by an interior designer licensed and registered in the District of Columbia in accordance with D.C Official Code § 47-2853.101 (2015 Repl. & 2018 Supp.).

**106.4.4 Exemptions.** The professional services of a licensed architect, professional engineer or interior designer are not required for the following:

1. Work done under any of the exemptions from registration provided for in the laws of the District of Columbia governing the licensure of architects, professional engineers and interior designers.
2. Nonstructural alteration of any building of R-3 occupancies or of any building under the jurisdiction of the *Residential Code*.
3. Preparation of drawings or details for cabinetry, architectural millwork, furniture, or similar interior furnishings, for any work to provide for their installation or for any work exempt from permit by Section 105.2.
4. Drawings or details for the installation of water and sewer building connections to a single family residential structure prepared by a master plumber licensed pursuant to D.C Official Code §§ 47-2853.121 *et seq.* (2015 Repl. & 2018 Supp..).

**106.4.5. Registered Design Professional in Responsible Charge.** The *code official* is authorized to require the *owner* to engage and designate on the permit application a *registered design professional* who shall act as the *registered design professional in responsible charge*. If the circumstances require, the *owner* shall designate a substitute *registered design professional in responsible charge* who shall perform the duties required of the *original registered design professional in responsible charge*. Where a *registered design professional in responsible charge* is required, the *code official* shall be notified in writing by the *owner* if the *registered design professional in responsible charge* is changed or is unable to continue to perform the duties. The *registered design professional in responsible charge* shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the *building*.

#### **106.4.6 Attestations Required.**

**106.4.6.1 Registered Design Professional.** The signature and seal of the *registered design professional*, where required by and in accordance with Section 106.4, shall serve as attestation of the following:

1. For architects: “I am responsible for determining that the architectural designs included in this application are in compliance with all relevant laws and regulations of the District of Columbia. I have personally prepared, or directly supervised the preparation of, the architectural designs included in this application.”
2. For engineers: “I am responsible for determining that the engineering designs included in this application are in compliance with all relevant laws and regulations of the District of Columbia. I have personally prepared, or directly supervised the preparation of, the engineering designs included in this

application.”

**106.4.6.2 Registered Design Professional in Responsible Charge.** Where the *code official* determines that a *registered design professional in responsible charge* is required for any project, an attestation sealed and signed by the *registered design professional in responsible charge* engaged by the *owner* shall be submitted prior to the issuance of any and all *certificate(s) of occupancy* for the project. The attestation shall identify the *registered design professional in charge* by name and registration number, shall identify the project or portion thereof being attested to, and shall state, to the *code official's* satisfaction, that the project or portion thereof has been completed in a manner that is substantially compatible with the design of the building that was the basis of the corresponding permit. Furthermore, the attestation shall state that changes from such permit documents, including but not limited to submittal documents prepared by others during the course of construction, and phased and deferred submittal items, have been reviewed and coordinated by the attesting *registered design professional in responsible charge*.

**106.5. Examination of Documents.** The *code official* shall examine or cause to be examined the submittal documents accompanying permit applications, pursuant to Section 105.3.

**106.5.1 Review by Other Agencies.** Permit applicants shall be responsible for obtaining any required approvals from other reviewing agencies and entities, including, but not limited to, the Historic Preservation Office, the Historic Preservation Review Board, the District Department of Energy & Environment, the Public Space Committee, the District Department of Transportation, the Commission on Fine Arts, the Chinatown Steering Committee, and DC Water. If deficiencies in the plans or other supporting documents are discovered during reviews by other agencies, the other reviewing agencies shall respond according to the procedures set forth in its rules and/or procedures. Any restrictions or conditions imposed by other reviewing agencies may be annotated on the plans and shall be incorporated into and deemed a condition of the permit.

**106.6 Conformance to Approved Construction Documents.** All work shall conform to the *approved construction documents* and any *approved* amendments to them. Any changes made during construction that are not in compliance with the *approved construction documents* shall be submitted to the *Department* for approval as an application for permit revision in accordance with Section 105.3.6.10.

*Strike Section 108 of the International Building Code in its entirety and insert new Section 107 in the Building Code in its place to read as follows:*

## **107 TEMPORARY STRUCTURES AND USES**

**107.1 General.** The *code official* is authorized to issue a permit to construct temporary



*structures*, tents and other membrane structures in accordance with Section 3103 and Section 3103 of the *Fire Code*. Such permits shall be limited as to time of service, not to exceed 180 days. The *code official* is authorized to grant extensions for demonstrated cause.

**107.2 Temporary Uses.** A temporary certificate of occupancy shall be obtained, in accordance with Section 110.4.4, for temporary use and occupancy of: (1) temporary *structures*, tents and other membrane structures; and (2) *existing buildings*, *existing structures* or *lots*.

**107.3 Temporary Utility Services.** Utility connections for temporary *structures* shall be in accordance with Section 119.2.

**107.4 Termination of Approval.** The *code official* is authorized to order a temporary *structure* to be *razed*, or removed or a temporary use to be discontinued, as applicable, where the associated permit and/or certificate has expired. Revocation of permits for temporary *structures*, tents and other membrane structures, and revocation of temporary certificates of occupancy shall be governed by Section 111.

*Strike Section 109 of the International Building Code in its entirety and insert new Section 108 into the Building Code in its place to read as follows:*

## **108 FEES**

**108.1 Payment of Fees.** A permit shall not be issued until all required fees have been paid to the *Department* or other authorized agency, nor shall an amendment to a permit requiring an additional fee be issued until the additional fee has been paid.

**108.1.1 Application Filing Deposit for New Construction and Alterations.** All permit applications filed for new construction or alterations must be accompanied by a deposit of 50 percent of the ~~building~~ permit valuation determined in accordance with Sections 108.2 and 108.3; provided, that the required deposit shall not exceed twenty thousand dollars (\$20,000).

**108.1.2 Accounting.** The *code official* shall keep an accurate account of all fees collected, and such collected fees shall be deposited with the D.C. Treasurer, or otherwise deposited as required by law.

**108.2 Code Official Authority.** The *code official* is authorized to establish by *approved* rules a fee for each permit, certificate or authorization issued by the *Department*, as prescribed in a fee schedule adopted in accordance with Section 108.2.1, for *buildings* and other *structures* and for their appurtenant systems, fixtures, appliances and equipment. The *code official* is authorized to establish fees based on cost of the proposed work or to use alternate methodologies including, but not limited to, the square footage of the project.

**108.2.1 Fee Schedule.** Fees for permit processing, inspections and related services, including, but not limited to, fees for processing and issuance of certificates of

occupancy, shall be established by the *code official* in a fee schedule published in the *D.C. Register*, as amended from time to time.

**108.3 Building Permit Valuations Based on Cost Of Work.** The applicant for a building permit shall provide an estimated cost of the proposed work permit value at time of application, or such other information as the *code official* specifies, for purposes of establishing a permit valuation. Cost of the proposed work. ~~Building permit valuations~~ shall be based upon (a) total value of materials and labor for which the ~~building~~ permit is being issued, including electrical, gas, mechanical, plumbing equipment and permanent systems or, (b) at the *Department's* discretion, the most current edition of the National Building Cost Manual or comparable standard. The total ~~value~~ cost shall not include architectural, engineering, and other associated professional costs. If, in the opinion of the *code official*, the cost of proposed work valuation is underestimated on the application, the permit shall be withheld, unless the applicant can show detailed estimates to meet the approval of the *code official*. Final building permit valuation shall be ~~determined~~ set by the *code official*. ~~Proof of valuation can be made in~~ Acceptable evidence of the estimated cost of the proposed work shall include any of the following ~~forms~~:

1. A fully executed construction contract.
2. A formal contractor's estimate.
3. When a deferred method of determining construction cost is submitted, the *code official* is authorized to request from the applicant a certified contractor's certificate of payment showing the actual cost of construction and the *code official* is authorized to adjust the building permit fee to reflect the actual cost of construction prior to issuing a certificate of occupancy.
4. A construction estimate for repairs and alterations in Group R-3 and *structures* under the jurisdiction of the *Residential Code*.
5. The cost based on national standards for construction costs, as modified for the District of Columbia region, as set forth in the most current edition of the National Building Cost Manual or comparable standard.

**108.4 Fees Associated With Work Commencing Before Permit Issuance.** Any *person* who commences any work on a *building*, other *structure*, gas, electrical, mechanical or plumbing system before obtaining the necessary permits shall be subject to an additional fee established in the official fee schedule that shall be in addition to the required permit fees and any fines that may have been levied.

**108.5 Related Fees.** The payment of the fee for the construction, *alteration*, removal, *raze* or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law; or any other privileges, services or requirements, allowed or prescribed by law.

**108.6 Refunds.** The *code official* is authorized to establish a refund policy.

**108.7 Waiver of Fees.** No person or entity shall be entitled to a waiver of fees, except as set forth in the License Fees and Charges Act of 1976, effective September 14, 1976 (D.C. Law 1-82; D.C. Official Code § 47-2712 (2015 Repl. & 2018 Supp.)).

*Strike Section 110 of the International Building Code in its entirety and insert new Section 109 in the Building Code in its place to read as follows:*

## **109 INSPECTIONS**

**109.1 General.** Construction or work for which a permit is required shall be subject to inspection by the *code official* pursuant to the provisions of this section and Section 104.6. It shall be the duty of the permit holder to cause the construction or work to remain accessible and exposed for inspection purposes until *approved*. The permit holder shall be liable for any expenses entailed in the removal or replacement of any material required to allow inspection. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of the *Construction Codes* or of other laws or regulations of the District of Columbia. Regardless of whether the *code official* inspects the construction or work, it is the responsibility of the permit holder and the individual or entity doing the work to comply with all applicable provisions of the *Construction Codes*.

**109.1.1 Preliminary Inspection.** Before issuing a permit, the *code official* is authorized to examine or cause to be examined all *premises* for which a permit application has been filed.

**109.1.2 Termination of an Inspection.** The *code official* is authorized to terminate an inspection where interference with an inspection occurs or where the *code official* determines that the work is not sufficiently accessible and exposed for inspection.

**109.1.3 Identification of General Contractor or Construction Manager.** No inspection by the *code official* will be scheduled unless and until the *applicant* has complied with the requirements of Section 105.3.2(8).

**109.1.4 Master Tradesperson to be Onsite During Inspections.** ~~The master tradesperson who acquired a trade permit for work involving mechanical, plumbing, electrical or fuel gas trades shall be onsite during any required re-inspection for that trade, without limiting the authority of the *code official* to require the master tradesperson to be onsite during other required inspections involving the specified trades. At the discretion of the *code official*, the master tradesperson may send an authorized D.C. licensed representative such as a journeyman as long as the representative is an employee of the master tradesperson or the *person* who employs the master tradesperson. The master tradesperson to whom a trade permit is issued, or the District of Columbia licensed representative of the master tradesperson, shall be present during the rough-in~~

inspection for the specific scope of work performed under the trade permit. The *code official* shall have the authority to require the master tradesperson to be present during any subsequent inspections of the same work where there is repeated non-compliance with *Construction Code* provisions.

**109.2 Required Inspections and Testing.** The permit holder shall be responsible for notifying the *code official* when the stages of construction are reached that require any inspection under Section 109 and for other critical items as directed by the *code official*. Upon notification, the *code official* shall make the inspections specified in this Section 109 and such other inspections as necessary, and shall either approve that portion of the construction or shall notify the permit holder of any violations that shall be corrected. The *code official* shall not be responsible for conducting inspections unless appropriately notified. The *code official* shall respond to inspection requests without unreasonable delay. It shall be the duty of the *person* requesting any inspections required by the *Construction Codes* to provide access to and means for inspection of such work.

**109.2.1 Inspection Record.** Work requiring a permit shall not be commenced until the permit holder or an agent of the permit holder maintains on the job site an inspection record card or other *approved* documentation issued by the *code official*. Such inspection record document shall be made available by the permit holder on the job site until final inspection approval has been granted by the *code official*. Only an inspector authorized by the *Department* shall document inspections conducted. Any entry on the inspection record document made by a person other than an authorized inspector shall be grounds for revocation of the permit per Section 111.

**109.2.2 Approval Required.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the *code official*. The *code official* shall approve the work or portion thereof that is satisfactory as completed, and, where applicable, shall notify the permit holder or an agent of the permit holder that the work or any portion thereof fails to comply with the *Construction Codes*. Any portions that do not comply shall be corrected and such portions shall not be covered or concealed until authorized by the *code official*.

**109.3 Types of Inspections.** After issuing a permit, the *code official* shall conduct the types of inspections specified in Section 109 as deemed necessary by the *code official* and shall confirm submission of documents required by Sections 109.3 and 109.4, during and upon completion of the work. A record of all such inspections and of all noted violations of the *Construction Codes* shall be maintained by the *code official*.

#### **109.3.1 Building Inspections.**

**109.3.1.1 Footing and Foundation Inspections.** Footing and foundation inspections are required in accordance with Sections 109.3.1.1.1 and 109.3.1.1.2.

**109.3.1.1.1 Footing Inspections.** Footing inspection is required after

excavation for footings is complete and any required reinforcing steel is in place. For concrete footings, any required forms shall be in place prior to inspection. Materials for the footing shall be on the jobsite at the time of inspection, except where concrete is ready mixed in accordance with ASTM C94, the concrete need not be on the jobsite.

**109.3.1.1.2 Foundation Inspections.** Foundation inspection is required after approval of footings, for location of walls and columns with respect to footings, piles and piers. For concrete foundations, any required forms, spacers and reinforcement shall be in place prior to inspection. Inspections will include materials, concrete cover, anchoring and dimensions as appropriate.

**109.3.1.1.3 Energy Footing and Foundation Insulation Inspection.** Inspection of installation is required for insulation R-value, location, thickness, depth of burial and protection at footing, foundation, and under floor prior to covering of the materials.

**109.3.1.2 As-Built Foundation Survey (Wall Check).** A wall check survey is required before a wall reaches a height of 1 foot (305 mm) above grade, or, in the case of other vertical construction, when a template or form is located and noted. The *code official* is authorized to require up to three wall checks depending on the design of the *structure*: below grade at footer, near grade, and final grade. Surveys, wall examinations and reports, and field notes shall comply with 10-B DCMR §§ 2802, 2810-2812. Wall check surveys shall be performed by a D.C.-Registered Land Surveyor. Wall check reports, including drawings and field notes, shall be filed with the D.C. Office of the Surveyor. Surveying practices should comply with standards set forth in the “Manual Of Practices For Real Property Surveying In The District Of Columbia” published by The District of Columbia Association of Land Surveyors (January 2017). Authorization to continue construction of any *building* or other *structure* beyond construction of the foundation shall not be issued until a wall report has been prepared and submitted to the *Department*. The wall report shall confirm that the location and elevation of the *building* or other *structure* conform to the *approved* plans and the provisions of the *Construction Codes* and other applicable District of Columbia regulations.

**109.3.1.3 Backfill Inspection.** Backfill inspection is required prior to placement of backfill materials, for inspection of placement and cover of required footing drain tile, wall waterproofing, drainage and insulation. Backfill materials shall be on the jobsite at the time of inspection.

**109.3.1.4 Concrete Slab or Under-floor Inspection.** Concrete slab inspections are required after in-slab or under-floor reinforcing steel is in place to verify reinforcement size, spacing, concrete cover, splicing, vapor barrier, and mesh. ~~and~~

~~insulation.~~ For slab-on-grade foundations, any required forms shall be in place prior to inspection. Energy footing and foundation insulation inspection, in accordance with Section 109.3.1.1.3, is required prior to concrete slab or under-floor inspection.

**109.3.1.5 Floodplain Elevation Certificate.** For any work subject to Appendix G, upon placement of the *lowest floor*, and prior to proceeding with construction above that floor level, the *elevation certificate* required by Section 1612.5, shall be submitted to the *code official*. This certificate shall be reviewed and approved by the *Floodplain Administrator* before construction above the *lowest floor* proceeds, and any such construction before such review and approval is had shall be at the permit holder's risk. Approval by the *Floodplain Administrator* of the *elevation certificate* must be received by DCRA prior to the scheduling and performance of any subsequent inspections required by Section 109.

**109.3.1.6 Pre-Cladding Inspections.** Inspections in accordance with Sections 109.3.1.6.1 ~~and through~~ 109.3.1.6.2 are required, as applicable, prior to placement of exterior cladding.

**109.3.1.6.1 Exterior Wall Sheathing Inspection.** Inspection is required, for sheathing materials and nailing patterns, prior to covering the sheathing with any material, such as exterior insulation, *water-resistive barrier*, or air barrier.

**109.3.1.6.2 Water-resistive Barrier Inspection.** Inspection is required for *water-resistive barrier* material and installation, prior to application of exterior insulation, roofing materials or exterior wall cladding, veneer or finishes.

~~**109.3.1.6.3 Continuous exterior insulation inspection.** Inspection is required, for continuous exterior insulation material properties, thickness and installation, prior to application of roofing materials or exterior wall cladding, veneer or finishes.~~

**109.3.1.7 Framing Inspection.** Framing inspections are required for interior and *exterior walls*, floor-ceiling and roof-ceiling assemblies. Inspections shall be performed after the framing and bracing of the respective assemblies has been completed, including but not limited to framing of walls, *shaft walls*, *exit enclosures*, elevator hoistways, floor-ceiling assemblies, roof assemblies and roof sheathing. Framing inspections shall be performed before *thermal envelope* interior insulation is applied. Framing inspections shall not be approved before the rough-in inspections of electrical, plumbing, gasfitting and mechanical work have been *approved*.

~~**109.3.1.8 Interior Insulation Inspection.** Inspection of the *building thermal*~~

~~envelope, and the materials that form the building thermal envelope, is required before covering them with any other materials.~~

### **109.3.1.8 Energy Inspections**

**109.3.1.8.1 Energy Primary Air Barrier Inspection.** Inspection of installation is required for the primary air barrier prior to covering of the materials in accordance with the provisions of the *Energy Conservation Code*.

**109.3.1.8.2 Energy Insulation Inspection.** Inspection of installation is required for the insulation R-value at the building thermal envelope prior to covering of the material. This includes, exterior wall, interior wall, roof, and attic insulation. Fenestration installed in the building thermal envelope shall be inspected for U-factor and SHGC value. Envelope commissioning documentation shall be provided per established guidance upon request of the *code official*. Compliance with relevant building envelope provisions of the *Energy Conservation Code* shall be verified.

**109.3.1.9 Inspection of Fire-Resistant Rated Assembly.** An inspection is required of fire-resistant rated assemblies, including, but not limited to, those constructed of *gypsum board* or shaftliner board. This inspection includes assemblies that are part of a fire or smoke-rated wall, a shear wall, a *shaft* wall or a sound attenuation assembly, and shall be performed after the *gypsum board* is in place, but before the outer layer of *gypsum board* joints and fasteners are taped and covered with joint compound. *Shaft* walls constructed with shaftliner shall be inspected on the shaftliner face from three sides of the *shaft*, and from the exterior of the *shaft* on all sides of the *shaft*.

**109.3.1.10 Accessibility Inspections.** Inspections of features affecting accessibility are required at various stages of construction. Building elements such as, but not limited to, required floor clearances, maneuvering clearances, *ramp* slopes, grab bar wall reinforcements, shall be inspected when construction is ready for framing or rough-in inspections. Features such as, but not limited to, required signage, reach ranges, floor surfaces, thresholds, mounting heights, shall be inspected when construction is ready for final inspections. All accessibility inspections shall be performed prior to the final building inspection.

**109.3.1.11 Final Building Inspection.** A final building inspection is required after all other required building inspections are approved, and after any associated final inspections, acceptance testing, submissions or reports specified in Sections 109.3.2. through 109.3.13, as applicable, are approved and recorded, and the work for which a permit was issued has been completed in compliance with the *Construction Codes*. This inspection will confirm that each relevant system and component has successfully undergone a final acceptance testing or inspection,

and that the life safety related items, as installed, perform or operate as intended and the *premises* are deemed safe to occupy. This inspection will also confirm, among other things, that:

1. The required *means of egress* are compliant and unobstructed through the *exit discharge*;
2. The required signage is appropriately posted;
3. Opening protective ratings are correct;
4. Installed handrails and hardware are compliant; and
5. The permit holder has complied with Sections 109.3.1.11.1 and 109.3.1.11.2 as applicable.

**109.3.1.11.1 Flood Hazard Documentation.** For work subject to Appendix G, a final building inspection shall not be approved unless the permit holder has complied with the requirements of either (a) or (b) as applicable:

- (a) An *elevation certificate* shall be submitted to the *code official* and reviewed and approved by the *Floodplain Administrator* documenting the as-built elevation of the *lowest floor* as required by Section 1612.5; or
- (b) A *floodproofing certificate* shall be submitted to the *code official* and reviewed and approved by the *Floodplain Administrator* prior to either (i) the final inspection, or (ii) the issuance of a certificate of completion or the first certificate of occupancy for a occupied space at grade or above, whichever is earlier, to certify a floodproofing design for a non-residential building that is permitted as an alternative to elevating to or above the *base flood elevation*.

**109.3.1.11.2 Addressing.** A final building inspection shall not be approved unless the *premises* complies with the applicable addressing requirements in Section 118.

## **109.3.2 Electrical Inspections.**

**109.3.2.1 Underground and Slab Inspection.** Inspection is required after trenches or ditches are excavated, forms are erected, conduit or cable are installed, and before any backfill or concrete is placed.

**109.3.2.2 Service Inspection.** Inspection of each new or upgraded electrical



service is required before the service entrance equipment is authorized to be energized.

**109.3.2.3 Rough-in Inspection.** Inspection is required after the framing, fire blocking, and fire stopping are in place, after all circuit wiring, outlet boxes and luminaires are roughed-in, and prior to the installation of insulation and wall and ceiling membranes.

**109.3.2.4 Energy Rough-in Inspection.** Inspection is required after all circuit wiring, outlet boxes and luminaires are roughed-in, and prior to the installation of insulation and wall and ceiling membranes. Inspection of installation is required for the wiring of controls and other electrical provisions of the *Energy Conservation Code*.

**109.3.2.5 Energy Final Inspection.** Inspection is required after completion of all the electrical work planned or required on the *premises* for which a permit was issued. Inspection of installation is required for lighting efficacy, lighting controls, and other electrical provisions of the *Energy Conservation Code*.

**109.3.2.6 Final Electrical Inspection.** A final electrical inspection is required after completion of all the electrical work planned or required on the *premises* for which a permit was issued, to confirm that all required electrical outlets, switches, luminaires and equipment are in place and properly connected and protected.

### **109.3.3 Plumbing Inspections.**

**109.3.3.1 Underground and Slab Inspection.** Inspection is required after trenches or ditches are excavated, forms are erected, and piping is installed, and before any backfill or concrete is placed. Drainage piping shall be inspected for appropriate size and slope, and all piping to be buried or embedded shall be tested for leaks under appropriate hydrostatic pressure in accordance with Sections 312.2 and 312.5 of the *Plumbing Code* and corresponding provisions of the *Residential Code* if applicable. Inspection of water and sewer laterals to the point of connection to the public mains is also required.

**109.3.3.2 Rough-in Inspection.** Inspection is required prior to the installation of insulation and wall and ceiling membranes, after the framing, fire blocking and fire stopping are in place, and after water, soil, waste and vent piping is complete. All piping systems, whether to be concealed or not, shall be tested for leaks under appropriate hydrostatic pressure, in accordance with Sections 312.2 and 312.5 of the *Plumbing Code* and corresponding provisions of the *Residential Code* if applicable, before installation of any concealing materials.

**109.3.3.3 Energy Rough-in Inspection.** Inspection is required after the installation of pipe insulation. Inspection of installation is required for plumbing

pipe insulation and other plumbing provisions of the *Energy Conservation Code* prior to covering of the material or equipment

**109.3.3.43 Water Service Pipe Inspection.** Domestic *water service pipe* installation inspection is required for pipe size, materials, trenching and bedding, from the *public water main* tap to the water distribution system of the premises, prior to backfilling the trench.

**109.3.3.54 Building sewer pipe inspection.** Inspection of installation of *sanitary, storm* and *combined building sewer*, as applicable, is required for pipe size, materials, slope, trenching and bedding, from the *building drain* to the public sewer serving the premises, prior to backfilling the trench.

**109.3.3.65 Water Service Flush Inspection.** Domestic *water service pipe* flush inspection is required prior to connection of the service to the water distribution system of the premises, to witness the removal of debris in the water service line.

**109.3.3.7 Energy Final Inspection.** Inspection is required after the work for which a permit was issued has been completed, all plumbing fixtures and equipment are in place and properly connected, and all the plumbing work to be done in the *structure, building, or portion thereof* is completed. Inspection of installation is required for plumbing controls and other plumbing provisions of the *Energy Conservation Code*.

**109.3.3.86 Final Plumbing Inspection.** Final plumbing inspection is required after the work for which a permit was issued has been completed, all plumbing fixtures and equipment are in place and properly connected, and all the plumbing work to be done in the *structure, building or portion thereof* is completed.

#### **109.3.4 Mechanical Inspections.**

**109.3.4.1 Underground and Slab Inspection.** Inspection is required after trenches or ditches are excavated, forms are erected, underground duct or fuel piping is installed, and before any backfill and/or concrete is placed.

**109.3.4.2 Rough-in Inspection.** Inspection is required prior to the installation of wall and ceiling membranes, and after the roof, framing, fire blocking and bracing are in place and all duct and fuel piping to be concealed are complete.

**109.3.4.3 Energy Rough-in Inspection.** Inspection is required prior to the installation of wall and ceiling membranes, and after all duct to be concealed are complete. Inspection of installation is required for duct insulation, ventilation strategy, and other mechanical provisions of the *Energy Conservation Code*. The rough-in duct leakage test results shall be provided. Systems commissioning documents shall be provided per established guidance upon request of the code

official.

**109.3.4.4 ~~109.3.4.3~~ Commercial Kitchen Hood and Duct Inspections.** Inspection is required after a commercial kitchen hood and associated exhaust duct have been installed.

**109.3.4.4.1 ~~109.3.4.3.1~~ Grease Duct Inspection.** This inspection shall be performed before concealing any portion of the grease duct, and shall include, but not be limited to, inspection of duct joints and witnessing of a grease duct leakage test in accordance with Section 506.3.2.5 of the *Mechanical Code*.

**109.3.4.4.2 ~~109.3.4.3.2~~ Kitchen Exhaust Hood Inspection.** This inspection shall be performed after connecting the hood to the grease duct, and shall include, but not be limited to, inspection of the connection between hood and duct, and of any required grease duct enclosure installation, in accordance with Section 506.3.11 of the *Mechanical Code*. This inspection is in addition to the commercial kitchen exhaust hood testing required by Section 109.3.7.6.

**109.3.4.5 Energy Final Inspection.** Inspection is required after the work for which a permit was issued has been completed, the mechanical systems and appliances are in place and properly connected. Inspection of installation is required for HVAC system sizing, ventilation strategy controls, and other mechanical provisions of the *Energy Conservation Code*. If not provided at Energy Rough, 109.3.4.3, the post construction duct leakage test report shall be provided. Systems commissioning documents shall be provided per established guidance upon request of the code official.

**109.3.4.6 ~~109.3.4.4~~ Final Mechanical Inspection.** A final mechanical inspection is required after the work for which a permit was issued has been completed, the mechanical systems and appliances are in place and properly connected and all work regulated by the *Mechanical Code* (or corresponding provisions of the *Residential Code* if applicable) to be done on the *premises* is completed.

### **109.3.5 Fuel Gas Inspections.**

**109.3.5.1 Rough-in Inspection.** Inspection is required after all piping authorized by the permit has been installed and before any such piping has been covered and concealed or any fixtures or appliances have been connected. This inspection shall include witnessing a test and performing an inspection of the gas piping systems, in accordance with Section 406 of the *Fuel Gas Code* and corresponding provisions of the *Residential Code* if applicable.

**109.3.5.2 Final Fuel Gas Inspection.** A final inspection is required after all fuel

gas work for which a permit was issued has been completed.

**109.3.6 Elevators, Escalators and Other Conveying Systems Inspections.** Prior to operation of an elevator, escalator or other conveying system that has been installed or altered pursuant to a permit, a final inspection and issuance of a certificate of inspection shall be required in accordance with Section 3009.3.

### **109.3.7 Fire Protection Systems Inspections**

**109.3.7.1 Fire Alarm Systems Rough-in.** Inspection of fixed portions of fire detection and alarm systems, whether to be concealed or not, is required before installation of any concealing materials, for inspection of wiring methods and supports.

**109.3.7.2 Fire Suppression Systems Pressure Testing and Inspection.** Before installation of any concealing materials, or painting of any piping or fittings, an inspection is required of all portions of fire suppression systems piping, whether to be concealed or not. This inspection shall include, but not be limited to, the materials installed, the method of installation, clearances and supports, the location of sprinklers or nozzles, and the witnessing of pressure tests with appropriate testing media, to detect leaks. Where water-based suppression systems have to be tested with gas or air, an additional hydrostatic test shall be performed and witnessed in accordance with Section 903.5 of the *Building Code* and Section 901.5 of the *Fire Code*, as soon as temperature conditions allow it.

**109.3.7.3 Fire Service Flush Inspection.** Fire service flush inspection is required prior to connection of the service to any portion of the fire pump or sprinkler system piping, to witness the removal of debris in the fire service line.

**109.3.7.4 Fire Pump Inspection.** Before final inspection of a water-based fire suppression system, where a new or replacement fire pump assembly is installed, a fire pump inspection is required, for proper installation, initiation and operation, under normal and backup power, to verify that appropriate pressure and flow are achieved. This inspection shall include witnessing an acceptance test of the pump in accordance with the relevant standard.

**109.3.7.5 Fire Suppression Systems Final Inspection.** Final inspection is required to verify the installation and coverage, and, where appropriate, proper operation of each fire suppression system. Where appropriate, this inspection shall include witnessing the testing of system discharge control devices under the relevant standard.

**109.3.7.6 Kitchen Hood and Duct Fire Suppression Systems Final Acceptance Testing.** Final acceptance testing is required of work for which a permit has been issued to confirm proper installation, coverage and operation of fire suppression

systems. This acceptance testing shall include witnessing the testing of system discharge control devices, as appropriate under the relevant standards.

**109.3.7.7 Fire Alarm Systems Final Acceptance Testing.** Final acceptance testing is required of any work on a fire detection and alarm system for which a permit has been issued to confirm proper initiation, notification, annunciation and operation of the system. This acceptance testing shall include witnessing an acceptance test of the system in accordance with the relevant standard.

~~**109.3.8 Energy Inspections.** Inspections shall be required as specified in Sections 109.3.8.1 through 109.3.8.4 to ascertain compliance with the *Energy Conservation Code*.~~

~~**109.3.8.1 Building Envelope Inspection.** Inspection of the type and application of the materials that form the *air barrier* of the building is required before covering them with any other materials, to ascertain compliance with the air tightness requirements of the *Energy Conservation Code*.~~

~~**109.3.8.2 Insulation Inspection.** Inspection of the type and application of the materials that form the *building thermal envelope* is required before covering them with any other materials, to ascertain compliance with the *Energy Conservation Code*. This inspection will occur at appropriate stages of construction, to allow, without limitation, inspection of slab edge insulation, foundation wall insulation, exterior continuous insulation, and interior cavity insulation of exterior envelope wall, floor and roof/ceiling assemblies.~~

~~**109.3.8.3 Fenestration Inspection.** Inspection of windows, skylights and doors installed in openings on the building thermal envelope is required after such items are installed, to ascertain compliance with U-factors, SHGC values, and other relevant fenestration provisions of the *Energy Conservation Code*.~~

~~**109.3.8.4 Final Energy Inspection.** A final energy inspection is required after the work for which a building permit was issued has been completed and all the mechanical and lighting systems have been installed, to ascertain compliance of the project with the relevant provisions of the *Energy Conservation Code*.~~

**109.3.8 Energy Final Inspection.** A final energy inspection is required after the work for which a building permit was issued has been completed and all the mechanical, plumbing, electrical and building envelope systems have been installed and programmed, to ascertain compliance of the project with the relevant provisions of the *Energy Conservation Code*. The building air leakage test results shall be provided to the *code official*.

**109.3.9 Green Building Inspections.** Where the *Green Construction Code* applies, the following green building inspections are required. Inspections are required at appropriate times during the construction and upon completion of each project as necessary to

~~determine compliance with the *Green Construction Code* or with an alternate compliance path selected pursuant to Section 101.4.9.~~

**109.3.9.1 Green Demolition Inspection.** Inspection is required for material resource conservation, efficiency, and indoor environmental air quality at the time of indoor air quality plan implementation but prior to starting construction activities likely to produce dust or odors. The green demolition inspection is applicable to all projects subject to the Green Construction Code performing demolition.

**109.3.9.2 Green Rough-in Inspection.** Inspection is required for site development, material resource conservation, energy conservation, water resource conservation, and indoor environmental quality at the time of first insulation inspection in accordance with 109.3.1.9 and after mechanical, electrical, and plumbing rough-in inspections. Inspection is required prior to the covering of the materials or equipment. A Green Rough-in inspection is not required if the project is only performing demolition.

**109.3.9.3 Green Final Inspection.** Inspection is required for site development, material resource conservation, energy conservation, water resource conservation, and indoor environmental quality prior to the final building inspection in accordance with Section 109.3.1.11. A green final inspection is not required if the project is only performing demolition.

**109.3.10 Boiler and Pressure Vessel Inspections.** A boiler or pressure vessel inspection is required prior to operating a new or altered boiler or pressure vessel. This final inspection shall be performed to confirm that the boiler or pressure vessel has been installed or altered in compliance with the *Mechanical Code* and the conditions of its installation permit. This final inspection and issuance of a certificate of inspection are required pursuant to Section 1003.2 of the *Mechanical Code*.

**109.3.11 Other Inspections.** In addition to the inspections specified above, the *code official* is authorized to make, or to require the *owner* of a *building* or other *structure* to have an independent inspection agency perform, other inspections of any construction work. These inspections shall ascertain compliance with the provisions of the *Construction Codes*, the *Zoning Regulations* and other laws or regulations that are enforced by the *Department*.

**109.3.12 [Reserved].**

**109.3.13 Special Inspections.** Special inspections shall be made in accordance with Chapter 17 of the *Building Code*, the *Third Party Program Procedure Manual* published by the *Department*, and the *Special Inspections Procedural Manual* published by the *Department*.

**109.3.13.1 Authority to Require Special Inspections.** The *code official* is authorized to require the *owner* to employ special inspectors having adequate qualifications for inspection or supervision of the types of construction in accordance with Chapter 17 of the *Building Code*, the *Third Party Program Procedure Manual* and the *Special Inspections Procedural Manual*.

**109.3.13.2 Final Report of Special Inspections.** In order to obtain a final building inspection and/or Certificate of Occupancy, a final report of Special Inspections must be submitted to the *code official* after review and approval by the Special Engineer of Record in accordance with the requirements of the *Third Party Program Procedure Manual* and the *Special Inspections Procedural Manual*.

**109.3.13.3 Inspection at Point of Manufacture or Fabrication.** When required by the provisions of the *Building Code*, materials or assemblies shall be inspected at the point of manufacture or fabrication in accordance with Sections 1704.2.5 and 1704.2.5.1, and the *Special Inspections Procedural Manual*.

**109.3.14 Certificates Authorizing Use and Occupancy of Premises or Portion Thereof.** The *code official* is authorized to conduct an inspection upon submission of an application for a Certificate required by Section 110, to confirm that work authorized by a permit has been completed in compliance with the *Construction Codes*, and the proposed use and occupancy or both complies with all applicable provisions of the *Construction Codes* and *Zoning Regulations*.

#### **109.4 Inspections of Permitted Work by Third Party Agencies.**

**109.4.1 Authorization to Use a Third Party Agency.** When *approved* by the *Department*, a permit holder, at the permit holder's expense, shall have the option of having a *Third Party Agency* conduct the inspections required by Section 109.3 for work subject to a permit issued by the *Department*. The *Third Party Agency* must be pursuant and subject to the provisions of D.C. Official Code § 6-1405 (2018 Repl.), this Section 109.4, and the *Third-Party Program Procedure Manual* (the provisions of which are incorporated herein by reference). Where the *Department* approves the use of a *Third Party Agency* the *Third Party Agency* shall provide and perform inspection services of the work for which a permit has been issued by the *Department* in accordance with D.C. Official Code § 6-1405, this Section 109.4, and the provisions of the *Third-Party Program Procedure Manual*.

**109.4.1.1 Special Inspections.** Special inspections shall be governed by Section 109.3.13 and Chapter 17 of the *Building Code*, the *Third Party Program Procedure Manual* and the *Special Inspections Procedural Policy Manual*.

**109.4.2 Procedures for Inspections by Third Party Agencies.** Where inspections are to be conducted by one or more *approved Third Party Agencies* of work subject to any

permit issued by the *Department*, the *Third Party Agency* shall comply with the provisions of the *Third-Party Program Procedure Manual*.

**109.5 Right of Entry.** The *code official's* right of entry shall be governed by Section 104.6.

**109.6 Coordination of Inspections.** Whenever, in the enforcement of the *Construction Codes* or another law or regulation, the responsibility of more than one official of the District of Columbia is involved, it shall be the duty of the officials involved to coordinate their inspections and administrative orders as fully as practicable so that the *owner* and occupants of the *premises* are not subjected to multiple visits by numerous inspectors nor multiple or conflicting orders.

*Strike Section 111 of the International Building Code in its entirety and insert new Section 110 in the Building Code in its place to read as follows:*

## **110 LETTERS OF CORE AND SHELL COMPLETION AND CERTIFICATES AUTHORIZING OCCUPANCY AND USE OF PREMISES**

**110.1 General.** Section 110 provides procedures and requirements for the following:

1. Letters of Core and Shell Completion;
2. Certificates of Occupancy;
3. Single-Family Certificates of Completion;
4. Conditional Certificates of Occupancy; and
5. Temporary Certificates of Occupancy.

For purposes of Section 110, the term "Certificate" shall collectively refer to all of the certificates identified in items 2 through 5 above.

**110.2 Letter of Core and Shell Completion.** The *code official* is authorized to issue a Letter of Core and Shell Completion in accordance with the provisions of Section 110.2 for construction, whether involving newly constructed or existing *buildings*, where the *code official* determines that the *building's* core and shell are substantially complete in accordance with the *Construction Codes*. The issuance of a Letter of Core and Shell Completion under this section shall not authorize or be deemed to authorize the use or occupancy of any portion of a *premises* or portion thereof for which a Certificate is required. The core and shell shall include any elements, systems and components that the *code official* shall designate.

**110.2.1 Applications for a Letter of Core and Shell Completion.** All applications for a Letter of Core and Shell Completion shall be filed with the *Department* on the prescribed forms provided by the *code official*, shall be accompanied by the prescribed filing fee paid at the time of the application, and shall include the following:



1. A list of permit numbers for all valid, associated permit(s) that authorized the construction for which the Letter of Core and Shell Completion is sought;
2. Where the *premises* is located wholly or partially within a *flood hazard area*, the as-built elevation certificate or flood-proofing certificate required by Appendix G as applicable; and
3. Other information as the *code official* shall require.

**110.2.2 Additional Requirements for Action on Applications for Letters of Core and Shell Completion.** Prior to issuance of a Letter of Core and Shell Completion, the *code official* shall conduct inspections pursuant to Section 109.3.8 to confirm compliance with the applicable *Construction Codes*, and shall obtain review and approval by the *Floodplain Administrator* if the *premises* are located wholly or partially within a *flood hazard area*.

**110.2.3 Issuance of Letter of Core and Shell Completion.** The *code official* shall review applications for Letters of Core and Shell Completion which are complete, and shall approve such applications and issue a Letter of Core and Shell Completion upon a finding that the application satisfies the requirements of Sections 110.2, 110.2.1 and 110.2.2., and other applicable provisions of the *Construction Codes*. The Letter of Core and Shell Completion issued by the *Department* shall contain the following information:

1. The address of the *premises*, along with the *lot* and square number;
2. The name and address of the *owner*;
3. A description of the *premises* or portion of the *premises* for which the Letter of Core and Shell Completion is issued;
4. The permit number(s) associated with the Letter of Core and Shell Completion (if applicable);
5. The type of construction as defined in Chapter 6 of the *Building Code*;
6. The edition of the *Construction Codes* under which the permit(s) were issued;
7. List of all building elements, systems and components encompassed by the Letter of Core and Shell Completion and any special stipulations and conditions;
8. The name of the *code official*; and
9. The date of issuance.

**110.3 Required Certificates Authorizing Use and Occupancy of a Premises or Portion Thereof.** Until a Certificate authorizing the use and occupancy of the *premises* or portion thereof in accordance with Sections 110.3 and 113.4 has been issued by the *code official*, no *person* shall use or occupy any *premises* or any portion thereof for any purpose, and no change in the existing use, occupancy classification, occupancy load, tenant floor layout or ownership of a *premises* or portion thereof shall be made for any purpose. The issuance of a Certificate shall not be construed as an approval of a violation of the provisions of the applicable *Construction Codes* or *Zoning Regulations* or of the provisions of other laws or regulations of the District.

**Exceptions:**

1. One-family *dwelling*s (including *congregate living facilities* with six or fewer residents) in existence on the effective date of the *Construction Codes*.
2. Repairs or *alterations* (Level 1 or Level 2) to one-family *dwelling*s (including *congregate living facilities* with six or fewer residents).
3. Transfer of ownership of a one-family *dwelling* (including *congregate living facilities* with six or fewer residents) in itself does not require a new certificate.

**110.4 Code Official Authority to Issue Certificates.** The *code official* is authorized to issue the following Certificates authorizing use and occupancy of a *premises*, or portion thereof, in accordance with the requirements of Sections 110.4 through 110.6:

1. Certificate of Occupancy.
2. Single-Family Certificate of Completion.
3. Conditional Certificate of Occupancy.
4. Temporary Certificate of Occupancy.

**110.4.1 Certificate of Occupancy.** The *code official* is authorized to issue a Certificate of Occupancy where the *code official* determines that:

1. Work pursuant to a permit has been completed;
2. A satisfactory final inspection has been approved in accordance with Section 109.3.1.11;
3. The construction conforms substantially to the permit including *approved construction documents* and to the provisions of the *Construction Codes*, the *Zoning Regulations* and other applicable laws and regulations; and
4. The *owner* has complied with the requirements of Section 110.5.

**110.4.2 Single-Family Certificate of Completion.** Where the *code official* determines that the conditions of Section 110.4.1 are satisfied, the *code official* has authority to issue a Single-Family Certificate of Completion in the following circumstances:

1. One-family *dwelling*s (including *congregate living facilities* with six or fewer residents) constructed after the effective date of the *Construction Codes*.
2. Additions or Level 3 *alterations* to existing one-family *dwelling*s (including *congregate living facilities* with six or fewer residents) completed after the effective date of the *Construction Codes*.

**110.4.3 Conditional Certificate of Occupancy.** The *code official* is authorized to issue a Conditional Certificate of Occupancy to authorize the conditional use and conditional occupancy of a *premises*, or a portion thereof, for which construction has begun but not been completed pursuant to a valid permit where all of the following conditions are met:

1. The *code official* has determined that the portion of the *premises* for which the Conditional Certificate of Occupancy is requested may be safely occupied notwithstanding that the work authorized by the permit has not been completed. A *building* will not be deemed safe for occupancy unless, at a minimum, the following are in place for the areas being occupied: adequate light, ventilation and sanitation; *means of egress*, *fire protection systems*, *primary structural frame* and *secondary members*.
2. A valid Letter of Core and Shell Completion has been issued for the entire *building* or *structure* in which the *premises* or portion thereof for which the Conditional Certificate of Occupancy is requested is located unless the *code official* makes a determination in writing that a Letter of Core and Shell Completion is not required.
3. The proposed occupancy (both as to initial occupancy and subsequent identical occupancies thereafter) complies with all use and occupancy requirements of Chapters 3 and 4 of the *Building Code* and the applicable *Zoning Regulations*.
4. The *owner* has complied with the requirements of Section 110.5.

The issuance of a Conditional Certificate of Occupancy under this Section shall only authorize the use or occupancy of the part of the *premises* specified therein, and shall not authorize or be deemed to authorize the use or occupancy of any other part of the *premises*. A substantial separation will be established and maintained between the area occupied and the areas remaining under construction to prevent noise, pollutants and other unsafe conditions from adversely affecting occupied areas.

**110.4.3.1 Authority to Impose Conditions.** The *code official* is authorized to

impose conditions on the Conditional Certificate of Occupancy as the *code official* deems necessary to protect the public health, safety, and welfare, including, but not limited to, an expiration date for the Conditional Certificate of Occupancy and a requirement that a single Certificate of Occupancy be obtained for the entire *building* or *structure* upon completion of all phases of the *work* permitted.

**110.4.3.2 Expiration of Conditional Certificate of Occupancy.** A Conditional Certificate of Occupancy shall become null and void upon the expiration date specified in the Conditional Certificate of Occupancy without any additional notice or order required by the *code official*. The *code official* is authorized to identify expired certificates in the *Department's* database, or to take any other actions necessary to administer this provision.

**110.4.4 Temporary Certificate of Occupancy.** The *code official* is authorized to issue a Temporary Certificate of Occupancy, subject to the requirements of Section 110.5, in either of the following circumstances:

1. To authorize the temporary use and temporary occupancy of a temporary structure, tent or membrane structure for which a permit has been issued pursuant to Sections 107.1 and 3103 and/or Sections 3103 and 3104 of the *Fire Code* for a defined period of time not to exceed six months.

**Exception:** The *code official* has authority to issue a Temporary Certificate of Occupancy for up to 12 months for temporary use and temporary occupancy of a permitted temporary structure, tent or membrane structure, where the use and occupancy occurs intermittently, and for no more than two days per week, and no permanent structure is built.

2. To authorize the temporary use (including a temporary change of use) and temporary occupancy of (a) an *existing building* or *existing structure*, or portion thereof, or (b) a *lot* (but not any temporary structures, tents or membrane structures located thereon) for a defined period of time not to exceed 12 months, where the *code official* determines that the *premises*, or designated part thereof, is safe to use and occupy.

The issuance of a Temporary Certificate of Occupancy under this Section shall only authorize the use or occupancy of the part of the *premises* specified therein, and shall not authorize or be deemed to authorize the use or occupancy of any other part of the *premises*.

**110.4.4.1 Authority to Impose Conditions.** The *code official* is authorized to impose conditions on the Temporary Certificate of Occupancy as the *code official* deems necessary to protect the public health, safety, and welfare.

**110.4.4.2. Expiration of Temporary Certificate of Occupancy.** The *code official* shall specify the expiration date for the Temporary Certificate of Occupancy in the Certificate issued under this Section. A Temporary Certificate of Occupancy shall become null and void upon the expiration date specified in the Temporary Certificate of Occupancy without any additional notice or order required by the *code official*. The *code official* is authorized to identify expired certificates in the *Department's* database, or to take any other actions necessary to administer this provision.

**110.5 Application for and Processing of Certificates.** All applications for a Certificate authorizing the use and occupancy of a *premises* or a portion thereof shall be filed with the *Department* on the prescribed forms provided by the *code official*, shall be accompanied by the prescribed filing fee paid at the time of the application, and shall include the following:

1. A list of permit number(s) for the valid, associated permit(s) that authorized the construction of the *premises* or portion thereof for which the Certificate is sought unless the *code official* determines that an associated permit is not required;
2. A copy of the final inspection approval per Section 109.3.8, unless the *code official* determines that no inspection is required pursuant to Section 110.5.1;
3. For *premises* located in a PDR zone, the "Standards of External Effects" application required by Section U-805 of the *Zoning Regulations*;
4. If an application pertains to a *structure* or use authorized by an order of the Zoning Commission or Board of Zoning Adjustment and the permission granted in that order was made subject to conditions, a copy of the Order and a statement demonstrating compliance with the Order, including all conditions that were to be satisfied prior to the issuance of a Certificate;
5. Where the *premises* is located wholly or partially within a *flood hazard area*, the required elevation certificate or flood-proofing certificate as applicable with evidence of review and approval of such certificate by the *Floodplain Administrator*; and
6. Any other information required by the *code official*.

**110.5.1 Inspections.** Following the filing of an application for a Certificate, and as required by the *code official*, inspections shall be conducted pursuant to Section 109.3.14 to confirm compliance with the applicable *Construction Codes* and the *Zoning Regulations*.

**Exceptions:**

1. Applications for issuance of a new Certificate for a *premises* or portion thereof due to a change in ownership or change in tenancy, where the *premises* or portion

thereof has an existing valid Certificate, the *code official* is authorized to issue a new Certificate without an inspection. The *code official* is authorized to conduct inspections to confirm that no other changes have been made from the prior Certificate.

2. Applications for issuance of a new Certificate for a *premises* or portion thereof that have an existing valid Certificate from which the only change proposed is a change in use, the *code official* is authorized to issue a Certificate without requiring an inspection upon a determination by the *code official* that the change of use or occupant load is not accompanied by any physical changes to the *premises* or portion thereof for which the Certificate is requested. The *code official* is authorized to conduct inspections to confirm that no other changes have been made from the prior Certificate.
3. Applications for issuance of a new Certificate for a *premises* or portion thereof that have an existing valid Certificate from which the only change proposed is a change in occupant load, the *code official* is authorized to issue a Certificate without requiring an inspection upon a determination by the *code official* that the change in occupant load does not require changes to *means of egress*, plumbing or ventilation requirements. The *code official* is authorized to conduct inspections to confirm that no other changes have been made from the prior Certificate.
4. Changes in occupancy classification as defined in Chapter 3 require a separate permit, and approved inspections must be completed prior to issuance of a Certificate for the new occupancy classification.

**110.5.2 Zoning Review and Approval.** Prior to issuance of a Certificate, the *code official* shall obtain review and approval by the *Zoning Administrator* to confirm that the proposed use of the *premises*, including accessory uses, complies with the *Zoning Regulations*.

**Exception:** Approval of the *Zoning Administrator* shall not be required for a Certificate for any use for which the *Zoning Regulations* do not require a Certificate of Occupancy.

### **110.5.3 Special Restrictions for Projects Subject to Green Building Act and Green Construction Code Alternate Compliance Paths.**

**110.5.3.1 Projects Subject to the Green Building Act.** No Certificate of Occupancy shall be issued for a project subject to Section 4 of the *Green Building Act* (D.C. Official Code § 6-1451.03) and Section 302 of the *Green Construction Code*, until the *owner* complies with the financial security requirement of Section 6 of the *Green Building Act* (D.C. Official Code § 6-1451.05) or Section 302 of the *Green Construction Code*, as applicable.

**110.5.3.2 Projects Not Subject to the Green Building Act.** For projects electing

an alternate compliance pathway pursuant to Sections 101.4.9.4.2.2, 101.4.9.4.2.3, or 101.4.9.4.2.4, prior to issuance of a Certificate of Occupancy, or prior to issuance of the first Certificate of Occupancy for occupiable space in a *story above grade plane* where a project has multiple Certificates of Occupancy, the *code official* is authorized to request additional documentation as deemed necessary to confirm that the project is on track to be certified as compliant with the elected pathway.

**110.6 Issuance of Certificate Authorizing Use or Occupancy.** The *code official* shall review applications for Certificates which are complete, and shall approve such applications and issue the applicable Certificate upon a finding that the application satisfies the requirements of the *Construction Codes*, the *Zoning Regulations*, and other laws or regulations that are enforced by the *Department*. The Certificate issued by the *Department* shall contain the following information:

1. The address of the *premises*, along with the lot and square number and the applicable zone district;
2. The name and address of the *owner* or tenant, as applicable;
3. A description of the *premises*, or portion thereof, for which the Certificate is issued;
4. The permit number(s) associated with the Certificate, if applicable;
5. The use and occupancy authorized in accordance with the provisions of Chapters 3 and 4 of the *Building Code*;
6. The use and occupancy authorized in accordance with the *Zoning Regulations*;
7. The design occupant load;
8. The type of construction as defined in Chapter 6 of the *Building Code*;
9. If an *automatic sprinkler system* is provided, whether the sprinkler system is required;
10. The edition of the *Construction Codes* under which the permit was issued;
11. Any special stipulations and conditions of the Certificate or the associated permit(s);
12. The name of the *code official*;
13. The date of issuance; and
14. The date of expiration, if a Conditional or Temporary Certificate of Occupancy.

15. The *code official* is authorized to omit any of the above information upon determination that such information is not necessary or applicable to the specific Certificate.

**110.7 Posting of Certificate.** All Certificates shall be conspicuously posted in or upon the *premises* to which they apply so that they are readily visible to anyone entering the *premises*.

**Exceptions:**

1. Certificates for places of religious worship are not required to be posted.
2. Certificates are not required to be posted for one-family *dwelling*s (including *congregate living facilities* with six or fewer residents).

**110.8 Revocation of a Certificate.** Revocations of any Letter of Core and Shell Completion or Certificate issued pursuant to this Section are governed by Section 111.

**110.9 Fees for Letters of Core and Shell Completion and Certificates.** A fee for the processing and issuance of a Letter of Core and Shell Completion and Certificates shall be paid to the D.C. Treasurer in accordance with the applicable fee schedule.

**110.9.1 Fee Schedule.** The Director is authorized to establish, from time to time, by *approved* rules, a schedule of unit rates and other fees for Letters of Core and Shell Completion, Certificates and other related miscellaneous services.

*Strike Section 112 of the International Building Code in its entirety and insert a new Section 111 into the Building Code in its place to read as follows:*

## **111 REVOCATION OF PERMITS AND CERTIFICATES**

**111.1 Revocation of a Permit.** The *code official* is authorized to revoke in whole or in part any permit issued under the *Construction Codes* or the *Zoning Regulations* upon service of notice as specified by Section 111.3, for any of the following reasons:

1. Where the *Office of Administrative Hearings/OAH* or *Board of Zoning Adjustment/BZA* has issued an Order revoking a permit or finding that a permit was issued in error.
2. When the permit holder, contractor, or *Registered Design Professional in Responsible Charge* has been cited, under Sections 115 or 116 of the *Building Code* for one or more violations of the *Construction Codes* which, by the determination of the *code official*, threaten the health and safety of the public in the District of Columbia, and when the permit holder fails to restore safety or otherwise remedy the situation under the terms and conditions of the *code official's* order and within the time period specified.
3. When the *code official* determines that the permit has been erroneously issued as the result of administrative or clerical error and notifies the permit holder of the error within



five *business days* after permit issuance.

4. When the *code official* determines that the permit has been erroneously issued as the result of administrative or clerical error and notifies the permit holder of the error more than five *business days* after permit issuance.
5. When permits are issued to a contractor, construction manager or tradesperson without the requisite District of Columbia license(s) or whose District of Columbia license(s) have expired, or are suspended or revoked by the Board or DCRA Division having jurisdiction.
6. Where the application or *construction documents* on which the issuance of a permit or approval was based contain a significant inaccuracy, a false statement or a material misrepresentation of fact that substantively affected the approval and issuance of the permit, including, but not limited to, inaccuracies with respect to pre-existing conditions.
7. When work at a construction site covered by the permit has been posted with two or more stop work orders, under Section 114, and, where the stop work order is not otherwise withdrawn by the *code official*, the permit holder fails to comply with the terms of the stop work orders in two or more instances, so as to establish a pattern indicative of the permit holder's unwillingness to fully comply with the *Construction Codes*.
8. When the work at a construction site covered by the permit: (a) does not comply with (i) the *Construction Codes* (or any modification duly granted thereunder by the *code official*), (ii) the *Zoning Regulations* (or any relief granted therefrom by the Board of Zoning Adjustment or the Zoning Commission), (iii) the permit, (iv) the revised permit, (v) one or more conditions of any Board of Zoning Adjustment or Zoning Commission Order that authorized the construction, or (vi) the *approved construction documents*; and (b) the permit holder fails to correct the non-conforming condition within the time period specified in a notice or order issued under Section 113 if such is issued.
9. Where the application or construction documents on which the issuance of a permit or approval was based was signed by an architect or engineer without the requisite District of Columbia license(s) or whose District of Columbia license(s) have expired, or are suspended or revoked by the Board or DCRA Division having jurisdiction.
10. Where the *registered design professional* of record or the *registered design professional in responsible charge* has been disciplined by the Board for Professional Engineers or the Board for Architects or any other regulatory authority.

**111.1.1 Effective Date of Permit Revocation.** Revocation of a permit shall become final upon occurrence of one of the following conditions:

1. Revocations based on item 1 of Section 111.1 shall be summary revocations that take effect on the effective date of the order of the *OAH* or *BZA*.

2. Revocations based on item 2 of Section 111.1 shall be summary revocations that take effect on the date ordered by the *code official*.
3. Revocations based on item 3 of Section 111.1 shall be summary revocations that take effect upon timely issuance by the *code official* of a notice to the permit holder declaring the permit null and void and cancelling the permit.
4. All revocations based on Section 111.1 other than those subject to items 1, 2 or 3 of Section 111.1.1 , shall be proposed actions that will take effect upon one of the following conditions:
  - a. If based on violations of the *Construction Codes*, ten *business days* after service of the notice of revocation pursuant to Section 111.3 unless the permit holder requests a hearing to appeal the proposed revocation from the *Office of Administrative Hearings (OAH)* within that ten *business day* period; or
  - b. If based on violations of the *Zoning Regulations*, at the end of the 60-day period established in Section 11-Y 302 of the *Zoning Regulations* for appeals to the *Board of Zoning Adjustment (BZA)*, after service of the notice of revocation pursuant to Section 111.3 unless the permit holder requests a hearing to appeal the proposed revocation from the *Board of Zoning Adjustment (BZA)* within that 60-day period.

**111.2 Revocation of a Certificate.** The *code official* is authorized to revoke a *Certificate* or Letter of Core and Shell Completion issued under Section 110 as to the whole or a portion of a *premises*, as reasonably deemed appropriate by the *code official*, upon service of notice as specified by Section 111.3, for any of the following conditions:

1. Where the *Office of Administrative Hearings/OAH* or *Board of Zoning Adjustment/BZA* has issued an Order revoking a Certificate or finding that a Certificate was issued in error.
2. Where the *owner* or permit holder or the *Registered Design Professional in Responsible Charge* has been cited, under Sections 115 or 116 of the *Building Code*, for one or more violations of the *Construction Codes* which, by the determination of the *code official*, threaten the health and safety of the public in the District of Columbia, and when the Certificate holder fails to restore safety or otherwise remedy the situation under the terms and conditions of the *code official's* order and within the time period specified.
3. Where the application or information on which the issuance of the Certificate was based contained a significant inaccuracy, a false statement or a material misrepresentation of fact that substantively affected the approval and issuance of the Certificate; or
4. When the *code official* determines that the Certificate has been erroneously issued as the

result of administrative or clerical error and notifies the Certificate holder of the error within five *business days* after Certificate issuance.

5. When the *code official* determines that the Certificate has been erroneously issued as the result of administrative or clerical error and notifies the Certificate holder of the error more than five *business days* after Certificate issuance.
6. Where the actual occupancy does not conform with that which was permitted under the Certificate, including any conditions, or permitted under the applicable laws and regulations of the District, including, but not limited to situations where the use is being operated in violation of one or more conditions of any *Zoning Commission* or *Board of Zoning Adjustment* Order that authorized the establishment of the use or the construction, renovation, or *alteration* of the building in which the use is located. Such violations include, but are not limited to, (i) the failure to establish or maintain any public benefit in accordance with a condition set forth in any *Zoning Commission* order granting a planned unit development on the *premises* in which the use is located, or (ii) the failure to comply with a condition imposed by the *Board of Zoning Adjustment (BZA)* in any special exception or variance order of that Board related to the *premises* in which the use is located.
7. When all of the following conditions are verified:
  - a. The *premises* or portion thereof, for which a certificate had been previously issued, is undergoing *alteration* or repair, or an addition thereto is being constructed, under a duly issued permit, and the original use is being continued during the construction period; and
  - b. The *code official* deems that construction is not progressing at a reasonable pace and the unfinished portion of the project, as shown on the *approved construction documents*, or the missing systems or portions thereof, are such that the *code official* deems that the safety, health or welfare of the public or of the occupants is seriously threatened thereby.
8. Where the *owner* or occupant fails to timely apply for a new Certificate in accordance with Section 110, where such certificate is required, the Certificate previously issued for the *premises* or portion thereof shall be revoked in whole or in part as applicable.

**111.2.1 Effective Date of Revocation.** Revocations of a Certificate shall become final upon occurrence of one of the following conditions:

1. Revocations based on item 1 of Section 111.2 shall be summary revocations and shall take effect on the effective order of the *OAH* or *BZA*.
2. Revocations based on item 2 of Section 111.2 shall be summary revocations and shall take effect on the date ordered by the *code official*.

3. Revocations based on item 3 of Section 111.2 shall be summary revocations that take effect upon timely issuance of a notice by the *code official* to the Certificate holder declaring the Certificate null and void.
4. All revocations based on Section 111.2 other than those subject to items 1, 2 or 3 of Section 111.1.2, shall be proposed actions that will take effect upon one of the following conditions:
  - a. Based on violations of the *Construction Codes*, ten *business days* after service of the notice of revocation pursuant to Section 111.3 unless the permit holder requests a hearing to appeal the proposed revocation from the *Office of Administrative Hearings (OAH)* within that ten *business day* period; or
  - b. Based on violations of the *Zoning Regulations*, within the 60-day period established in Section 11-Y 302 of the *Zoning Regulations* for appeals to the *Board of Zoning Adjustment (BZA)*, after service of the notice of revocation pursuant to Section 111.3 unless the permit holder requests a hearing to appeal the proposed revocation from the *Board of Zoning Adjustment (BZA)* within that 60-day period.

**111.3 Notice of Revocation of a Permit or Certificate.** The *code official* or Zoning Administrator shall provide written notice of the revocation to the holder of the permit or Certificate of Occupancy. This notice shall include the following:

1. A statement of the grounds for the action taken, citing the provisions of the D.C. Official Code, the *Construction Codes* or the *Zoning Regulations* which have been violated;
2. The effective date of the proposed revocation; and
3. A statement advising the permit holder or Certificate holder of the right to appeal the revocation in accordance with Section 112.2.

**Exception:** For revocations based on item 1 of Section 111.1 and item 1 of Section 111.2, the Order of the *Office of Administrative Hearings (OAH)* or of the *Board of Zoning Adjustment (BZA)*, as applicable, ordering the revocation of a permit or Certificate or finding that a permit or Certificate has been issued in error, shall constitute the Notice of Revocation required under this section and no additional notice is required.

**111.3.1. Service of Notice to Revoke a Permit or Certificate.** The *code official* shall provide service of a notice to revoke a permit to the permit holder or the permit holder's agent in accordance with Section 113.5. The *code official* shall provide service of a notice to revoke a Certificate to the Certificate holder or the Certificate holder's agent in accordance with Section 113.5.

**111.4 Appeals of Revocations.** Appeals of revocations of permits and of Certificates shall be governed by Section 112.

**Exception:** Revocations based on item 1 of Section 111.1 and item 1 of Section 111.2 shall not be appealed to the *Office of Administrative Hearings (OAH)* or the *Board of Zoning Adjustment (BZA)*, as applicable, but instead shall be appealed only to the District of Columbia Court of Appeals pursuant to Section 11 of An Act To prescribe administrative procedures for the District of Columbia Government, approved October 21, 1968 (82 Stat. 1209; D.C. Official Code § 2-510 (2016 Repl. & 2018 Supp.)).

*Strike Section 113 of the International Building Code in its entirety and insert a new Section 112 in the Building Code in its place to read as follows:*

## **112 INTERNAL AGENCY REVIEW AND APPEALS OF FINAL DECISIONS OF CODE OFFICIAL AND ZONING ADMINISTRATOR**

**112.1 Internal Agency Review Process.** The purpose of this Section 112.1 is to facilitate internal agency review of a Staff Action (as defined in Section 112.1.2) by the *code official* or *Zoning Administrator* in certain limited situations authorized by Sections 112.1.1 through 112.1.4.

**112.1.1 Persons Authorized to Seek Internal Agency Review.** The right to seek internal agency review is available only to (1) an applicant for a permit or Certificate, or the holder of a permit or Certificate, that is adversely affected or aggrieved by a Staff Action as defined in Section 112.1.2, or (2) by *persons* specified in Section 112.1.1.1.

**112.1.1.1 Stop Work Orders for Illegal Construction.** Where a *person* is served with a Stop Work Order for violation of the *Construction Codes* in accordance with Section 114, and such *person* is neither a permit applicant nor a permit holder, such *person* is authorized and required to seek internal agency review of the Stop Work Order by the *code official* in accordance with the provisions of Section 112.1 before initiating an appeal to *OAH* or the *Board of Zoning Adjustment (BZA)* pursuant to Sections 112.2 and 112.3, as applicable.

**112.1.2 Staff Action Subject to Internal Agency Review.** A Staff Action for purposes of Section 112.1 shall consist of an interpretation of the *Construction Codes* or *Zoning Regulations*, or an action or decision based on such interpretation, that is made or taken by *Department* staff other than the *code official* or the *Zoning Administrator*, and which relates only to the following:

1. Application processing;
2. Interpretation or application of pertinent provisions of the *Construction Codes* or the *Zoning Regulations*,

3. Inspections; or
4. A Stop Work Order issued pursuant to Section 114.

**112.1.3 Requirements to Obtain Code Official Review of a Staff Action.** To seek *code official* review of a Staff Action pursuant to Section 112.1, the following conditions apply:

1. *Code official* review pursuant to Section 112.1 shall only be available to the *persons* authorized to seek internal agency review as specified in Sections 112.1.1 and 112.1.1.1 (the “aggrieved person”);
2. The request for internal agency review by the *code official* shall be submitted by the aggrieved person on a review form provided by the *Department* and shall state in writing the grounds for the requested review of a Staff Action, with: (i) references to the specific provisions of the *Construction Codes* that are alleged to have been incorrectly interpreted or applied, and (ii) where evidence of alternate methods or means of compliance with the *Construction Codes* is proposed by the aggrieved person, evidence to support the assertion that an equally good or better form of construction can be used in compliance with the *Construction Codes*; and
3. Internal agency review authorized by Section 112.1 must be initiated by the aggrieved person no later than ten *business days* after the aggrieved person (as defined in Sections 112.1 and 112.1.1) is notified of or learns of the Staff Action.

**112.1.3.1 Time of Notification for Section 112.1.3.** For purposes of Section 112.1.3, the aggrieved person shall be deemed to have been notified of the Staff Action on the earliest occurrence of any of the following:

1. Posting of a Stop Work Order in accordance with Section 114;
2. Entry of a hold for corrections by the *Department* on the *Department’s* review database;
3. Entry of a failure to pass a required inspection on the *Department’s* review database;
4. Refusal by *Department* staff to accept an application for issuance of a permit or a Certificate;
5. Notification by *Department* staff in writing or by electronic communication to the aggrieved person that all submittal documents required by Section 106 pertinent to the permit applied for, or documentation specified in Section 110 to support an application for a Certificate, is absent or deemed insufficient; or

6. Notice by *Department* staff, issued in writing or by electronic communication to the aggrieved person that continued processing of an application for issuance of a permit or Certificate is suspended pending compliance with one or more specified sections of the *Construction Codes*.

**112.1.4 Requirements to Obtain Zoning Administrator Review of a Staff Action.** To seek *Zoning Administrator* review of a Staff Action pursuant to Section 112.1, the following conditions apply:

1. Zoning Administrator review pursuant to Section 112.1 shall only be available to the *persons* authorized to seek internal agency review as specified in Sections 112.1.1 and 112.1.1.1 (the “aggrieved person”);
2. The request for internal agency review by the Zoning Administrator shall be submitted by the aggrieved person on a review form provided by the *Department* and shall state in writing the grounds for the requested review of a Staff Action with references to the specific provisions of the *Zoning Regulations*, that are alleged to have been incorrectly interpreted or applied;
3. Internal agency review authorized by Section 112.1 must be initiated by the aggrieved person no later than ten *business days* after the aggrieved person (as defined in Sections 112.1.1 and 112.1.1.1) is notified of or learns of the Staff Action.

**112.1.4.1 Time of Notification for Section 112.1.4.** For purposes of Section 112.1.4, the aggrieved person shall be deemed to have been notified of the Staff Action on the earliest occurrence of any of the following:

1. Posting of a Stop Work Order in accordance with Section 114;
2. Entry of a hold for corrections by the *Department* in the *Department’s* database;
3. Entry of a failure to pass a requested inspection in the *Department’s* database;
4. Refusal by staff of the Office of the *Zoning Administrator* to process an application for issuance of a permit or a Certificate;
5. Notification by staff of the Office of the *Zoning Administrator*, issued in writing or by electronic communication to the aggrieved person, that all submittal documents required by Section 106 pertinent to the permit applied for or documentation specified in Section 110 to support an application for a Certificate, relative to consideration for compliance with the *Zoning Regulations*, in either case, is absent or deemed insufficient; or
6. Notice by staff of the Office of the *Zoning Administrator*, issued in writing or by

electronic communication to the aggrieved person that continued processing of an application for issuance of a permit or Certificate is suspended pending compliance with one or more specific sections of the *Zoning Regulations*.

**112.1.5 Code Official Action on Request for Agency Internal Review.** Upon receipt of a request for review that complies with Section 112.1.2, the *code official* shall affirm, modify, or reverse the Staff Action within 15 *business days* of receipt of such request. If the *code official* affirms the Staff Action, or does not act upon the review request within the 15 *business day* period, the Staff Action shall be deemed affirmed. The decision of the *code official* on requests for an internal agency review of a Staff Action authorized by Section 121.1, shall be a final decision of the *Department* on the specific issue raised in the review request which the aggrieved person (as defined in Sections 112.1.1 and 112.1.1.1) may appeal to *OAH* in accordance with Section 112.2 below.

**112.1.6 Zoning Administrator Action on Request for Agency Internal Review.** The *Zoning Administrator* shall affirm, modify, or reverse the Staff Action within 15 *business days* of receipt of a review form that complies with Section 112.1.3. If the *Zoning Administrator* affirms the Staff Action or does not act upon the review request within the 15 *business day* period, the Staff Action shall be deemed affirmed. The decision of the *Zoning Administrator* on requests for an internal agency review of a Staff Action allegedly in violation of the *Zoning Regulations*, including the passive affirmation of a challenged Staff Action, shall be the final decision of the *Zoning Administrator*, which the aggrieved person (as defined in Sections 112.1.1 and 112.1.1.1) may appeal to the *Board of Zoning Adjustment* in accordance with Section 112.2.2 below.

**112.1.7 Effect of Filing of Request Review of Staff Action.** Notwithstanding the foregoing, the submission of a request for internal agency review of a Staff Action by an aggrieved person (as defined in Sections 112.1.1 and 121.1.1.1) shall not stay the time period established in the *Zoning Regulations* within which to appeal the Staff Action decision to the *Board of Zoning Adjustment*.

**112.2 Appeal of a Final Decision of the Code Official based on Alleged Violations of the Construction Codes.** The applicant for, or holder of, a permit or Certificate, or any *person* directly affected or aggrieved in a materially adverse manner by a final decision or order of the *code official*, including but not limited to issuance or revocation of a permit or Certificate, is authorized to appeal the final decision or order, or portion thereof, that is based upon the *Construction Codes*, by filing an appeal with the *Office of the Administrative Hearings (OAH)*.

The appeal shall be filed within 10 *business days* after the date the appellant had notice or knowledge of the decision, or should have had notice or knowledge of the decision, whichever is earlier, subject to the reconsideration procedure for permits involving adjoining property issues set forth in Section 112.7.

This 10-*business day* appeal period shall not be extended, tolled, or restarted by a request for an internal agency review under Section 112.1, but the appeal period shall be extended where



reconsideration is timely sought in accordance with Section 112.7 as to the limited issue of whether the proposed work plan will provide adequate technical protection to the adjoining *premises*. The appeal shall specify the specific provisions of the *Construction Codes*, or the rules legally adopted thereunder, that the appeal alleges the *code official* incorrectly interpreted or applied; and shall provide evidence to support an allegation, if part of the appeal, that an equally good or better form of construction can be used.

In reviewing an appeal based in whole or in part on a technical determination or interpretation by the *code official*, *OAH* shall have no authority to waive requirements of the *Construction Codes* and shall not overrule the *code official's* technical determination or interpretation unless determined by *OAH* to be arbitrary or capricious.

**Exceptions:**

1. *OAH* review of a notice or order to close or vacate residential *premises* issued pursuant to Section 115 shall be based solely on the issue of whether the *code official's* determination that the *premises* are unsafe or unfit for occupancy requiring a building closure under the provisions of Section 115 was arbitrary and capricious;
2. *OAH* review of a notice or order to close or vacate residential *premises* issued pursuant to Section 116 shall be based solely on the issue of whether the *code official's* building closure decision was arbitrary and capricious.
3. Only the *person* that is a party identified in either Section 112.1.1 or Section 112.1.1.1 is authorized to appeal a final decision of the *code official* as a result of the internal agency review process authorized by Section 112.1.

**112.2.1. Appeal by Permit Holder of Summary Revocation under Section 111.1 (Item 2).** When a summary revocation of a permit is ordered under item 2 of Section 111.1, the permit holder is authorized to request an expedited hearing from *OAH* within 72 hours (excluding Saturdays, Sundays, and legal holidays) after service of notice of the revocation pursuant to Section 111.3.1, to review the reasonableness of the revocation order. At this hearing, the *code official* shall have the burden of establishing a prima facie case of immediate or serious and continuing endangerment. The *OAH* shall not stay the *code official's* decision to revoke a permit under Item 2 of Section 111.1 pending the final resolution of the hearing.

**112.2.2 Appeal by Certificate Holder of Summary Revocation under Section 111.2 (Item 2).** When a summary revocation of a permit is ordered under item 2 of Section 111.2, the permit holder is authorized to request an expedited hearing from *OAH* within 72 hours (excluding Saturdays, Sundays, and legal holidays) after service of notice of the revocation pursuant to Section 111.3.1, to review the reasonableness of the revocation order. At this hearing, the *code official* shall have the burden of establishing a prima facie case of immediate or serious and continuing endangerment. The *OAH* shall not stay the *code official's* decision to revoke a permit under Item 2 of Section 111.1 pending the final

resolution of the hearing.

**112.2.3 Request for Expedited Hearing of Building Closure Pursuant to Section 115 by Tenant or Occupant of Rental Unit.** Where a notice or order to close or vacate a building with *rental units* is issued pursuant to Section 115, a *tenant* or occupant of a *rental unit* affected by such notice or order has a right to request an expedited hearing by *OAH* prior to the closure subject to the following requirements:

1. The *tenant* or occupant shall file the request for an expedited hearing with *OAH* no later than the date specified in the notice or order for *tenants* or occupants to vacate the *premises*;
2. *OAH* review shall be based solely on the issue of whether the *premises* are unsafe or unfit for occupancy requiring a *building* closure under the provisions of Section 115 of the *Building Code*;
3. Enforcement of the closure notice or order shall be stayed until *OAH* issues a written decision; and
4. *OAH* shall hold a hearing within 72 hours of receipt of a timely request, and shall issue a decision within 72 hours after the hearing. For purposes of computing these 72-hour periods, Saturdays, Sundays, and legal holidays shall be excluded.

**112.2.3.1 Additional Provisions Applicable to Buildings with Residential Units.** Nothing herein shall be construed to authorize an expedited hearing for any orders or notices issued, or actions taken, pursuant to Section 116. Appeal of a notice or order under Section 115 to close or vacate a building with *rental units*, or a request for an expedited hearing pursuant to Section 112.2.1.3, shall not preclude the *code official* from issuing a notice or order pursuant to Section 116 for the same *premises*, or any portion thereof, while such appeal or hearing is pending.

**112.3 Appeal of a Final Decision of the Zoning Administrator based on Alleged Violations of the Zoning Regulations.** The applicant for, or holder of, a permit or Certificate, or any *person* directly affected or aggrieved in a materially adverse manner by a final decision or order of the *Zoning Administrator*, including a revocation of a permit or Certificate, may appeal those aspects of the final decision or order that are based upon the *Zoning Regulations* to the *Board of Zoning Adjustment (BZA)* of the District of Columbia, pursuant to D.C. Official Code § 6-641.07 (2018 Repl.). The appeal shall be filed within a 60-day period after the date the appellant had notice or knowledge of the decision, or should have had notice or knowledge of the decision, whichever is earlier, as established by the *Zoning Regulations*. The appeal shall specify the specific provisions of the *Zoning Regulations*, or the rules legally adopted thereunder, that the appeal alleges the *Zoning Administrator* incorrectly interpreted or applied.

**Exception:** Only the aggrieved person (as defined in Sections 112.1.1 and 112.1.1.1) is

authorized to appeal a final decision of the *Zoning Administrator* as a result of the internal agency review process authorized by Section 112.1.

**112.4 Appeal of Orders of OAH or BZA.** No appeal may be taken to *OAH* or to the *BZA* when a ground for revocation of a permit or Certificate is an Order of *OAH* or the *BZA* finding that the permit or Certificate was issued in error. The revocation in such cases may be appealed to the District of Columbia Court of Appeals pursuant to D.C. Official Code § 2-510.

**112.5 Enforcement of OAH or BZA Orders.** The *code official* or the *Zoning Administrator*, as applicable, shall take immediate action in accordance with the Order of the *OAH* or the *BZA*, as applicable, in any appeal.

**112.6 Stay of Enforcement.** Appeals of notices or orders issued by the *code official* or *Zoning Administrator* shall stay the enforcement of the notice or order until the appeal is heard by *OAH* or *BZA*.

**Exceptions:**

1. Closure or imminent danger notices or orders issued pursuant to Section 116, and related orders to vacate *premises*;
2. Closure notices or orders issued pursuant to Section 115, and related orders to vacate *premises*, except where the *tenant* or occupant has requested an expedited *OAH* hearing in accordance with Section 112.2.3;
3. Stop Work Orders;
4. Revocation of one or more Certificates based upon one or more violations of the *Zoning Regulations*; and
5. Summary revocation of permits and/or Certificates in accordance with items 1, 2 and 3 of Sections 111.1.1 and 111.2.1.

**112.7 Limited Right of Reconsideration of Code Official Action by Owner of Adjoining Premises.** Where notification of the *owner* of adjoining *premises* is required by Section 106.2.18.3, the *owner* entitled to such notification by a permit applicant shall have ten *business days* from the date that the permit is issued to seek reconsideration by the *code official*, based solely on the grounds that: (1) the permit authorizes one or more construction activities identified in Section 106.2.18.3; and (2) the work authorized by the permit will not protect the adjoining *premises* of the objecting *owner* from structural damage. The objection shall include (1) technical support for the objecting *owner's* conclusions that the work authorized by the permit will not protect the adjoining *premises* of the objecting *owner* from structural damage; and (2) any proposed changes to the work plan that the claimant asserts are necessary to protect the claimant's *premises* from structural damage. A copy of the request for reconsideration shall be served on the permit holder in accordance with any of the methods specified in Section 113.5.5. The sufficiency

of notification under Section 106.2.18.3.1, or the *code official's* determination of substantial compliance pursuant to Section 106.2.18.3.1.4, shall not be subject to challenge upon reconsideration.

**112.7.1 Review by the Code Official.** Within 15 *business days* of receipt of a written reconsideration request that complies with Section 112.7, the *code official* shall determine whether the specific measures requested by the *owner* of the adjoining *premises* are supported by technical documentation. If the *code official* denies reconsideration, or does not act upon the reconsideration within the 15 *business day* period, the permit issuance shall be deemed affirmed and the claimant is authorized to appeal the matter directly to OAH in accordance with Sections 112.2 and 112.3. If the *code official* finds the technical documentation submitted by the claimant to be persuasive, the *code official* is authorized to require the permit holder to revise the proposed work plan, to amend the permit, to revoke the permit, or to take such other actions as the *code official* deems necessary to protect the adjoining *premises*.

*Strike Section 114 of the International Building Code in its entirety and insert a new Section 113 into the Building Code in its place to read as follows:*

### **113 VIOLATIONS, REMEDIES, PENALTIES AND OTHER ENFORCEMENT ACTIONS**

**113.1 Unlawful Acts.** It shall be unlawful for any *person* to erect, construct, alter, extend, repair, *raze*, demolish, use, or occupy any *premises*, or portion thereof, including any equipment thereon, regulated by the *Construction Codes* or *Zoning Regulations*, or cause same to be done, in conflict with or in violation of:

1. Any of the provisions of the *Construction Codes* or *Zoning Regulation*;
2. A notice or order of the *code official* issued under the authority of the *Construction Codes* or the *Zoning Regulations*; or
3. A permit or certificate, including the *approved construction documents* and *approved amendments* thereto, issued under the provisions of the *Construction Codes* or the *Zoning Regulations*.

Any *person* engaging in or causing unlawful acts as defined in Sections 113.1 and 113.1.1 shall be subject to penalties as prescribed by law, including but not limited to those set forth in Section 113.2.

**113.1.1 Work Without a Permit.** Work started or occurring without a permit where a permit is determined to be required under Section 105 shall be a violation of the *Construction Codes*.

**113.1.2 Continuation of Unlawful Use.** The continuation of occupancy or use of a

*premises*, or portion thereof, contrary to the provisions of the *Construction Codes* or to the provisions of the *Zoning Regulations*, shall be a violation or infraction under the *Construction Codes*. The *code official*, as defined in Section 103.1, is authorized to issue a notice of violation and order requiring discontinuance of the use or occupancy, and the *owner* or other violator shall be subject to the penalties or fines prescribed in Section 113.

**113.2 Enforcement Methods.** The *code official* is authorized to use any of the methods set forth in the *Construction Codes* or in other District of Columbia laws and regulations, singly or in combination, to enforce compliance with the *Construction Codes*, the *Zoning Regulations*, other laws or regulations enforced by the *Department*, and notices or orders of the *code official* issued pursuant thereto, including, but not limited to, the following:

1. Stop Work Orders (Section 114);
2. Revocations of Permits and Certificates of Occupancy (Section 111);
3. Notices of Unsafe or Emergency Conditions and Building Closure Orders (Sections 115 and 116);
4. Notices of Violations or Orders directing the discontinuance of an unlawful action or condition and/or the abatement of the violation;
5. Penalties as set forth in D.C. Official Code § 6-1406 (2018 Repl.);
6. Injunctive relief as set forth in D.C. Official Code § 6-1407 (2018 Repl.);
7. Criminal prosecution pursuant to D.C. Official Code § 6-1406 (2018 Repl.);
8. Civil fines, penalties, and fees in addition to any other available remedies, for any infraction of the provisions of the *Construction Codes* or *Zoning Regulations*, or any orders, rules, or regulations issued under the authority of the *Construction Codes*, pursuant to the Civil Infractions Act, (D.C. Official Code §§ 2-1801.01 *et seq.* (2016 Repl. & 2018 Supp.) as amended; D.C. Official Code § 6-1406 (2018 Repl.) as amended; and Title 16 DCMR, Chapters 31-34;
9. Actions pursuant to An Act To provide for the abatement of nuisances in the District of Columbia by the Commissioners of said District, and for other purposes, approved April 14, 1906 (34 Stat. 114; D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl. & 2018 Supp.)), and the Due Process Demolition Act of 2002, effective April 19, 2002 (D.C. Law 14-114; D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl. & 2018 Supp.));
10. Suspension, restriction or revocation of licenses issued by the *Department* to the general contractor, contractor, construction manager, or referral to the Board having jurisdiction over a tradesperson, architect or engineer for suspension, restriction or revocation of a license or other appropriate disciplinary action; and

11. Disconnection of service utilities (Section 119.3).

**113.3 Code Official Authority.** The *code official* is authorized to issue all necessary notices or orders to ensure compliance with: (1) the *Construction Codes*, the *Zoning Regulations*, and other laws or rules enforced by the *Department*; (2) notices or orders of the *code official* issued pursuant to the *Construction Codes*, the *Zoning Regulations*, and other laws or rules enforced by the *Department*; and (3) *permits* or certificates issued under the provisions of the *Construction Codes* or *Zoning Regulations*, including the *approved construction documents* and any *approved amendments* thereto.

**113.3.1 Prosecution or Adjudication of Violation.** The *code official* is authorized to institute, or to request the Office of the Attorney General for the District of Columbia to institute, as the case may be, the appropriate proceedings at law or in equity to prosecute, restrain, correct, or abate a violation, or to require the removal of a *building* or other *structure*, or the termination of the unlawful use or occupancy of a *premises* in violation of the provisions of the *Construction Codes* or the *Zoning Regulations* or of an order or direction made under the *Construction Codes* or the *Zoning Regulations*. The imposition of any remedies, penalties or enforcement actions authorized in the *Construction Codes* shall not preclude the Office of the Attorney General for the District of Columbia from instituting appropriate action to prevent unlawful construction or to restrain, correct, or abate a violation, or to prevent illegal occupancy of a *premises*, or to stop an illegal act, conduct, business, or use of a *premises*.

**113.3.2 Continuing Violations.** Each day a violation continues shall, for purposes of criminal prosecutions (Section 113.2(7)) and civil fines (Section 113.2(8)), be considered a separate offense.

**113.3.3 Abatement of Violation by Department.** The imposition of any remedies, penalties or enforcement actions authorized by Section 113, other provisions of the *Construction Code*, or other laws and regulations of the District of Columbia, shall not preclude or prevent the *Department* from undertaking abatement or corrective actions as authorized by the *Construction Codes* or by other statutes and regulations, including, but not limited to, the Nuisance Abatement Act, D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl. & 2018 Supp.). The *code official* is authorized to assess the costs of any abatement or corrective actions undertaken by the *Department*, and all expenses thereto as a tax against the property on which the violating condition existed, or from which such condition arose as the case may be, and such tax shall be carried on the regular tax rolls of the District, and collected in the same manner as general taxes in the District are collected

**113.3.4 Collection of Unpaid Civil Fines.** See D.C. Official Code § 2-1802.03.

**113.3.5 Notice of Violation Not a Prerequisite.** Issuance of a notice of violation or order directing the discontinuance of an unlawful action or condition and/or the

abatement or correction of a violation, prior to taking other enforcement action, is at the discretion of the *code official*. Failure to issue such notice of violation or order shall not be a bar or a prerequisite to any criminal prosecution, administrative proceeding, civil action, corrective action or civil infraction proceeding based upon a violation of the *Construction Codes* or the *Zoning Regulations*.

#### **113.4 Requirements for Form and Content of Notices or Orders.**

**113.4.1 Stop Work Orders.** See Section 114.2.

**113.4.2 Revocations of Permits and Certificates.** See Section 111.3.

**113.4.3. Notice of Unsafe Condition.** See Section 115.3 with the exception of remedial orders pursuant to Section 115.4.

**113.4.4 Notice of Emergency Condition; Order to Vacate Premises.** See Section 116.1.1 and 116.1.2

**113.4.5 Notices of Infraction.** See D.C. Official Code § 2-1802.01(b).

**113.4.6 Other Notices and Orders.** Notices or orders issued by the *code official*, except for those covered by 113.4.1 through 113.4.5, shall be in accordance with all of the following:

1. Be in writing.
2. Include a description of the *premises* subject to the notice or order sufficient for identification.
3. State the reason for the notice or order.
4. Identify the code section(s) violated, and why the notice or order is being issued.
5. Include, if the notice or order affords an opportunity to abate a violation, a reasonable period of time to make the repairs and improvements required to bring the *premises* or equipment thereon into compliance with the provisions of the *Construction Codes*.
6. Include, if applicable, a specific time by which *premises* shall be closed, barricaded and/or vacated, or equipment placed out of service.
7. Inform the *owner* of the right to appeal to *OAH* or *BZA*, as applicable, pursuant to Section 112.
8. Include a statement of the District of Columbia's right: to abate a specified

violation without the *owner's* consent if the *owner* fails to comply with a notice or order directing the abatement of the violation or to file a timely appeal; to assess the costs of such abatement against the *owner*; and to place a tax lien on the property in accordance with Section 113.3.4 for the costs of such abatement.

### **113.5. Service of Notices and Orders.**

**113.5.1 Stop Work Orders.** See Sections 114.3 and 114.4.

**113.5.2. Notice of Unsafe Condition.** See Section 115.3 with the exception of remedial orders pursuant to Section 115.4.

**113.5.3 Notice of Emergency Condition; Order to Vacate Premises.** See Sections 116.1.1 and 116.1.2

**113.5.4. Notices of Infraction.** See D.C. Official Code § 2-1802.05.

**113.5.5 Other Notices and Orders.** A notice of violation or any other authorized notice or order not covered by Sections 113.5.1 through 113.5.4, shall be served on the *owner*, operator, occupant, permit or certificate holder, or other person responsible for the unlawful act or condition (the “respondent”) by any one of the following methods:

1. Personal service on the respondent or respondent’s agent;
2. Delivery of the notice or order by electronic mail, with confirmation of delivery, to the electronic mail address provided to the *Department* by the respondent or respondent’s agent, as required by Section 105.3.2, items (8) and (9). If the respondent has failed to comply with Section 105.3.4, service is deemed effective if made to the last known electronic mail address filed by the respondent or respondent’s agent with the *Department*;
3. Delivery of the notice or order by hand to the last known home or business address of the respondent or respondent’s agent as identified by the permit or certificate application, tax records, corporate registration records, or business license records, and leaving it with a person over the age of 16 years old present at the time at the home or business address;
4. Mailing the notice or order, via USPS first class mail postage prepaid or express mail, or by private delivery services (*i.e.*, DHL Express, FedEx, UPS), at least five days prior to the date of the proposed action, to the last known home or business address of the respondent or respondent’s agent as identified by the permit or certificate application, tax records, corporate registration records, or business license records; or
5. If the notice or order is returned as undeliverable by the Post Office authorities, or



if no address is known or can be ascertained by reasonable diligence, by posting a copy of the notice or order in a conspicuous place in or about the *premises* affected by such notice or order.

6. Posting of a notice on property or on a building or portion of a building at, near or adjacent to the area identified as the subject of the violation. Pictures of the posting shall be maintained by the department and associated with the Notice of Violation.

**113.5.5.1 Respondent's Agent.** For the purposes of this section, respondent's agent shall include a general agent, employee, registered agent, or attorney of the respondent.

### **113.6 Additional Procedural Requirements Applicable to Premises With Rental Units.**

Where a notice or order is issued to the *owner* of *premises* with respect to a *rental unit* occupied by a *tenant*, the *code official* shall provide such *tenant* with a copy of the notice or order. This requirement will be satisfied by mailing a copy to the *tenant* by first-class mail, leaving a copy at the *tenant's* residence with a responsible individual at least 16 years of age present there, or any other reasonable method in the *code official's* discretion.

**113.6.1. Premises With Multiple Rental Units.** In *premises* with more than one *rental unit*, any instance where a notice or order affects the *rental unit* and/or common space of more than one *tenant*, the *code official* shall post a copy of any notice or order issued to the *owner* pursuant to Section 113 for a reasonable time in one or more locations on the *premises* where the violation exists. The locations for posting the notification shall be reasonably selected to give notice to all *tenants* affected. Any *tenant* directly affected by the violation(s) shall, upon request to the *code official*, be sent a copy of the posted notification.

**113.6.2. Exclusivity of Tenant Notice provisions.** The *code official* shall not be subject to any other *tenant* notification provisions, except as expressly set forth in Section 113.6.

**113.6.3 Notices or Orders Requiring Closure of Premises With Rental Units.** Where the *code official* (a) posts a notice of unsafe condition on a *building* with *rental units* that prohibits access to or occupancy of the *premises* or issues an order to close and barricade a building with *rental units* pursuant to Section 115, or (b) posts a notice of emergency condition pursuant to Section 116 on a building with *rental units* requiring tenants and occupants to vacate the *premises*, the following additional requirements shall apply:

1. The notice or order shall specify a date and time by which *tenants* or occupants of the *rental units* are required to vacate the *premises*.
2. The notice or order shall include a statement informing *tenants* or occupants of the *rental units* of the right to appeal pursuant to Section 112.2, including, where applicable, the right to an expedited hearing pursuant to Section 112.2.3.

3. The *code official* shall provide a copy of the notice or order to each *tenant* of the *rental units* affected by the notice or order by leaving a copy at each *dwelling unit* or any other reasonable method in the *code official*'s discretion.
4. The notice or order shall provide contact information for the Office of the Tenant Advocate.

**113.7 Transfer of Ownership.** It shall be unlawful for the *owner* of any *premises* or portion thereof, upon whom a notice of violation or order directing the discontinuance of an unlawful act or condition and/or the abatement or correction of a violation has been served, to sell, transfer, or otherwise dispose of such *premises*, or of a controlling interest in the *owner*, to another *person* until (1) the conditions of the notice or order have been abated, or (2) such *owner* furnishes the buyer or transferee with a true copy of any notice or order issued by the *code official* and furnishes to the *code official* with a signed and notarized statement from the buyer or transferee, acknowledging the receipt of such notice or order and fully accepting responsibility, without condition, for making the corrections or repairs required by such notice or order. Notwithstanding the foregoing, a sale, transfer or other disposition shall not relieve the *owner* upon whom the notice or order is served from liability for the unlawful act.

*Strike Section 114 of the International Building Code and insert a new Section 114 in the Building Code in its place to read as follows:*

## **114 STOP WORK ORDERS**

**114.1 Authority.** Whenever the *code official* finds that any work on any *premises* is being performed in violation of the provisions of the *Construction Codes* or the *Zoning Regulations*, or in an unsafe or dangerous manner, the *code official* is authorized to issue a Stop Work Order.

**114.1.1 Partial Stop Work Order.** The *code official* is authorized to issue a partial Stop Work Order prohibiting certain types of work on the *premises* or all work in a particular area of the *premises*. A partial Stop Work Order shall specify in writing what activities and areas are within the scope of the partial Stop Work Order. If the *code official* provides a separate written authorization modifying the scope of work allowed under a partial Stop Work Order, the *owner*, *owner*'s agent or *person* doing work on the *premises* posted with the partial Stop Work Order shall retain a copy of the written authorization. Unless otherwise expressly stated, the term "Stop Work Order" shall, for purposes of the *Construction Codes*, include a partial Stop Work Order.

**114.2 Form and Content of Stop Work Order.** The Stop Work Order shall be in writing, in a form prescribed by the *code official*. The Stop Work Order shall contain the following information:

1. The reason for the order, and the conditions under which the cited work will be permitted to resume.

2. The address of the *premises*.
3. The specific activities and areas of the *premises* covered by the order if a partial Stop Work Order is issued pursuant to Section 114.1.1.
4. The specific section or sections of the *Construction Codes* and/or the *Zoning Regulations* violated.
5. Whether access to the *premises* or a portion thereof is prohibited during the pendency of the Stop Work Order.
6. A description of the right to appeal the Stop Work Order, and information on how and where to file an appeal, and the deadline to file such appeal.

No Stop Work Order shall be issued nor considered valid unless it contains all of the information specified in this section, and the signature of the issuing official.

**114.3 Service of a Stop Work Order.** The *code official* shall effect service of a Stop Work Order by one of the following methods:

1. Personal service on the *owner* of the *premises* involved or on the *owner's* agent, or to the *person* doing the work at the *premises*; or
2. Posting the Stop Work Order on the *premises* in accordance with Section 114.4.

**114.4 Posting of Stop Work Order.** Regardless of the manner of service of the Stop Work Order, the *code official* shall post the Stop Work Order in a conspicuous location, in or about the *premises* subject to the Stop Work Order.

**114.5 Effect of Stop Work Order.** Upon service of a Stop Work Order pursuant to Section 114.3, all construction activity on the *premises*, or the work specified in a partial Stop Work Order issued pursuant to Section 114.1.1, shall immediately cease until the *Department* issues an official written authorization lifting the Stop Work Order, or as otherwise provided for by the *code official*.

**114.5.1 Access to Premises Covered by a Stop Work Order.** Access to *premises* or portion thereof covered by a Stop Work Order shall be at the discretion of the *code official*.

**114.6 Removal or Obstruction of a Posted Stop Work Order.** Unauthorized removal or obstruction of a posted Stop Work Order is a violation of the *Construction Codes*, and is subject to the penalties provided in Section 113 and D.C. Official Code § 6-1406 (2018 Repl.), and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.). The *owner* of the *premises* posted with a Stop Work Order, or the *owner's* agent, shall promptly notify the *Department* if the

posted Stop Work Order has been removed, damaged or obstructed so that the Stop Work Order can be reposted.

**114.6.1 Prior Written Authorization Required to Remove a Posted Stop Work Order.** A posted Stop Work Order shall only be removed pursuant to an official written authorization from the *Department*. If a posted Stop Work Order is removed without the *Department's* official written authorization, the *owner* or the *owner's agent* shall notify the *Department* in accordance with Section 114.6, and no work shall be resumed until the *Department* reposts the Stop Work Order at the *premises* or issues an official written authorization lifting the Stop Work Order, or as otherwise provided by the *code official*.

**114.7 Public Notice of Stop Work Order.** The *code official* is authorized to make public, by publishing in a newspaper of general distribution, in the *District of Columbia Register*, or at the DCRA website, a list of the addresses where Stop Work Orders have been posted.

**114.8 Failure to Comply with Stop Work Orders.** Any *person* who fails to comply with the terms and conditions of a Stop Work Order, or with the applicable requirements of Section 114, including, but not limited to, the unauthorized removal of a Stop Work Order, shall be in violation of the provisions of the *Construction Codes*, and shall be subject to civil and criminal penalties as set forth in Section 113.

**114.8.1 Additional Sanctions Affecting Licensees.** Failure to comply with a Stop Work Order shall constitute grounds for suspension, restriction or revocation of any license issued by the *Department* to the non-compliant *Registered Design Professional in Responsible Charge*, Special Inspector, general contractor, construction manager, or home improvement contractor. Failure to comply with a Stop Work Order by a D.C.-licensed tradesperson, including but not limited to the following, shall be grounds for referral of the licensee to the Board of Industrial Trades for disciplinary action, including license suspension or revocation:

1. A licensed master electrician;
2. A licensed master electrician limited (low voltage);
3. A licensed journeyman electrician;
4. A registered apprentice electrician;
5. A licensed master mechanic;
6. A licensed master mechanic limited;
7. A licensed journeyman refrigeration and air-conditioning mechanic;
8. A registered apprentice refrigeration and air-conditioning mechanic;

9. A licensed master plumber/gasfitter;
10. A licensed master gasfitter;
11. A licensed journeyman plumber;
12. A licensed journeyman gasfitter;
13. A registered apprentice plumber;
14. A registered apprentice gasfitter;
15. A licensed elevator contractor, or an employee of a licensed elevator contractor;
16. A licensed elevator mechanic;
17. A registered apprentice elevator mechanic;
18. A licensed steam engineer, or another licensed operating engineer; or
19. Any *registered design professional in responsible charge* for any portion of the construction work being performed.

**114.9 Appeal of Stop Work Order.** Appeals of Stop Work Orders shall be in accordance with Section 112.

**114.10 Lifting of Stop Work Orders.** The *code official* shall lift the Stop Work Order when he or she deems that the violations leading to imposition of the Stop Work Order have been corrected or abated to the satisfaction of the *code official*.

*Strike Section 116 of the International Building Code in its entirety and insert new Section 115 in the Building Code in its place to read as follows:*

## **115 UNSAFE CONDITIONS**

**115.1 Unsafe Conditions.** All *premises or* equipment thereon that are or hereafter become abandoned, deteriorated, unsafe, unsanitary, or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper use or occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe conditions shall be removed or made safe and secure, as the *code official* deems necessary pursuant to this section or pursuant to other laws, including, but not limited to, D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl. & 2018 Supp.), D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl. & 2018 Supp.), or D.C. Official Code §§ 6-801 *et seq.* (2018 Repl.). In addition, unsafe conditions shall

include those referenced in Section 108 of the *Property Maintenance Code*. A vacant *premises*, unguarded or open at door or window, shall be deemed a fire hazard and unsafe within the meaning of the *Construction Codes*.

**115.2 Examination and Record of Unsafe *Premises*.** The *code official* shall examine every *premises* reported as dangerous, unsafe structurally, or constituting a fire hazard, and shall maintain a record of those *premises* where the *code official* finds an unsafe condition.

**115.3 Posting of Notice of Unsafe Condition.** Where the *code official* finds an unsafe condition, as defined in Section 115.1, the *code official* shall post a notice of unsafe condition on the *premises* where the unsafe condition exists. The *code official* shall have discretion to post the notice of unsafe condition in the location or locations that the *code official* deems necessary to warn persons that access to, or use or occupancy of, the *premises* is restricted.

**115.3.1 Access to Posted *Premises*.** The notice of unsafe condition posted in accordance with Section 115.3 shall specify whether entry, use and/or occupancy of the posted *premises*, or a portion thereof, is prohibited by the *code official*. Entry, use and/or occupancy of the posted *premises* shall be at the discretion of the *code official*, subject as applicable to the requirements for closure of *buildings* with *rental units* set forth in Sections 113.2.5 and 115.8.

**115.3.2 Compliance with Posted Notice.** Entry, use and/or occupancy of a *premises* or portion thereof in violation of the terms of a posted notice of unsafe condition shall be unlawful.

**115.3.3 Unauthorized Removal or Obstruction of Posted Notice.** Unauthorized removal or obstruction of a posted notice of unsafe condition is a violation of the *Construction Codes*, and is subject to the penalties provided in Section 113 and D.C. Official Code § 6-1406 (2018 Repl.) and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.). The *owner* of the *premises* posted with a notice of unsafe condition, or the owner's agent, shall promptly notify the *Department* if the posted notice has been removed, damaged or obstructed so the notice can be reposted.

**115.4 Remedial Notices or Orders Relating to Unsafe Condition.** In addition to posting of a notice in accordance with Section 115.3, where the *code official* finds an unsafe condition, the *code official* is authorized to issue a notice or order to require the *owner* of the *premises* to make the *premises* safe and secure or to remove the unsafe condition as the *code official* deems necessary. The notified *person* shall employ sufficient means to comply with the notice as expeditiously as can be done.

**115.4.1 Content and Service of Remedial Notices or Orders.** The remedial notices or orders specified in Section 115.4 shall comply with the procedures set forth in Sections 113.4.6, 113.5.5 and 113.6.

**115.5 Disregard of Remedial Notice or Order** Upon the refusal or neglect of the *person*

served with a remedial notice or order pursuant to Section 115.4 to comply with the requirements of the notice or order to abate or remove the unsafe condition, the *code official* is authorized to pursue any penalties or remedies authorized by law or regulation, including, but not limited to, abatement of the unsafe condition by the *code official* or referral to the Office of the Attorney General for appropriate legal action to compel compliance.

**115.5.1 Abatement by Code Official.** Where the *person* notified of an unsafe condition pursuant to Section 115.4 fails to abate or remove such unsafe condition, the *code official* is authorized to cause such condition to be corrected and assess the costs of any corrective action, and all expenses incident thereto, as a tax against the property on which the violating condition existed, and such tax shall be carried on the regular tax rolls of the District, and collected in the same manner as general taxes in the District are collected. Costs shall include, but not be limited to, all expenses incurred for or necessitated by any corrective action; costs of inspectors, testing agencies or experts retained; costs of testing or surveying; costs of mailings, postings and recordings; and costs of attorney's fees expended for recovering the costs of the corrective action or to obtain or enforce a related order.

**115.6 Remedies Not Exclusive.** Nothing herein shall be deemed to preclude or negate any other penalties or remedies set forth in Section 113, or to preclude conversion of a special assessment lien to an administrative judgment, enforceable in the same manner as any other civil judgment under District of Columbia law, as authorized by D.C. Official Code § 42-3131.01.

**115.7 Other Laws.** The provisions of this Section 115 shall not be deemed to nullify any other provisions of local law governing *razing*, *demolition* or repair of unsafe *structures*, including, but not limited to, the provisions of D.C. Official Code §§ 6-801 *et seq.* (2018 Repl.) as amended, D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl. & 2018 Supp.) as amended, or D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl. & 2018 Supp.) as amended.

## **115.8 Special Provisions Applicable to Rental Units.**

**115.8.1 Copies of Notices and Orders.** The *code official* shall provide *tenants* of *rental units* with copies of remedial notices and orders issued to the *owner* of the *rental unit* pursuant to Section 115.4 in accordance with Section 113.2.1.3. The *code official* shall not be required to provide *tenants* of *rental units* with copies of any other notices, orders or communications except as expressly required by set forth in Section 113.2.1.3.

**115.8.2 Closures of Buildings With Rental Units.** The *code official* is authorized to order *tenants* or occupants of *rental units* to vacate the *premises* within a time sufficient to allow the *owner* to comply with an order to close and barricade the *premises*. The notice or order shall include the time by which the *premises* must be vacated, provided that *tenants* and occupants shall be given at least five calendar days to vacate, unless the *code official* determines that the *tenants* and occupants must leave the *premises* immediately for their personal safety.

If any *tenant* or occupant fails to vacate the *premises* within the time period set forth in the notice or order, subject to the appeal provisions of Section 112.2.3, the *code official* is authorized to order the removal of the *tenants* or occupants.

**115.8.3 Other Rental Housing Provisions.** The removal of *tenants* from *rental units*, or the service of an order to vacate pursuant to this Section 115, shall not be considered an eviction or notice to vacate under D.C. Official Code § 42-3505.01 (2012 Repl. & 2018 Supp.). Notwithstanding the foregoing, nothing herein shall be construed to nullify or abrogate any other rights to which a *tenant* is entitled under District laws or regulations, including relocation assistance, the right to reoccupy the rental unit following rehabilitation, or the right to pursue rights and remedies under D.C. Official Code, Title 42, Chapter 34.

*Insert new Section 116 in the Building Code to read as follows:*

## **116 EMERGENCY CONDITIONS**

**116.1 Emergency Condition.** When an emergency condition exists, the *code official* is hereby authorized to take such actions as the *code official* deems necessary to meet such emergency in accordance with this Section 116. An emergency condition shall exist when, in the opinion of the *code official*, there is imminent danger, including, but not limited to:

1. An unsafe condition, including, but not limited to collapse or potential imminent collapse of a *building*, other *structure*, *site*, or *street*; or
2. An unsanitary condition or the operation of defective or dangerous equipment which immediately endangers the health or safety of occupants of a *premises* or those in the proximity of a *premises*; or
3. The presence of *flammable materials* or *explosives*, *flammable fumes or vapors*, *toxic fumes*, *gases*, or *substances*; or other hazardous or toxic conditions.

**116.1.1 Order to Vacate Premises.** When in the opinion of the *code official* an emergency condition as defined in Section 116.1 exists, the *code official* is authorized to require occupants of any *premises* that the *code official* identifies as potentially affected by the emergency condition, to vacate the *premises* forthwith or within a time period specified by the *code official*. This order can be communicated verbally, provided that a notice of emergency condition pursuant to Section 116.1.2 is posted as expeditiously as possible.

**116.1.2 Posting of Notice of Emergency Condition.** Where the *code official* deems an emergency condition to exist, the *code official* shall cause to be posted on all *premises* where such emergency condition exists, a notice that states: (1) an emergency condition exists at or near the posted *premises*; and (2) access, use and/or occupancy of the posted *premises* or a portion thereof is prohibited by the *code official*. The notice shall be posted



in the location or locations that the *code official* deems necessary, in the *code official's* sole discretion. Access to the posted *premises* shall be at the discretion of the *code official*, subject as applicable to the requirements for closure of *buildings* with *rental units* as set forth in Section 116.7. Failure to comply with the terms of a posted notice of emergency condition shall be unlawful.

**116.1.3 Unauthorized Removal or Obstruction of Posted Notice.** Unauthorized removal or obstruction of a posted notice of emergency condition is a violation of the *Construction Codes*, and is subject to the penalties provided in Section 113 and D.C. Official Code § 6-1406 (2018 Repl.) and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.). The *owner* of the *premises* posted with a notice of emergency condition, or the *owner's* agent, shall promptly notify the *Department* if the posted notice has been removed, damaged or obstructed so the notice can be reposted.

**116.2 Emergency Work.** Whenever, in the opinion of the *code official*, an emergency condition exists, the *code official* is authorized to require or to undertake the necessary work to be done at the *premises* where the emergency condition exists to render such *premises* safe in light of the existing emergency condition, including, but not limited to requiring implementation of temporary safeguards, repairs, *demolition*, or *razing* (any of such work at a *premises* required or undertaken by the *code official* to address an emergency condition being referred to as “*emergency work*”). The *code official* also is authorized to take such other action(s) as the *code official* deems necessary to address such emergency condition, including, but not limited to employing the necessary labor and materials to perform the necessary *emergency work* at a *premises* as expeditiously as possible.

**116.2.1 Compliance With Order.** Any *person* ordered by the *code official* to undertake *emergency work* at a *premises* pursuant to Section 116.2 shall comply with such order forthwith and complete the *emergency work* within the time period specified by the *code official*. The *code official* is not required to provide the *owner* of the *premises* where an emergency condition is deemed to exist with an opportunity to correct the emergency condition before the *code official* undertakes *emergency work*, or to await the expiration of a time period specified in an order under this Section 116.2.1.

**116.2.2 Historic Buildings.** Prior to requiring or undertaking *emergency work* to be undertaken at a *premises* that is a *building* or other *structure* that is listed in the D.C. or National Register of Historic Places, or a portion thereof, either as an individual listing or as a contributing resource to a listed historic district, the *code official* shall consult with the State Historic Preservation Officer as required by D.C. Official Code § 6-801 (2018 Repl.).

**116.3 Safety Perimeter.** When necessary for public safety, the *code official* is authorized to temporarily close sidewalks, streets, alleys, *premises* and areas adjacent to a *premises* on which the emergency condition exists, and to temporarily prohibit access thereto.

**116.4 Costs of Emergency Work.** Where the *code official* causes *emergency work* to be done

at a *premises* pursuant to Section 116.2, any costs incurred by the District of Columbia in the performance of such *emergency work*, and expenses incident thereto, shall be paid from appropriations of the District of Columbia, on certification of the *code official*, and shall be assessed as a tax against the *lot* on which the emergency condition existed or from which such condition arose as the case may be, carried as a tax on the regular tax rolls, and collected in the same manner as real estate taxes are collected.

**116.4.1 Additional Costs of Emergency Work.** Costs of *emergency work* shall also be deemed to include, but are not limited to, all expenses incurred for or necessitated by any *emergency work*; costs associated with cleaning the *premises* to comply with the *Construction Codes*, utility removal or disconnection costs; court costs, fines, and penalties; costs of inspectors, testing agencies or experts retained; costs of testing or surveying; costs of mailings, postings and recordings; and costs of attorney's fees expended for recovering the costs of the corrective action or to obtain or enforce a related order. If the *code official* determines that no other shelter is available to *tenants* or occupants required to vacate *rental units* as a result of a *building* closure pursuant to this Section 116, the *code official* has discretion to assess all expenses incident to *tenant* or occupant relocation as a cost of emergency repairs, including, but not limited to, temporary housing, security deposits and the first month's rent if required.

**116.5 Remedies Not Exclusive.** Nothing herein shall be deemed to preclude or negate any other penalties or remedies set forth in Section 113, or to preclude conversion of a special assessment lien to an administrative judgment, enforceable in the same manner as any other civil judgment under District of Columbia law, as authorized by D.C. Official Code § 42-3131.01 (2012 Repl. & 2018 Supp.).

**116.6 Other Laws.** The provisions of this Section 116 shall not be deemed to nullify any other provisions of local law governing *razing*, *demolition* or repair of unsafe *structures*, including, but not limited to, the provisions of D.C. Official Code §§ 6-801 *et seq.* (2018 Repl. Supp.) as amended, D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl. & 2018 Supp.) as amended, or D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl. & 2018 Supp.) as amended.

**116.7 Buildings with Rental Units.** Where the *code official* posts a notice of emergency condition pursuant to this Section 116 at a *building* with *rental units*, the *code official* is authorized to order all *tenants* or occupants to vacate the *premises* where an emergency condition exists. The posted notice shall comply with the requirements of Section 113.5 and 113.6. If any *tenant* or occupant fails to vacate the *premises* within the time specified in the notice, the *code official* is authorized to order removal of the *tenant* or occupant from the *premises*.

**116.7.1 Other Rental Housing Provisions.** Where an emergency condition exists, the removal of tenants or occupants from the *premises*, or the service of an order to vacate, pursuant to this Section 116 shall not be considered an eviction or notice to vacate under D.C. Official Code § 42-3505.01 (2012 Repl. & 2018 Supp.). Notwithstanding the foregoing, nothing herein shall be construed to nullify or abrogate any other rights to which a *tenant* is entitled under District laws or regulations, including relocation

assistance, the right to reoccupy the rental unit following rehabilitation, or the right to pursue rights and remedies under D.C. Official Code, Title 42, Chapter 34 (2012 Repl. & 2018 Supp.).

**116.8 Removal of Notice of Emergency Condition.** A notice of emergency condition posted pursuant to Section 116.1.2 shall be removed only by the *code official*. The *code official* shall remove the posted notice when, in the *code official*'s opinion, the emergency condition no longer exists. Any remaining unsafe conditions that do not constitute an emergency condition (as defined in 116.1) shall be governed by the provisions of Section 115.

**116.9 Appeals.** Appeals of *code official* actions pursuant to this Section 116 are governed by [Section 112.2.1.] As provided in Section 112, any such appeal shall not have the effect of staying any notice or order issued pursuant to this Section 116.

*Insert new Section 117 in the Building Code to read as follows:*

## **117 POSTING OF OCCUPANT LOAD AND LIVE LOAD SIGNS**

**117.1 Occupant Load.** Occupant load signs shall be posted in accordance with Section 1004.3. Rooms or spaces which have multiple use capability shall be posted for the occupant loads of all such uses.

**117.1.1 Occupant Load Calculations.** The occupant load calculations shall be determined in accordance with Section 1004.

**117.2 Installation of Live Load Signs.** Where reduced *live loads* are applied in accordance with the exception to Section 1607.3 in buildings erected before July 1, 1925, all such design *live loads* shall be conspicuously posted by the *owner* in that part of each *story* in which they apply, using durable signs of an approved, legible, permanent design, before issuance of a certificate of occupancy or before approval of a final inspection pursuant to Section 109.3.14. It shall be unlawful to remove or deface such notices.

**117.3 Restrictions on Loading.** It shall be unlawful to place, or cause or permit to be placed, on any floor or roof of a building, structure or portion thereof, *loads* greater than permitted by the *Construction Codes*.

*Insert new Section 118 in the Building Code to read as follows:*

## **118 ADDRESSES OF PREMISES**

**118.1 Purpose.** The purpose of the provisions of this Section 118 shall be: (a) to establish a formal, legally-based District of Columbia-wide system of assigning addresses to *premises* in order to facilitate their identification; (b) to facilitate protection of the public health and safety by enabling a quicker response time by police, fire, ambulance, and other emergency services; (c) to provide for the efficient delivery of public services, including building inspections, health

inspections, property mapping, and property tax administration; and (d) to establish the minimum requirements for providing *address numbers* on *lot*.

**118.2 Administration.** The *code official* is authorized to and shall administer the provisions of this Section 118, including, but not limited to: (a) assigning addresses to all *lots*, new and existing; and (b) administering the naming of new *private thoroughfares* within the District of Columbia. *Address numbers* are required on all *lots*, new and existing, and the *code official* shall have authority to approve all *address number* assignments on any *lot*. The *code official* is also authorized to order changes in the numbering of any *lot* previously numbered if it is determined that the *address number* being used may endanger the public health and safety.

**118.3 Responsibility.** When an *address number* is assigned to a *lot*, the *owner* of a *lot* shall provide and maintain the *address number* in compliance with these requirements. A *lot*, which is required to have an *address number* pursuant to the provisions of this Section 118, but for which no number has been applied for or issued, or where issued the use or posting thereof does not comply with the requirements of this section, shall not be occupied.

**118.4 Definitions.** The following words and terms are defined in Chapter 2.

**ADDRESS NUMBER (for Section 118)**  
**ADDRESS NUMBER RANGE (for Section 118)**  
**ADDRESS NUMBER SUFFIX (for Section 118)**  
**CONDOMINIUM LOT (for Section 118)**  
**BLOCK FACE (for Section 118)**  
**LOT (for Section 118)**  
**MAIN ENTRANCE (for Section 118)**  
**PRIMARY ADDRESS (for Section 118)**  
**PRIVATE THOROUGHFARE (for Section 118)**  
**PUBLIC THOROUGHFARE (for Section 118)**  
**RECORD LOT (for Section 118)**  
**SECONDARY ADDRESS (for Section 118)**  
**THOROUGHFARE QUADRANT (for Section 118)**  
**TAX LOT (for Section 118)**  
**THOROUGHFARE (for Section 118)**  
**THOROUGHFARE NAME (for Section 118)**  
**THOROUGHFARE SEGMENT (for Section 118)**  
**THOROUGHFARE TYPE (for Section 118)**

### **118.5 Addressing Rules - General.**

**118.5.1** The District of Columbia has an existing scheme for addressing and naming of *thoroughfares* that is historic in nature. To the greatest extent possible, this Section 118 seeks to maintain that scheme while eliminating conditions created over time that are detrimental to the public safety and welfare of the citizens of the District of Columbia.

**118.5.2** The existing pattern of alphabetically named and numbered *thoroughfares* found in the District of Columbia shall be maintained.

**118.5.3** When facing a *thoroughfare quadrant* dividing line (North Capitol Street, East Capitol Street, South Capitol Street or the Mall), the even number addresses are on the right side of the *thoroughfare* and the odd numbers are on the left side of the *thoroughfare*. Diagonal *thoroughfares* have even and odd sides that match the parity of the grid direction they most closely resemble; those at 30° angles are generally numbered as east-west *thoroughfares*, those at 60° angles to the Mall are numbered as north-south *thoroughfares*. The 45° angle *thoroughfares* are variable, and should be maintained in their current form.

**118.5.4** *Address number ranges* are determined based on a numeric progression from the point of origin, which is the United States Capitol, and the four *thoroughfare quadrant* dividing lines listed in Section 118.5.3. Each standard block was initially given an *address number range* of one hundred (100), progressing outward from the Capitol. Streets that commence away from the *street quadrant* dividing lines are examined and the *address number ranges* determined based upon the surrounding *thoroughfares*.

**118.5.5** *Address number ranges* shall not overlap or create any opportunities for the assignment of duplicate addresses on a given *thoroughfare* within a single *thoroughfare quadrant*. There should be no gaps in the *address number ranges* if the *thoroughfare* to which the *address number ranges* are applied is continuous.

**118.5.6** Breaks in *address number ranges* may occur where a *thoroughfare* with a given name is broken into distinct *thoroughfare segments* by a park, water body, or other physical barrier. In these cases, the integrity of the address grid shall be maintained, and a gap in the *address number range* created, to signify the break in the *thoroughfare's* continuity.

## **118.6 Administration of Addresses.**

**118.6.1** The *code official* shall maintain a master file of assigned addresses and maintain a master address mapping database, with the assistance of the Office of the Chief Technology Officer.

**118.6.2** The *code official* shall be responsible for determining whether an address is required for any *lot* and also the conditions under which an address or addresses are to be assigned to any *lot*, including how that address is to be posted and displayed.

**118.6.3** The *code official* shall be responsible for assigning a new address under the following conditions:

1. A new *record lot* is created through the subdivision process of the Subdivision Regulations of the District of Columbia, a new *condominium lot* is established or

a new *tax lot* is created through the process of the Office of Tax and Revenue and no *address number* was previously assigned to the prior land parcel or is no longer appropriate for the addressing of the new *lot*;

2. Where a new *building* or other *structure* is constructed on a *lot*, and a new address is requested for the *lot* to reflect the *main entrance* of the *building* or other *structure* located on the *lot*;
3. The *owner* of a *building* or other *structure* on a *lot* with multiple entrances to the exterior submits an application that meets the requirements of this Section 118 regarding the assignment of one or more *secondary addresses*;
4. A new *building* or other *structure* is constructed on a *lot* already assigned an address and the *lot* already that contains one or more *buildings* or other *structures*;
5. An *existing building* or other *structure* is renovated to relocate the main entrance to a different *thoroughfare* frontage of the *lot* or to a different location on the current *thoroughfare* frontage of the *lot* on which that *building* or other *structure* has frontage; or
7. A *condominium lot* where the unit has direct access to a *public thoroughfare* separate and apart for any *main entrance* to the *building* on the *lot*.
8. Where there is a separate occupiable space on the ground floor of a *building* on a *lot* and that space has direct access to the adjacent *public thoroughfare*, that space may be assigned an address separate from the address of the *lot* and displayed on the *main entrance* of the *building* within which the space is located.
9. Such other instances where it is deemed appropriate by the *code official* that an address be assigned and then displayed.

**118.6.4** The *code official* is authorized to grant a waiver of the provisions of Section 118, based upon the evidence presented, if the *code official* finds that the waiver:

1. Benefits the public health, safety and welfare;
2. Does not create conflicts or duplicate addresses; and
3. Is in the best interest of the District of Columbia.

## **118.7 Thoroughfare Naming.**

### **1187.1 General.**

**118.7.1.1** No *thoroughfare* shall be given a name that duplicates or nearly duplicates the name of a then-existing or previously existing *thoroughfare* within the same *thoroughfare quadrant* of the District of Columbia.

**118.7.1.2** No *thoroughfare* shall be given a name that duplicates or nearly duplicates the name of an existing or previously existing *thoroughfare* within the jurisdiction of the District of Columbia.

**118.7.1.3** A *thoroughfare name* may be changed according to the separate procedures for naming *public thoroughfares* and *private thoroughfares*. Historical and commonly used names for *thoroughfares* shall be maintained where possible, and linked to newer names where necessary.

**118.7.2 Naming of Public Thoroughfares.** The *code official* shall forward a recommendation on the name of any proposed new *public thoroughfare* to the Council of the District of Columbia for its action. A proposed *public thoroughfare* shall be assigned a name by the Council of the District of Columbia pursuant to Sections 401 through 410 of the Street and Alley Closing and Acquisition Procedures Act of 1982, effective March 10, 1983 (D.C. Law 4-201; D.C. Official Code §§ 9-204.01 *et seq.* (2013 Repl. & 2018 Supp.)).

**118.7.3 Naming of Private Thoroughfares.**

**118.7.3.1** A property *owner*, developer, surveyor, or plat proprietor shall make application to the *code official* for approval of a proposed *thoroughfare name* of a new *private thoroughfare* consistent with the existing historic thoroughfare addressing and thoroughfare naming scheme as required by Section 118.5.1.

**118.7.3.2** Upon receipt of the *thoroughfare name* application for a new *private thoroughfare*, the *code official* shall review the proposed name with the District Department of Transportation, the District Office of Planning, and the District E-911 Coordinator to ensure that no duplication occurs and that no *private thoroughfares* are created with names that sound alike, or could create confusion for the delivery of emergency and non-emergency services.

**118.7.3.3** The *code official* is authorized to recommend to the applicant a list of the existing approved *thoroughfare names* within the District of Columbia for the convenience of the applicant.

**118.7.3.4** The *code official* shall approve the naming of newly established *private thoroughfares* within the District of Columbia, including *private thoroughfares* in proposed plats of condominium developments.

**118.7.3.5** The *code official* shall notify the applicant within 30 days of the acceptance or rejection of the proposed *thoroughfare name* along with the reasons for the decision, if applicable.

**118.7.3.6** The decision of the *code official* regarding the *thoroughfare name* for each *private thoroughfare* shall be final.

**118.7.3.7** An unnamed *private thoroughfare* shall be named when two or more addresses exist or are established on such *private thoroughfare*. If the existing addresses are numbered off of the adjoining *public thoroughfare*, then the addresses shall be changed to appropriate addresses using the *thoroughfare name* of the *private thoroughfare*.

**118.7.3.8** An *owner* shall consult with the *code official* before a name for the *private thoroughfare* is selected and shall thereafter obtain the *code official's* approval before the name is displayed in accordance with Section 118.10 below.

**118.7.3.9** The *code official* shall recommend changes in a *thoroughfare name* where, in the *code official's* opinion, a valid reason exists for the change of *thoroughfare name*. Such reasons include, but are not limited to:

1. Duplicate *thoroughfare names*;
2. Confusion of *thoroughfare names* that sound alike;
3. *Thoroughfare names* that are extremely difficult to spell or pronounce;
4. *Thoroughfares* that have more than one commonly used name; and
5. *Thoroughfare names* shall not be changed to reflect changes in property ownership or for personal reasons of the adjoining *owners*.

**118.7.3.10** When a *thoroughfare name* change or designation is proposed, the *code official* shall provide notice to the property *owners* abutting the *thoroughfare segment(s)* to be named or changed. If the change is designed to remedy existing duplicate names or confusing names, the property *owners* may be consulted on suggested names for the *thoroughfare*.

**118.7.3.11** Before changing a *thoroughfare name*, the *code official* shall consider the official *thoroughfare name* as recorded on plats and deeds of adjacent property, and the most accurate historical name of the *thoroughfare* in question.

**118.7.3.12** The existing legal documents shall be of primary consideration in determining the single *thoroughfare name* when two or more names are commonly used.



### 118.8 Address Number Assignment.

**118.8.1** Every *lot* that is legally capable of supporting a *building* or other *structure* shall have an address regardless of whether that *lot* is occupied by a *building* or other *structure* or vacant.

**118.8.2** Every *condominium lot*, *building* or other *structure* with an entrance fronting on and directly accessible from a *public thoroughfare* or a *private thoroughfare* shall have a *thoroughfare address*.

**118.8.3** No address shall be assigned to a driveway. Where a *lot* is improved by a *building* or other *structure* and has a driveway associated with that *building* or other *structure*, whether on the same *lot* or different *lot*, then the driveway shall have the same name and the numbering sequence of the *thoroughfare* assigned to the *lot* on which the *building* or other *structure* is located.

**118.8.4** No *address number* shall be assigned to a *lot*, and no *building* or other *structure* on that *lot* shall display an address where the *lot* has as its only access an unnamed *thoroughfare*. If an address is required for a *lot* that fronts on an unnamed *thoroughfare*, that *thoroughfare* shall first be named according to the process described in Sections 118.7.2 or 118.7.3, applicable.

**118.8.5** An *address number* for a *lot*, or for *premises* on a *lot* where there are multiple *premises* on *lot* that could be assigned an *address number*, shall be determined based upon the address range of the block face, the location of the *main entrance* of the *building* or other *structure*, or, as applicable, the frontage of the *lot* on a *thoroughfare* and the existing *address numbers* that are assigned within that *block face* of the *thoroughfare*.

**118.8.6** *Address numbers* shall be logically and spatially consistent, increasing in numeric order from the low number end of the *block face* of the *thoroughfare* to the high number end of that *block face*.

**118.8.7** *Address numbers* shall be assigned in accordance with the parity (odd/even) designation for the *block face* of the *thoroughfare*. Even numbers shall not be used on the odd side of a *thoroughfare*, nor shall odd numbers be used on the evenside of a *thoroughfare*.

**118.8.8** If a *thoroughfare segment* or an *alley segment* exists where both odd and even numbers exist on both sides of the segment, or where only one side contains addresses, and both odd and even numbers have been used, the *code official* shall issue an *address number* that is logically consistent with the numbers on the adjoining *lots*.

**118.8.9** No *address number* shall be assigned that duplicates the number for any existing *lot* on the same *thoroughfare*.

**118.8.10** Except as provided for in Section 118.8.11 below, an *address number* may include an *address number suffix* designated as a letter. Where a new *address number suffix* is designated, it shall be a letter; the first letter assigned to an address as an *address number suffix* shall be the letter “B” to distinguish the address assigned to the principal *building* or other *structure* on the *lot* that has been assigned that address.

**118.8.11** The *code official* is authorized to maintain an existing *address number suffix* that is a fraction if there is no available *address number* in the address sequence for the block in which the address is located. The fraction shall be stored in the *address number suffix* field.

**118.8.12** The letter designation of a *thoroughfare* address shall be maintained in the *address number suffix* field.

**118.8.13** No new *address number* shall be assigned to the site of a proposed *building* that is to be situated on multiple *lots*, although the *address number* assigned to one of the *lots* may be used as the *address number* displayed on the *main entrance*. No new *address number* shall be assigned to the site of a proposed *building* where there is a pending subdivision of the site pursuant to the Subdivision Regulations of the District of Columbia (10-B DCMR §§ 2700 *et seq.*), until the plat of subdivision has been accepted into the records of the Office of the Surveyor of the District of Columbia. No new *address number* shall be assigned to the site of a proposed *building* where there is a pending division of lots application being process administered by the Office of Tax and Revenue of the District of Columbia, and an *address number* may only be assigned in connection with that division of lots process when that Office has issued to the applicant its notice of theoretical creation of one or more *tax lots* and associated assignment of assessment and taxation lot number(s) to that *tax lot* or *tax lots*.

**118.8.14** The *code official* shall hear and consider requests for changes in *address numbers* for existing addresses.

**118.8.14.1** The *code official* is authorized to change *address numbers* where there are duplicates, or where the *address number* is out of sequence, or is on the opposite side of the thoroughfare in terms of parity (odd number found on the even numbered side, or vice-versa).

**118.8.14.2** The *code official* is authorized to change *address numbers* where existing numbers contain an *address number suffix*, and there is sufficient space in the existing *address number range* for the *block face* to support renumbering to remove the *address number suffix*.

**118.8.15** The *code official* shall not change an existing address to one that is not consistent with the addressing of *lots* and *buildings*, parity, and sequences that already exist on the applicable *public thoroughfare*.

**118.8.16** Where a *lot* is occupied by a *building* or other *structure* that fronts on more than one *public thoroughfare*, the *lot* shall be assigned an *address number* based on the location of the face of the *building* or other *structure* containing the *main entrance*.

## **118.9 Display Specifications.**

**118.9.1 Address Number Display.** Each *lot* to which an *address number* has been assigned and has a *building* or other *structure* located on that *lot* shall have the number displayed on the *building* or other *structure* in conformance with the requirements provided in this Section 118.9.

### **118.9.1.1 Main Entrance Location.**

**118.9.1.1.1** The assigned *address number* of the *lot* shall be located directly over or near the *main entrance* in a position easily observed and readable from the opposite side of a *public thoroughfare*.

**118.9.1.1.2** A multi-tenanted *building* or other *structure* having separate exterior entrances with separate *address numbers* shall post the assigned *address numbers* near each entrance to the *building* or other *structure* in accordance with this section.

**118.9.1.1.3** Where the *main entrance* of the *building* or other *structure* on a *lot* is not located at and fronting on a *public thoroughfare*, the *owner* of a *lot* shall post the *address number* on the face of the *building* or other *structure* located at or fronting on the *public thoroughfare* as well as directly above or near the *main entrance*.

**118.9.1.2 Rear Entrance Location.** If the rear of a *building* or other *structure* on a *lot*, to which an *address number* has been assigned, faces a *public thoroughfare*, the *owner* shall also place the *address number* of the *main entrance* in a position easily observed and readable from the *public thoroughfare* that serve the rear of that *building* or other *structure*.

**118.9.1.3 Construction Sites Location.** *Address numbers* shall be posted at construction sites in a position easily observed and readable from any *public thoroughfare* serving the construction site.

**118.9.1.4 Size of Numbers.** The minimum size of an *address number* shall be 3 inches (76 mm) high and one-half inch (13 mm) wide and shall be in Arabic figures on a contrasting background.

**118.9.1.5 Private Thoroughfares.** The *address number* of a *lot* fronting on a *private thoroughfare* need not be readable from a *public thoroughfare* if, under

the circumstances, this requirement would be impracticable and the *approved address numbers* are placed in a position on a *building* or other *structure* on that *lot* to be plainly legible and visible from the *private thoroughfare*.

### **118.9.2 Thoroughfare Name Sign Display Specifications.**

**118.9.2.1** All *thoroughfare name* signs for a *public thoroughfare* or *private thoroughfare* shall meet the requirements of Section 118.7 above and the requirements of the District Department of Transportation (“DDOT”).

**118.9.2.2** For *public thoroughfares*, DDOT shall provide standard *thoroughfare name* signs showing the name of the *public thoroughfare*, the *thoroughfare type*, *thoroughfare quadrant*, and the starting number for the *address range(s)* associated with the *thoroughfare segment* for each *public thoroughfare* at each intersection.

**118.9.2.3** The *owner* of a *private thoroughfare* shall provide standard *thoroughfare name* signs showing the name of the *private thoroughfare*, the *thoroughfare type*, *thoroughfare quadrant*, and the starting number for the *address range(s)* associated with the *thoroughfare segment* for each *private thoroughfare*, based on the approved *thoroughfare name* issued by the *code official*.

**118.9.2.4** *Thoroughfare name* signs designating *private thoroughfares* shall include the word “Private” or “PVT” on them to distinguish them from *public thoroughfares*.

### **118.10 Compliance and Enforcement.**

**118.10.1 Final Building Inspection.** Before approval of a final building inspection pursuant to Section 109.3.1.11, all addressing requirements, including obtaining a *thoroughfare name*, and obtaining and posting of an *address number*, shall be satisfied in accordance with the requirements of Section 118.

**118.10.2 Enforcement.** The provisions of Section 118 shall be enforced by the *code official* pursuant to the enforcement mechanisms set forth in Section 113.

*Insert new Section 119 in the Building Code to read as follows:*

## **119 SERVICE UTILITIES**

**119.1 Connection of Service Utilities.** No *person* shall make connections from a utility source of energy, fuel, power, water or sewerage to any *building*, other *structure* or system that is regulated by the *Construction Codes* until a permit for the work is issued and the work has been inspected and approved by the *code official*.

**119.2 Temporary Connection.** The *code official* shall have the authority to authorize the temporary connection of a *building*, other *structure*, system, or use to the utility source of energy, fuel or power.

**119.3 Authority to Disconnect Service Utilities.** The *code official* shall have the authority to order the disconnection of utility service to any *building*, other *structure* or system regulated by the *Construction Codes*, in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 119.1 or 119.2. The *code official* shall notify the serving utility, and where possible the *owner* and occupant of the *building*, other *structure* or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the *owner* or occupant of the *building*, other *structure* or service system shall be notified in writing, as soon as practical thereafter.

**119.3.1 Non-Emergency Disconnection.** The *code official* shall have the authority to disconnect any utility service or energy supplied to a *premises* or portion thereof, or to equipment located thereon, where notification has been provided in accordance with Section 119.3.1.1, in any of the following circumstances:

1. The *owner* of the *premises*, or *person* working on the *premises*, have failed to comply with one or more stop work orders;
2. Where an electric or natural gas service has been connected to a *building* or *structure* which has not been approved for occupancy or operation at that site; or,
3. Where a permit for temporary power has expired and the electrical connection is still in use.

**119.3.1.1 Notification.** The *code official* shall issue a notice and order directed to the *owner* of the *premises* or portion thereof that is subject to the disconnection order in accordance with Sections 113.4.6 and 113.5.5, and by posting the notice at the entrance of such *building* or *structure*.

**119.3.1.2 Authority to Order Disconnection.** If the specified action to be taken by the *owner* is not accomplished within 30 days from the date of service, the *code official* is authorized to order the utility to disconnect service, with the costs for such action to be borne by the *owner*. Responsibility for damages, losses, and liabilities consequent with the loss of power shall be borne by the *owner* and not the District of Columbia or its employees.

**Exception:** Where the *owner* or *occupant* can conclusively demonstrate the likelihood of loss of human life or serious health endangerment consequent to a loss of power to the site and, further, can conclusively demonstrate inability to provide alternate living arrangements for the endangered person.

**119.3.1.2.1 Notice to the Serving Utility.** When utility service or energy to a *premises* or portion thereof is to be disconnected, a written notice of such disconnection and causes therefore shall be provided at least twenty-four (24) hours prior to such disconnection to the serving utility, the *owner* and the *occupants* of the *premises* or portion thereof.

**119.3.1.2.2 Posting of Notice of Disconnection.** After any notice and/or order of the *code official* made pursuant to this section shall become final, the *code official* shall post a notice of disconnection in a conspicuous location, in or about the *premises* subject to the disconnection stating that the utility/energy connection, as applicable, will be disconnected on a specified date. Unauthorized removal or obstruction of a posted notice of disconnection is a violation of the *Construction Codes*, and is subject to the penalties provided in Section 113 and D.C. Official Code § 6-1406 (2018 Repl.), and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.). The *owner* of the *premises* posted with a notice of disconnection, or the owner's agent, shall promptly notify the *Department* if the posted notice has been removed, damaged or obstructed so the notice can be reposted.

*Insert new Section 120 in the Building Code to read as follows:*

## **120 COVENANTS AND AGREEMENTS**

**120.1 General.** The provisions of this section, and D.C. Official Code § 6-1405.01(b) (2018 Repl.), shall apply to any covenants or agreements required by the *Construction Codes* or accepted by the *code official* as an alternate means of compliance with requirements of the *Construction Codes* (a "*Required Covenant*"). There may also be other covenants or agreements relating to the construction process that are required by other agencies as set forth in Section 120.4, that are subject to review and approval by these agencies ("*Other Agency Covenant*").

**120.1.1 Required Covenants.** *Required Covenants* include the following:

1. **Covenant for Openings** (Section 705.8.7. or *Residential Code* Section 302.1;
2. **Covenant for Green Building Act Binding Pledge** (Section 302.6.2.4 of the *Green Construction Code*);
3. **Covenant for Modification of Projection Requirements** (Section 3202.4.2);
4. **Covenant for Master Service or Master Metering** (Articles 230.2 and 230.3 of the *Electrical Code*); ~~and~~
5. **Covenants required by the Zoning Administrator; and**

6. Covenants and agreements required or accepted by the *code official* as an alternate means of compliance with requirements of the Construction Codes, in conjunction with an *approved* code modification.

**120.2 Form and Recordation.** Any *Required Covenant* shall: (i) run with the land for as long as it is required; (ii) be in the form approved by the Office of the Attorney General for the District of Columbia (“OAG”); (iii) require approval for technical sufficiency by the *Department* or other responsible agency indicated below, as shown by the signature of the authorized representative of the *Department* or other agency; and (iv) require approval for legal sufficiency by OAG or OAG’s designee, before issuance of any related permits, certificates of occupancy for Green Building Pledge Covenants, or Change in Openings as specified in Section 120.3.1.1. as shown by the signature of the authorized representative of OAG on the *required covenant*. Any modification or termination of a Covenant shall require: prior written approval of the District of Columbia in a form approved by OAG; approval for technical sufficiency by the *Department* (or other agency indicated below); and approval for legal sufficiency by OAG or OAG’s designee. For each *Required Covenant*, the *owner(s)* shall:

1. File and record the *Required Covenant*, signed by the *owner(s)* as approved by the *Department* (or other agency as required below) and by OAG or OAG’s designee, among the land records of the Office of the Recorder of Deeds of the District of Columbia (Land Records) against the title to the lot on which the building or structure is located or to be located, by and at the expense of the *owner*;
2. Provide the *code official* with one copy of the *Required Covenant* that is certified by the Recorder of Deeds as having been recorded among the Land Records against the lot; and
3. Cause any lien or interest creating a security interest for the payment of a debt in the *premises*, as applicable, recorded in the Land Records prior to the *Required Covenant*, to be subordinated to the *Required Covenant*.

### 120.3 Specific Categories of Required Covenants.

**120.3.1 Required Covenant for Openings.** No permit shall be approved or issued where one or more openings in an exterior wall, subject to the provisions of Section 705.8.7 or *Residential Code* Section 302.1, until the *owner* of the lot presents the *code official* with a copy of a covenant that complies with Section 120.2. The purpose of the covenant is to ensure compliance with maintenance of the minimum requirements of Section 705.8.7 and *Residential Code* Section 302.1 for as long as the *building* exists, and to ensure that responsibility for the maintenance of those conditions shall be conveyed to any future owner of the *building*.

**120.3.1.1 Change in Openings.** If the *code official* determines that a change in conditions subject to Section 705.8.7 or *Residential Code* Section 302.1 occurred

prior to final inspection, but after recordation of a covenant required by this Section 120.3.1, and the change affects the terms of the covenant, the *owner* shall amend the covenant as the *code official* directs and record the amended covenant in accordance with Section 120.1 prior to issuance of the first certificate of occupancy for occupiable space in a story above grade plane, or prior to final inspection if no certificate of occupancy is required.

**120.3.2 Required Covenants for Modifications of Projection Requirements for Foregone Construction.** No permit or related plan shall be *approved* or issued for a modification of projection requirements pursuant to Section 3202.4.2 until the *owner* of the *premises* presents the *code official* with a copy of a covenant that complies with Section 120.2, and which meets the requirements of Section 3202.4.2.4 and 3202.4.2.5.

**120.3.3 Required Covenants for Green Building Act Binding Pledge.** No certificate of occupancy in a *story above grade plane* for a project for which the *owner* or authorized agent has elected to submit a binding pledge as provided in Section 302.6.2.4 of the *Green Construction Code* as security for compliance with the provisions of Section 302.3.2 or Section 302.3.3 of the *Green Construction Code* or as provided in Section 6 of the *Green Building Act* (D.C. Official Code Section § 6-1451.05) until the *owner* or authorized agent presents the *code official* with a copy of a covenant that complies with Section 120.2.

**120.3.4 Required Covenants for Master Service or Master Metering.** No permit shall be approved or issued to provide master service to more than one *building* on a single lot, or to *buildings* on different lots in the same square, as *approved* pursuant to Articles 230.2 and 230.3 of the *Electrical Code*, until the *owner* of the *premises* presents the *code official* with a copy of a covenant, complying with Section 120.2, that establishes access rights to each end user.

**120.3.5 Covenants Required by the Zoning Administrator.** No building permit shall be approved or issued for a single family *dwelling* project where the application shows components of an additional *dwelling unit(s)*, unless the *owner* commits to maintain the unit as a single family *dwelling* for purposes of compliance with the *Zoning Regulations* or seeks, as appropriate, regulatory approval as either an accessory apartment, flat, or multiple dwelling use as permitted under the *Zoning Regulations*. If maintained as a single family *dwelling*, a commitment to maintain the *premises* as a single family *dwelling* must be documented by the *owner* of the *premises* by presenting the *code official* with a copy of a covenant, complying with Section 120.2.

**120.4 Other Agency Covenants and Agreements.** Where an agency other than the *Department* requires a covenant or agreement to be approved by such agency prior to permit issuance by the *Department*, then it shall be the responsibility of the requiring agency to ensure that the applicant has met the conditions imposed by such agency, and to provide evidence to the *Department* of the requiring agency's approval of such covenant or agreement. Agreements and covenants required by other agencies include, but are not limited to, the following:



1. **Covenants for Stormwater Management** (DOEE, pursuant to 21 DCMR Chapter 5).
2. **Covenants for Private Fire Hydrants** (Fire and Emergency Medical Services, pursuant to D.C. Official Code § 34-2410.02 and *Fire Code* § 507.5.2.1).
3. **Public Space Vault Agreements** (DDOT, pursuant to D.C. Official Code § 10-1103.01 and *Building Code* § 3202.9.2.1).
4. **Covenants or Agreements for Installation and Maintenance of Water Service or Sewer Pipes that Traverse an Adjacent Premises.** (DC Water, pursuant to D.C. Code § 8-205(b) and 21 DCMR §§ 110 and 202).
5. **Covenants and Non-Conversion Agreements Required under Flood Hazard Rules** (DOEE, pursuant to 21 DCMR Chapter 31).

**121 [RESERVED]**

*Insert new Section 122 in the Building Code to read as follows:*

**122 AMENDMENTS AND COPIES**

**122.1 Amendments; Supplements; Editions.** All future amendments, supplements, and editions of the *Construction Codes* shall be adopted only upon authority of the government of the District of Columbia. The Mayor is authorized to issue proposed rules to amend the *Construction Codes* and to adopt new editions of and supplements to the *International Codes* in whole or in part, pursuant to Title I of the District of Columbia Administrative Procedure Act, approved October 21, 1968 (82 Stat. 1204; D.C. Official Code §§ 2-501 *et seq.* (2016 Repl. & 2018 Supp.)) and the Construction Codes Approval and Amendments Act, effective March 21, 1987 (D.C. Law 6-216; D.C. Official Code §§ 6-1401 *et seq.* (2018 Repl.)), as amended. The Mayor's authority thereunder has been delegated to the Construction Codes Coordinating Board ("CCCB") pursuant to Mayor's Order 2009-22, dated February 25, 2009, as amended. The proposed rules shall be submitted to the Council for a 45-day period of review, excluding Saturdays, Sundays, legal holidays, and days of Council recess, pursuant to D.C. Official Code § 6-1409(a). If the Council does not approve or disapprove the proposed rules, in whole or in part, by resolution within this 45-day review period, the proposed rules shall be deemed approved. The rules shall not take effect until approved or deemed approved by the Council.

**Exception:** Amendments to the *Construction Codes* by emergency rulemaking are governed by D.C. Official Code § 2-505(c).

**122.2 Amendment Procedure.** Within a reasonable period of time after publication of any subsequent edition of the *International Codes*, the CCCB shall:

1. Review, revise and maintain the *Construction Codes* to reflect the current state of the art in the construction industry;
2. Review and evaluate all proposed changes and amendments to the *Construction Codes*;
3. Submit for adoption, as proposed rulemaking through the Director, all revisions to the *Construction Codes* that are approved by the CCCB; and
4. Publish, as final rulemaking through the Director, all revisions to the *Construction Codes* once they are approved or deemed approved by the Council as provided in the Construction Codes Act and Section 122.1.

**122.2.1 Initiation and Review of Changes.** Changes to the *Construction Codes* shall be proposed and initiated by and through the CCCB. The notice, review, evaluation, and rulemaking procedures of Section 122.2 shall be applied to any proposed changes in the *Construction Codes*.

**122.3 Official Copy.** The official copy of the *Construction Codes* is posted electronically on the website of the Secretary of the District of Columbia, Office of Documents and Administrative Issuances.

*Insert new Section 123 in the Building Code to read as follows:*

## **123 TRANSITORY PROVISIONS**

**123.1 Applicability of Prior Editions of the Construction Codes.** The prior edition of the *Construction Codes*, in force on the date that a new edition of the *Construction Codes* is adopted pursuant to Section 122, shall remain in full force and effect for the purposes specified in Sections 123.1.1 through 123.1.5.

**123.1.1 Permits Issued Prior to Adoption of Construction Codes.** Work authorized by a permit issued before the effective date of the new edition of the *Construction Codes*, which permit has not expired pursuant to Section 105.10 or been revoked pursuant to Section 111, shall be allowed to be carried to completion under the edition of the *Construction Codes* under which the permit was issued, subject to the exceptions stated in Section 102.6.

**123.1.2 Applications Filed Prior to Adoption of Construction Codes.** An application for permit for which the application filing deposit has been paid before the effective date of the new edition of the *Construction Codes*, pursuant to Section 108.2.1.1, shall be allowed to be processed to issuance of the permit, and any work authorized thereby shall be allowed to be carried to completion under the edition of the *Construction Codes* in effect on the date said application was filed, subject to the exceptions stated in Section 102.6 and the following conditions:

1. Each such application shall have been filed prior to the effective date of the new edition of the *Construction Codes* accompanied by submittal documents and other information sufficiently complete to allow processing of the permit application without substantial change or deviation;
2. Each such permit shall be paid in full and obtained by the applicant within 12 months after the effective date of the new edition of the *Construction Codes*;
3. All work authorized by such permit shall be carried to completion under the terms of the permit; and
4. Any permits granted under Section 123.1.2, if permitted to expire under Section 105.10 or if revoked pursuant to Section 111, shall not be extended under Section 105.11.

**123.1.3 Applications Filed After Adoption of Construction Codes.** Where a contract for design has been executed prior to the effective date of the new edition of the *Construction Codes*, but no permit applications for work covered by the design contract have been filed, permit applications for work covered by the design contract shall be allowed to be filed, processed to issuance of permit, and any work authorized thereby shall be allowed to be carried to completion, under the previous edition of the *Construction Codes*, subject to the exceptions stated in Section 102.6 and the following conditions:

1. The applicant shall file the permit application, accompanied by submittal documents and other information conforming to Sections 106.1 and 106.1.1 of the new edition of the *Construction Codes*, sufficiently complete to allow processing of the permit without substantial change or deviation, within 12 months after the effective date of the new edition of the *Construction Codes*;
2. The applicant shall submit a copy of the design contract for the work covered by the permit application, with a notarized affidavit stating that the submitted copy is a true and accurate copy of the contract, that the contract was in effect on or before the effective date of the *Construction Codes*, and that the design submitted with the permit application was made under such contract;
3. The permit shall be obtained and the permit fee paid in full by the applicant within 12 months after the filing date;
4. All work authorized by such permit shall be carried to completion under the terms of the permit; and
5. Any permit granted under Section 123.1.3, if permitted to expire under Section 105.10 or if revoked pursuant to Section 111, shall not be extended under Section 105.11.

**123.1.4 Tenant Layout Permits in a New Building.** The work necessary to finish the interior layout of every tenant space in a new *building* authorized by a permit issued under a previous editions of the *Construction Codes*, for first occupancy of each such tenant space, shall be considered part of the completion of said *building*, and the permits for such tenant work shall be allowed to be processed under the same edition of the *Construction Codes* as the permit for the new *building*, regardless of when the tenant layout project begins.

**123.1.4.1 Extensive Alteration Level 3 Projects.** The work necessary to finish the interior layout of every tenant space in Alteration Level 3 projects that entails all of the following: a)stripping the building to its structure, b) removal of all other systems, and c) the complete refitting of the building, shall be permitted shall be considered part of the completion of said *building*, and the permits for such tenant work shall be allowed to be processed under the same edition of the *Construction Codes* as the permit for the Alteration Level 3 work, regardless of when the tenant layout project began.

**123.1.5 Revision of a Permit Issued Under a Prior Edition of the Construction Codes.** Revisions pursuant to Section 105.9 of an active valid *permit* issued under a previous edition of the *Construction Codes* shall be allowed to be processed, at the option of the *owner*, under the same edition of the *Construction Codes* as the *permit* being revised.

**Exceptions:** Where the *code official* determines that:

1. Using certain provisions of the previous edition would pose an undue health or safety risk to the public or the occupants of the *premises*; or
2. The scope of work is such that submission of a new permit application is required in lieu of a permit revision as authorized by Section 105.3.6.10.1.

## CHAPTER 2 DEFINITIONS

201 GENERAL

## 202 GENERAL DEFINITIONS

201 GENERAL

*Insert a new Section 201.5 in the Building Code to read as follows:*

**201.5 Defined terms with specific limitations.** Where the definition of a term is shown as being specifically limited to a specific chapter or section of the *Construction Codes*, that definition shall not be used outside the chapter or section specifically stated.

## 202 GENERAL DEFINITIONS

**202.1 Revised definitions.** The definitions of the following terms in Section 202 of the *International Building Code* are deleted and new definitions are inserted in their place in Section 202 of the *Building Code*.

**ADDITION.** An extension or increase in the building area, aggregate floor area, number of stories, or height of a building or structure.

**BASE FLOOD.** A flood having a 1-percent chance of being equaled or exceeded in any given year. The base flood is commonly referred to as the "100-year flood" or the "1-percent-annual chance flood."

**BASEMENT.** A *story* that is not a *story above grade plane* (see "*Story above grade plane*"). This definition of "Basement" does not apply to the provisions of Section 1612 or Appendix G for *flood loads*.

**BASEMENT (for flood loads) (for purposes of Section 1612 and Appendix G).** The portion of a building having its floor subgrade (below ground level) on all sides. This definition of "Basement" is limited in application to the provisions of Section 1612 and Appendix G.

**BUILDING OFFICIAL.** The *code official*.

**DESIGN FLOOD ELEVATION.** The elevation of the "*design flood*," including wave height, relative to the datum specified on the District of Columbia's legally designated flood hazard map.

~~**EXISTING BUILDING.** Any building or structure that was erected and occupied or issued a certificate of occupancy at least one year before a construction permit application for that building or structure was made to the *Department*.~~

**EXISTING STRUCTURE.** Any structure that has been erected and legally occupied

(excluding structures occupied pursuant to a temporary certificate of occupancy).

**LOWEST FLOOR.** The floor of the lowest enclosed area, including *basement*, but excluding any unfinished or flood-resistant enclosure, usable solely for vehicle parking, building access or limited storage provided that such enclosure is not built so as to render the structure in violation of Section 1612 and Appendix G.

**WALL, LOAD-BEARING.** Any wall meeting either of the following classifications: (1) Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight; (2) Any masonry or concrete, or mass timber wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

~~Strike the definition of “Base Flood” in Section 202 of the International Building Code and insert a new definition of “Base Flood” in Section 202 of the Building Code to read as follows:~~

~~Strike the definitions of “Basement (for flood loads)” and “Basement” in Section 202 of the International Building Code and insert new definitions of “Basement (for flood loads)” and “Basement” in Section 202 of the Building Code to read as follows:~~

~~Strike the definition of “Design Flood Elevation” in Section 202 of the International Building Code and the insert a new definition of “Design Flood Elevation” in Section 202 of the Building Code to read as follows:~~

~~Strike the definition of “Lowest Floor” in Section 202 of the International Building Code and insert a new definition of “Lowest Floor” in Section 202 of the Building Code to read as follows:~~

**202.2 New definitions.** The following new terms and definitions are added to Section 202 of the *Building Code*.

~~Insert new definitions in Section 202 in the Building Code to read as follows:~~

**ACCESSORY STRUCTURE (for Appendix G).** A structure that is (1) not used for human habitation, (2) incidental to a main structure on the premises, and (3) used only for the parking of vehicles or limited storage.

**ADDRESS NUMBER (for Section 118).** A number used to provide specific identification for a *lot* on a *public thoroughfare* or *private thoroughfare* in the District of Columbia, which may be a *primary address* or a *secondary address*. It shall be stored as a numeric value and may include an *address number suffix*.

**ADDRESS NUMBER SUFFIX (for Section 118).** A fraction or a letter that is attached to an *address number* in an address.

**ADDRESS NUMBER RANGE (for Section 118).** The high and low values for the *street numbers* found on a block face. The address range is expressed as a low number and a high number representing the lowest and highest *street numbers* found or possible on a given *block face*.

**ADMINISTRATIVE BULLETINS.** Notices issued by the *Department* that represent official *Department* policies to assist applicants, staff and the public in following operational, technical and legal procedures.

**ALLEY.** Each public thoroughfare or private thoroughfare which is not a street.

**ALLEY LINE EXTENDED (for Chapter 32).** A line through the corner of a *lot*, at the intersection of an alley with the *street*, and perpendicular to the *street*.

**ALTERATION OF A WATERCOURSE.** A dam, impoundment, channel relocation, change in channel alignment, channelization, or change in cross-sectional area of the channel or the channel capacity, or any other form of modification which may alter, impede, retard or change the direction and/or velocity of the riverine flow of water during conditions of the base flood.

**ASSISTIVE LISTENING SYSTEM.** An amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical space between a sound source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment.

**BAY WINDOW.** A *structure* with windows that projects from the façade of a *building*, starts at or below grade, and is not intended for the display of merchandise or services.

**BLOCK FACE (for Section 118).** The right-of-way line along a public street or the property line at the edge of a private street segment. Each *street segment* shall have two *block faces*.

**BOARD OF ZONING ADJUSTMENT (BZA).** The *Board of Zoning Adjustment (BZA)* is an independent, quasi-judicial body that is empowered to grant relief from the strict application of the *Zoning Regulations* (variances), approve certain uses of land (special exceptions), and hear appeals of actions taken by the *Zoning Administrator*.

**BUILDING RESTRICTION LINE.** A line that defines a required set-back on a lot, a certain distance from the *public right-of-way*, that is recorded on the records of the Surveyor of the District of Columbia. Any area between a *lot line* adjoining a *street* and the *building restriction line* is private property set aside and treated as *public space*.

**BUILDING RESTRICTION AREA.** The portion of a *lot* between a *building restriction line* and a *lot line* adjoining a *street*.

**BUSINESS DAY.** A day other than Saturday, Sunday, or a legal public holiday in the District of Columbia. If *business day* is not specified, a day shall mean a calendar day.

**CODE OFFICIAL.** The *Director* of the District of Columbia Department of Consumer and Regulatory Affairs, or a duly authorized representative, for administration and enforcement of the *Construction Codes*, including *Fire Code* provisions pertaining to approval, installation, design, , testing, and inspection of (a) new fire protection systems and (b) modification of existing fire protection systems. References in the *Fire Code* to the *code official* shall refer to the Fire Chief of the District of Columbia Department of Fire and Emergency Medical Services or a duly authorized representative, except where the *Fire Code* provision pertains to approval, installation, design, testing, and inspection of (a) new fire protection systems and (b) modification of existing fire protection systems.. The *Fire Chief* shall be the *code official* for maintenance, testing and inspection of all existing fire protection systems.

**COLONNADE.** A series of columns placed at regular intervals that supports a *structure* above.

**CONDOMINIUM LOT (for Section 118).** A condominium unit created through the establishment of a condominium regime pursuant to the District of Columbia Condominium Act of 1980, as amended (Title 42 DC Official Code, Chapter 34) where the condominium unit fronts on and can be accessed directly from an adjacent *public thoroughfare* or *private thoroughfare*.

**CONSTRUCTION CODES.** The 2017 District of Columbia Construction Codes as defined in See Section 101.1 Chapter 1 of the Building Code.

**CONSTRUCTION CODES ACT.** The Construction Codes Approval and Amendments Act of 1986, effective March 21, 1987 (D.C. Law 6-216; D.C. Official Code §§ 6-1401 et seq. (2018 Repl.) including any subsequent amendments thereto.

**DEMOLITION.** *Interior demolition* and *partial demolition*.

**DEMOLITION, INTERIOR.** Work that involves the removal of interior non-bearing walls, elements or systems, or interior finishes.

**DEMOLITION, PARTIAL.** Work of a greater scope than *demolition interior* that includes the removal of structural elements (interior or exterior), exterior walls, roofs, or other exterior elements but is not a *raze*.

**DEPARTMENT.** The District of Columbia Department of Consumer and Regulatory Affairs, except that references to *Department* in the *Fire Code* shall refer to the District of Columbia Fire and Emergency Medical Services Department.

**DEVELOPMENT (for Section 1612 and Appendix G).** Any man-made change to improved or unimproved *premises*, including but not limited to, buildings or other structures, temporary structures, temporary or permanent storage of materials, mining, dredging, filling, grading, paving, excavations, operations and other land-disturbing activities.

**DEVELOPMENT SITE (for Section 1612 and Appendix G).** A *record lot* wholly or partially within a *flood hazard area* on which any *development* is proposed to occur.



**ELEVATION CERTIFICATE.** The National Flood Insurance Program Elevation Certificate (FEMA form 086-0-33), any successor to FEMA form 086-0-33, or other approved form, used to certify that new buildings and substantial improvements in *Flood Hazard Areas* are properly elevated in accordance with the *Floodplain Management Regulations of the District of Columbia*.

**EMBELLISHMENT.** An architectural element that ornaments and articulates the façade of a *building*.

**ENCROACHMENT (for Appendix G).** The placement of fill, excavation, buildings, permanent structures or other development into a flood hazard area which may impede or alter the flow capacity of riverine *flood hazard areas*.

**EXISTING BUILDING.** Any *building* that has been erected and legally occupied (excluding buildings occupied pursuant to a temporary certificate of occupancy).

**FIRE CHIEF.** The Chief of the D.C. Fire and Emergency Medical Services Department.

**FLOOD HAZARD AREA.** The area designated as a *flood hazard area* in 20 DCMR, Chapter 31.

**FLOODPLAIN ADMINISTRATOR.** The Director of the District of Columbia Department of Energy & Environment (DOEE).

**FLOODPLAIN MANAGEMENT REGULATIONS OF THE DISTRICT OF COLUMBIA.** The flood-resistant construction provisions of the *Construction Codes* in combination with the flood resilience rules promulgated by the Department of Energy and the Environment (DOEE), set forth in Title 20, Chapter 31 of the DCMR, and in Title 6, Chapter 5 of the D.C. Official Code (2018 Repl.).

**FLOODPROOFING CERTIFICATE.** The National Flood Insurance Program Floodproofing Certificate (FEMA form 086-0-34), any successor to FEMA form 086-0-34, or other *approved form*, used to certify a floodproofing design for non-residential buildings that are permitted as an alternative to elevating to or above the *Base Flood Elevation*.

**FUNCTIONALLY DEPENDENT FACILITY (for Appendix G).** A facility that cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading or unloading of cargo or passengers, shipbuilding or ship repair. The term does not include long-term storage, manufacture, sales or service facilities.

**HISTORIC STRUCTURE (for Appendix G).** Any structure that is: (a) individually listed in the National Register of Historic Places (a listing maintained by the U.S. Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for

individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior, such as the D.C. Register of Historic Places ; or (d) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: (i) by an approved state program as determined by the Secretary of the Interior; or (ii) directly by the Secretary of the Interior in states without approved programs.

**LETTER OF MAP CHANGE.** An official determination issued by the Federal Emergency Management Agency (FEMA) that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:

1. **Letter of Map Amendment (LOMA):** An amendment based on technical data showing that a property was incorrectly included in a designated special flood hazard area. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a special flood hazard area.
2. **Letter of Map Revision (LOMR):** A revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.
3. **Letter of Map Revision Based on Fill (LOMR-F):** A determination that a structure or parcel of land has been elevated by fill above the base flood elevation and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community's floodplain management regulations.
4. **Conditional Letter of Map Revision (CLOMR):** A formal review and comment as to whether a proposed flood protection project or other project complies with the minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.

**LOT (for Section 118).** A parcel of land, being either (a) a *record lot*, (b) a *Condominium Lot*, or (c) a *Tax Lot*.

**LOT LINE EXTENDED (for Chapter 32).** The extension of a *lot line* through a corner of the *lot* that adjoins the *street*, perpendicular to the street.

**MAIN ENTRANCE (for Section 118).** The principal point of entry into a *building* or other *structure* on a *lot* from a *public thoroughfare* or *private thoroughfare*; provided that where, due

to the physical configuration of a *building* or other *structure*, it would appropriate for reasons of public safety or public convenience for a *building* or other *structure* to have more than one point of entry from a *thoroughfare* be recognized as a *main entrance* of that *building* or other *structure*, then the *code official* is authorized to recognize more than one entry point to that *building* or other *structure* as a *main entrance* and to assign a distinct *address number* for display by means of a suffix or other designation as the *code official* deems appropriate.

**MANUFACTURED HOME (for purposes of Appendix G).** A structure that is transportable in one or more sections, built on a permanent chassis, designed for use with or without a permanent foundation when attached to the required utilities, and constructed to the Federal Mobile Home Construction and Safety Standards and rules and regulations promulgated by the U.S. Department of Housing and Urban Development. The term also includes mobile homes, park trailers, travel trailers and similar transportable structures that are placed on a site for 180 consecutive days or longer.

**MANUFACTURED HOME PARK OR SUBDIVISION (for Appendix G).** A *record lot* divided into two or more manufactured home lots for rent or sale.

**MARKET VALUE (for purposes of Appendix G).** The assessed value of the building or structure, as established by the District of Columbia Office of Tax and Revenue, Real Property Tax Administration (“OTR”). The assessed value of the land on which the building or structure is located shall not be included in the determination. The relevant assessment shall be the OTR assessment promulgated before the damage occurred or before the repair or improvement is started.

**MASS TIMBER.** Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

**MAUSOLEUM.** A permanent structure or building, located on burial grounds authorized pursuant to D.C. Official Code § 43-121, which is substantially exposed above the ground and used solely for the interment, entombment, or inurnment of human remains.

**NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER).** Noncombustible material, in accordance with Section 703.5, designed to increase the fire-resistance rating and delay the combustion of mass timber.

**OFFICE OF ADMINISTRATIVE HEARINGS (OAH).** An independent agency within the executive branch of the District of Columbia government, established by the Office of Administrative Hearings Establishment Act of 2001 effective March 6, 2002 (D.C. Law 14-76; D.C. Official Code §§ 2-1831.01 *et seq.* (2016 Repl. & 2018 Supp.)), as an administrative tribunal and agency to hear certain contested cases and other administrative adjudication cases arising under the laws of the District of Columbia.

**ORIEL WINDOW.** A *structure* with windows that projects from the façade of a *building*, does not touch grade, and is not intended for the display of merchandise or services.

**PARTY LINE.** A *lot line* shared by adjoining *lots*.

**PARTY LINE EXTENDED (for Chapter 32).** The extension of a *party line* that adjoins the *street*, and perpendicular to the *street*.

**PARTY WALL (for Chapters 1 and 33).** A wall that straddles, or is in close proximity to, a *lot line*, which is used for structural support by two or more adjoining *buildings* or *structures*.

**PORCH (for Chapter 32).** An above-grade *structure* with or without a roof that is open on all sides of the *projection* that are over the *lot line* or *building restriction line*, has vertical elements connecting the floor with a roof, is attached to a *building*, and is accessible from the attached *building*.

**PORTE-COCHERE.** A covered entrance of sufficient size for a vehicle to pass underneath and provide shelter from the weather.

**PREMISES.** A lot, plot or parcel of land, including any *buildings* or *structures* thereon, or a part of a lot, plot, parcel of land or *structure*.

**PRIMARY ADDRESS (for Section 118).** The address of the main entrance of a *premises*.

**PRIVATE THOROUGHFARE (for Section 118).** Streets, alleys and other *thoroughfares* where the underlying land is owned by private citizens or entities, or is part of existing tax or record lots adjoining a *public thoroughfare*.

**PROJECTION (for Chapter 32).** An encroachment into the *public right of way*, *public space* or a *building restriction area*.

**PUBLIC PARKING.** The area of a *street* devoted to open space, greenery, or parks which lies between the *lot line* and the edge of the actual or planned sidewalk which is nearer to the *lot line*, as such *lot line* and sidewalk are shown on the records of the District of Columbia.

**PUBLIC RIGHT-OF-WAY.** The surface, the air space above the surface, and the area below the surface of any *public space*.

**PUBLIC SPACE.** All the publicly owned property between *lot lines*, including *streets*, *alleys*, parks, and reservations. Any *building restriction area*, where the same exists on a *lot*, shall be treated as *public space*.

**PUBLIC THOROUGHFARE (for Section 118).** Streets, alleys and other *thoroughfares* that are under the jurisdiction of the District of Columbia, any other public government, including the Federal Government or its branches, or by any adjoining state government.

**RAZE.** The complete removal of any existing structure, with or without the removal of party walls and below grade portions of a structure.

**RECORD LOT (for Section 118).** A lot of record created pursuant to the Subdivision Regulations of the District of Columbia, 10-B DCMR §§ 2700 *et seq.*

**RECREATIONAL VEHICLE (for Appendix G).** A vehicle that is built on a single chassis, 400 square feet (37.16 m<sup>2</sup>) or less when measured at the largest horizontal projection, designed to be self-propelled or permanently towable by a light-duty truck, and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect-type utilities and security devices and has no permanently attached additions.

**RENTAL UNIT.** Any *premises* or part of a *premises* which is rented or offered for rent for residential (non-transient) occupancy, including, but not limited to, an apartment, *dwelling unit*, *rooming unit*, *sleeping unit*, *housekeeping unit*, or *dwelling*.

**SECONDARY ADDRESS (for Section 118).** An address created when a *building* has an entrance from the exterior, other than the *main entrance*, that directly serves a tenant different than that served by the main entrance.

**SHOW WINDOW (for Chapter 32).** A *structure* with windows that projects from the façade of a *building*, starts at grade, and is intended for the display of merchandise or services.

**SIGN LEGISLATION.** Any District of Columbia laws and regulations, including, but not limited to, An Act To regulate the erection, hanging, placing, painting, display, and maintenance of outdoor signs and other forms of exterior advertising within the District of Columbia, approved March 3, 1931 (46 Stat. 1486; D.C. Official Code Section §§ 1-303.21 *et seq.* (2016 Repl. & 2018 Supp.)), as amended, and any substantially similar successor legislation, and Mayor's Order 2011-181, dated October 31, 2011.

**SPECIAL INSPECTION ~~PROCEDURE~~ POLICY MANUAL.** The document setting forth policies and procedures associated with providing special inspection services pursuant to Chapter 17 of the *District of Columbia Building Code* (~~April 9, 2012~~ October 15, 2018 edition, as may be amended from time to time by the *Department*).

**STATE HISTORIC PRESERVATION OFFICER.** The person designated by the Mayor to administer the National Register Program within the District of Columbia established pursuant to the National Historic Preservation Act of 1966 (16 USC §§ 470 *et seq.*).

**STREET (for Chapter 32).** A *public thoroughfare*, other than an *alley*, as shown on the records of the District of Columbia, including any associated roadway, curb, sidewalk, tree space and *public parking*.

**TAX LOT (for Section 118).** An assessment and taxation lot, and, established by the Office of Tax and Revenue of the District of Columbia as a “ground lot” (*i.e.* 800, 900 or 1000 series lots), which fronts on and can be accessed directly from an adjacent *public thoroughfare* or *private thoroughfare*.

**TERRACE (for Chapter 32).** Raised level ground that is located in the *public parking* and is surrounded by a retaining wall or is surrounded by sloped surfaces that transition to adjacent areas.

**THIRD PARTY AGENCY.** A *person* retained by an applicant or permit holder to provide code compliance plan reviews or inspections of a project, at the expense of the applicant or the permit holder as applicable, in accordance with the procedures set forth in the *Construction Codes* and the *Third Party Program Procedure Manual*.

**THIRD PARTY PROGRAM.** A program established by the *Department* to establish and review qualifications of *persons* for approval to provide code compliance plan reviews and inspections of projects, and to provide oversight of *approved Third Party Agencies*.

**THIRD PARTY PROGRAM PROCEDURE MANUAL.** The document setting forth policies and procedures for the *Department’s Third Party Program* (adopted November 6, 2017, revised ~~January 4, 2018~~ December 7, 2018, as may be amended from time to time by the *Department*), including information regarding the qualifications that must be demonstrated for a *person* to obtain approval by the *Department* to conduct code compliance plan reviews or inspections of a project, and the procedures that must be followed as a condition of such approval, pursuant to Sections 6-1405.02 and 6-1405.04 of Title 6 of the D.C. Official Code (2018 Repl.) and Chapter 17 of the *Building Code*.

**THOROUGHFARE (for Section 118).** A *public thoroughfare* or a *private thoroughfare*, as applicable.

**THOROUGHFARE NAME (for Section 118).** The full proper name of a *thoroughfare*, stored as an alphanumeric character string, the *thoroughfare type* and the *street quadrant*.

**THOROUGHFARE NUMBER (for Section 118).** A number used to provide specific identification for a *premises* on a public or private thoroughfare in the District of Columbia, which may be a *primary address* or a *secondary address*. It shall be stored as a numeric value.

**THOROUGHFARE QUADRANT (for Section 118).** Two alphabetical characters that identify the geographic sector of the District of Columbia in which the address is located. All addresses in Washington, D.C., with the exception of the United States Capitol which is the central point of the addressing grid, shall have a *thoroughfare quadrant* designation. The *thoroughfare quadrants* are NE (Northeast), NW (Northwest), SE (Southeast) and SW (Southwest), and each quadrant shall be so abbreviated and capitalized. No *thoroughfare quadrant* shall consist of a single cardinal direction (*e.g.*, North).

**THOROUGHFARE SEGMENT (for Section 118).** The portion of a *public thoroughfare* or *private thoroughfare* between its intersections with two other *thoroughfares*.

**THOROUGHFARE TYPE (for Section 118).** The name of the type of *thoroughfare*, such as avenue, street, road, circle, etc. It shall be stored in fully spelled out form as an alphabetical string. *Thoroughfare types* are listed in the U.S. Postal Service Standards and in the National Emergency Number Association Standards (NENA). The *code official* is authorized to use *thoroughfare types* not listed in either standard.

**TOWER (for Chapter 32).** A *structure* that projects from the façade of the *building* and extends above the roofline of the *building* to which it is attached.

**UNDERGROUND GARAGE (for purposes of Section G105, Appendix G).** An enclosed area below the *design flood elevation* or *base flood elevation* that will be used solely for parking, building access, or storage.

**UNIT NUMBER (for Section 118).** The designation of an individual unit, such as “A”, “Rear”, or “102”. It shall be stored as an alphanumeric string.

**UNIT TYPE (for Section 118).** The type of occupancy, such as an apartment, suite, or office space. It shall be stored as an alphabetic string.

**VAULT (for Chapter 32).** A *structure* with a roof, completely below-grade, that encloses space.

**ZONES, COMMERCIAL.** ARTS-1 through ARTS-4, CG-2, CG-3, D-3 through D-8, MU-3 through MU-9, MU-17 through MU-21, MU-24 through MU-28, NC-1 through NC-17, RC-2, RC-3 and USN zoning districts (or the successor thereto) as defined by the *Zoning Regulations*.

**ZONES, MIXED-USE.** CG-4, HE-1 through HE-4, MU-10, MU-22, MU-29, SEFC-1, StE-1 through StE-19 and WR-2 through WR-5 zoning districts (or the successor thereto) as defined by the *Zoning Regulations*.

**ZONES, PRODUCTION, DISTRIBUTION AND REPAIR (PDR).** PDR-prefixed zoning districts (or the successors thereto) as defined by the *Zoning Regulations*.

**ZONES, RESIDENTIAL.** CG-1, D-1-R, RC-1, SEFC-2, SEFC-3, W-1, W-7, W-8 and R, RF or RA-prefixed zoning districts (or the successor thereto) as defined by the *Zoning Regulations*.

**ZONE, SPECIAL PURPOSE.** D-2, MU-1, MU-2, MU-15, MU-16 or MU-23 zoning districts (or the successor thereto) as defined by the *Zoning Regulations*.

**ZONING ADMINISTRATOR.** The *Zoning Administrator* of the District of Columbia reviews applications for conformance with the *Zoning Regulations* including applications for permits and certificates.

**ZONING REGULATIONS.** The regulations adopted through the publication of a notice of final rulemaking published in the *D.C. Register* on March 2, 2016 and which became effective at 12:01 a.m., September 6, 2016, as those regulations may thereafter be amended. See 11 DCMR.



## CHAPTER 3 USE AND OCCUPANCY CLASSIFICATION

## 308 INSTITUTIONAL GROUP I

## 310 RESIDENTIAL GROUP R

## 308 INSTITUTIONAL GROUP I

*Strike Sections 308.3.3 and 308.3.4 of the International Building Code and insert new Sections 308.3.3 and 308.3.4 in the Building Code in their place to read as follows.*

**308.3.3 Seven to 16 persons receiving custodial care.** A facility housing not fewer than seven and not more than 16 persons receiving custodial care shall be classified as Group R-4.

**308.3.4 Six or fewer persons receiving custodial care.** A facility with six or fewer persons receiving custodial care shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or Section P2904 of the *International Residential Code*.

*Strike Section 308.4 of the International Building Code and insert new Section 308.4 in the Building Code in its place to read as follows.*

**308.4 Institutional Group I-2.** Institutional Group I-2 occupancy shall include buildings and structures used for *medical care* on a 24-hour basis for more than six persons who are *incapable of self-preservation*. This group shall include, but not be limited to, the following:

1. Foster care facilities;
2. Detoxification facilities;
3. Hospitals;
4. Nursing homes; and
5. Psychiatric hospitals.

*[No change to Section 308.4.1]*

*Strike Section 308.4.2 of the International Building Code and insert new Section 308.4.2 in the Building Code in its place to read as follows.*

**308.4.2 Six or fewer persons receiving medical care.** A facility with six or fewer persons receiving medical care shall be classified as Group R-3 or shall comply with the *Residential*

*Code* provided, that an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *Residential Code*.

*Strike Sections 308.6.3 and 308.6.4 of the International Building Code and insert new Sections 308.6.3 and 308.6.4 in the Building Code in their place to read as follows.*

**308.6.3 Five or fewer persons receiving care.** A facility having five or fewer persons receiving custodial care in a facility other than a *dwelling unit* within the scope of Section 308.6.4, shall be classified as part of the primary occupancy.

**308.6.4 Persons receiving custodial care in a dwelling unit.** A facility providing custodial care in a *dwelling unit* within either (1) a detached one- or two-family dwelling or townhouse within the scope of the *Residential Code*, or (2) an R-3 *dwelling*, shall comply with Appendix M of the *Residential Code*.

### 310 RESIDENTIAL GROUP R

*Strike Sections 310.5, 310.5.1 and 310.6 of the International Building Code and insert new Sections 310.5, 310.5.1 and 310.6 in the Building Code in their place to read as follows.*

**310.5 Residential Group R-3.** Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

1. Buildings that do not contain more than two *dwelling units*;
2. *Boarding houses* (nontransient) with 16 or fewer occupants;
3. *Boarding houses* (transient) with 10 or fewer occupants;
4. Care facilities that provide accommodations for six or fewer persons receiving care;
5. *Congregate living facilities* (nontransient) with 16 or fewer occupants;
6. *Congregate living facilities* (transient) with 10 or fewer occupants.
7. *Lodging houses* with five or fewer *guest rooms*.

**310.5.1 Care facilities within a dwelling.** Care facilities for six or fewer persons receiving care that are within detached one- and two-family *dwellings* and *townhouses* are permitted to comply with the *Residential Code*, provided that an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *Residential Code*.

**310.5.2 Lodging houses.** Owner-occupied *lodging houses* with five or fewer *guest rooms* shall be permitted to be constructed in accordance with the *Residential Code*.

**310.6 Residential Group R-4.** Residential Group R-4 occupancy shall include buildings, structures or portions thereof for more than six but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive *custodial care*. Buildings of Group R-4 shall be classified as one of the occupancy conditions specified in Section 310.6.1 or 310.6.2. This group shall include, but not be limited to, the following:

1. Alcohol and drug centers;
2. Assisted living facilities;
3. Congregate care facilities;
4. Convalescent facilities;
5. *Group homes*;
6. Halfway houses;
7. Residential board and *custodial care* facilities; and
8. Social rehabilitation facilities.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code.

**310.6.1 Condition 1.** This occupancy condition shall include buildings in which all persons receiving custodial care, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

**310.6.2 Condition 2.** This occupancy condition shall include buildings in which there are any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.

CHAPTER 4            SPECIAL DETAILED REQUIREMENTS BASED ON USE  
                                 OCCUPANCY

**403 HIGH-RISE BUILDINGS**

**404 ATRIUMS**

**403            HIGH-RISE BUILDINGS**

*Strike Section 403.4.5 of the International Building Code in its entirety and insert new Section 403.4.5 in the Building Code in its place to read as follows:*

**403.4.5 Emergency responder radio coverage.** Emergency responder radio coverage shall be provided in accordance with Section 510 of the *Fire Code*.

*Strike Section 403.6.1 of the International Building Code without replacement.*

**404            ATRIUMS**

*Strike Section 404.5 from the International Building Code and insert a new Section 404.5 into the Building Code in its place to read as follows:*

**404.5 Smoke control.** A smoke control system shall be installed in accordance with Section 909.

**Exception 1:** Except for Group I-2 and Group I-1, Condition 2, smoke control is not required for *atriums* that connect only two *stories*.

**Exception 2:** Except for Group I-2 and Group I-1, Condition 2, smoke control is not required for atriums where all exit access above the lowest level of the atrium is separated from the atrium in accordance with Section 404.6. Exception 3 to Section 404.6 shall not apply.

**CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS**

**501 GENERAL**

**503 GENERAL BUILDING HEIGHT AND AREA LIMITATIONS**

**504 BUILDING HEIGHT AND NUMBER OF STORIES**

**501 GENERAL**

*Strike Section 501.2 of the International Building Code without replacement.*

**503 GENERAL BUILDING HEIGHT AND AREA LIMITATIONS**

*Strike Section 503.1.1 of the International Building Code in its entirety and insert new Section 503.1.1 in the Building Code in its place to read as follows:*

**503.1.1 Special industrial occupancies.** Buildings and structures designed to house special low-hazard industrial processes that require large areas and unusual *building heights* to accommodate craneways or special machinery and equipment, including, among others, rolling mills; structural metal fabrication shops and foundries; or collection and treatment of sewage and stormwater, or the production and distribution of electric, gas or steam power, shall be exempt from the *building height*, number of stories and *building area* limitations specified in Sections 504 and 506. Ordinary repairs of such buildings or structures shall include specifically engineered structural and mechanical components designed for removal and replacement in kind.

**504 BUILDING HEIGHT AND NUMBER OF STORIES**

*Strike Occupancy Classifications A-2, A-3, B, M, R-1, R-2, R-3, R-4, S-1 and S-2 in Table 504.4 of the International Building Code in their entirety and insert new Occupancy Classifications A-2, A-3, B, M, R-1, R-2, R-3, R-4, S-1 and S-2 in Table 504.4 of the Building Code in their place to read as follows:*

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION									
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-2	NS	UL	11	3	2	3	2	3	2	1
	S	UL	13	4	3	4	3	4	3	2
A-3	NS	UL	11	3	2	3	2	3	2	1
	S	UL	13	4	3	4	3	4	3	2
B	NS	UL	11	5	4	5	4	5	3	2
	S	UL	13	6	5	6	5	6	4	3
M	NS	UL	11	4	4	4	4	4	3	1
	S	UL	12	5	5	5	5	5	4	2

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION									
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
R-1	d, h NS	UL	11	4	4	4	4	4	3	2
	S13R	4	4						4	3
	S	UL	13	5	5	5	5	5	4	3
R-2	d, h NS	UL	11	4	4	4	4	4	3	2
	S13R	4	4						4	4
	S	UL	13	5	5	5	5	5	4	3
R-3	d, h NS	UL	11	4	4	4	4	4	3	3
	S13R	4	4						4	4
	S	UL	13	5	5	5	5	5	4	4
R-4	d, h NS	UL	11	4	4	4	4	4	3	2
	S13R	4	4						4	4
	S	UL	13	5	5	5	5	5	4	3
S-1	NS	UL	11	4	3	3	3	4	3	1
	S	UL	12	5	4	4	4	5	4	2
S-2	NS	UL	11	5	4	4	4	4	4	2
	S	UL	12	6	5	5	5	5	5	3

**Note:** UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

- a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
- b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
- c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
- d. The NS value is only for use in evaluation of existing building height in accordance with the *International Existing Building Code*.
- e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.

- f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the *International Fire Code*.
- g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
- h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

**CHAPTER 6 TYPES OF CONSTRUCTION****601 GENERAL****602 CONSTRUCTION CLASSIFICATION****603 COMBUSTIBLE MATERIAL IN TYPES I AND II CONSTRUCTION****601 GENERAL**

*Strike footnote c to Table 601 in the International Building Code in its entirety and insert new footnote c to Table 601 in the Building Code to read as follows:*

- c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed where a 1-hour or less fire-resistance rating is required.

**602 CONSTRUCTION CLASSIFICATION**

*Strike Section 602.4 and Table 602.4 in the International Building Code in their entirety and insert new Section 602.4 in the Building Code to read as follows:*

**602.4 Type IV.** Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.1 or 602.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.

*Strike Section 602.4.2 in the International Building Code in their entirety and insert new Section 602.4.2 in the Building Code to read as follows:*

**602.4.2 Cross-laminated timber in exterior walls.** Cross-laminated timber complying with Section 2303.1.4 shall be permitted within exterior wall assemblies not less than 6 inches (152 mm) in thickness with a 2-hour rating or less, provided the exterior surface of the cross-laminated timber is protected by one the following:

1. Fire-retardant-treated wood sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick;
2. Gypsum board not less than 1/2 inch (12.7 mm) thick; or
3. A noncombustible material.



Strike Sections 602.4.3 through 602.4.8 in the International Building Code in their entirety without substitution.

Strike Section 602.4.9 in the International Building Code and insert new Section 602.4.9 in its place in the Building Code to read as follows:

**602.4.9 Exterior structural members.** Where a horizontal separation of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

### **603 COMBUSTIBLE MATERIAL IN TYPES I AND II CONSTRUCTION**

In Section 603.1 of the International Building Code, strike item 19 and insert a new item 19 in its place in the Building Code to read as follows:

19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.3 and 705.2.3.

**CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES****705 EXTERIOR WALLS****706 FIRE WALLS****717 DUCTS AND AIR TRANSFER OPENINGS****705 EXTERIOR WALLS**

*Strike Sections 705.8 and 705.8.1 in the International Building Code in their entirety (with the exception of Table 705.8) and insert new Sections 705.8 and 705.8.1 in their place in the Building Code to read as follows:*

**705.8 Openings.** Openings in *exterior walls* shall comply with Sections 705.8.1 through 705.8.7.

**705.8.1 Allowable area of openings.** The maximum area of unprotected and protected openings permitted in an *exterior wall* in any story of a *building* shall not exceed the percentages specified in Table 705.8.

**Exceptions:**

1. Openings permitted by Section 705.8.7.
2. In other than Group H occupancies, unlimited unprotected openings are permitted in the first *story* above grade plane either:
  - 2.1 Where the wall faces a street and has a *fire separation distance* of more than 15 feet (4572 mm); or
  - 2.2 Where the wall faces an unoccupied space. The unoccupied space shall be on the same *lot* or dedicated for public use, shall not be less than 30 feet (9144 mm) in width and shall have access from a street via a posted fire lane in accordance with the *Fire Code*.
3. *Buildings*, whose exterior bearing walls, exterior nonbearing walls, and exterior primary structural frame are not required to be fire-resistance rated, shall be permitted to have unlimited unprotected openings.

*Strike Section 705.8.7 in the International Building Code in its entirety and insert new Section 705.8.7 in its place in the Building Code to read as follows:*

**705.8.7 At-risk openings allowed fifteen (15) feet or less from adjacent structures or premises.** Notwithstanding Table 705.8, *exterior walls* of *buildings* with a *fire separation distance* of 15 feet (4572 mm) or less shall be permitted to have openings if the *building* (i) contains occupancies other than Group H, and (ii) is equipped throughout with sprinklers in accordance with Section 903, subject to the restrictions of Sections 705.8.7.1 through 705.8.7.8.

**Exceptions:**

1. Nothing in this code shall be construed to allow mechanical or plumbing openings in exterior walls that would not otherwise be allowed by this code or by the *Mechanical Code* or *Plumbing Code*.
2. Openings allowed pursuant to this section shall not be counted towards requirements of the *Construction Codes* for emergency egress, natural light, natural ventilation, or smoke control.
3. *Buildings* on the same lot and considered as portions of one *building* in accordance with Section 705.3 are not required to comply with Sections 705.8.7.1 through 705.8.7.6.

**705.8.7.1 Abutting buildings.** A limited number of door openings between two abutting *buildings*, protected in accordance with Section 705.8.7.5, shall be permitted when: (a) the openings are approved by the *code official* as not posing an undue hazard to life safety; (b) the *owners* of both *buildings* provide written authorization for the openings; and (c) both *buildings* are subject to the covenant required by Section 705.8.7.8.

**705.8.7.2 Horizontal exposure.** Those stories that directly face other *buildings* or *structures* located either on the same lot or on an adjacent lot, having a distance between *buildings* of 15 feet (4572 mm) or less, shall comply with Sections 705.8.7.2.1 through 705.8.7.2.3.

**705.8.7.2.1 Exposure by adjacent structure less than three feet away.** Those portions of the *exterior walls* of a *story* that directly face another *structure* and have a distance to the adjacent *structure* of less than 3 feet (914 mm) shall have no openings, unless permitted by Table 705.8.

**705.8.7.2.2 Exposure by adjacent structure between three and ten feet away.** Those portions of the *exterior walls* of a *story* that directly face another *structure* and have a distance to the adjacent *structure* of 3 feet (914 mm) to less than 10 feet (3046 mm) shall have no more than 45 percent openings.

**705.8.7.2.3 Exposure by adjacent structure between ten and fifteen feet.** Those portions of the *exterior walls* of a *story* that directly face another *structure* and have a distance to the adjacent *structure* of 10 feet (3046 mm) to less than 15 feet (4572 mm) shall comply with Section 705.8.7.2.2 or with Table 705.8.

**705.8.7.3 Vertical exposure.** Those *stories* that extend higher than the adjacent *building* or *premises*, but do not project over the adjacent *building* or *premises*, shall comply with Sections 705.8.7.3.1 and 705.8.7.3.2.

**705.8.7.3.1 Less than three feet horizontally.** No openings are allowed in those portions of the *exterior walls* of a *story* that meet both of the following conditions: (a)

the vertical projection of the *exterior wall* is less than 3 feet (914 mm) horizontally from the vertical projection of the nearest edge of the adjacent or adjoining *structure* or *premises*; and (b) the portions of the *exterior walls* of the *story* are less than 12 feet (3658 mm) above the level of the roof of the adjacent or adjoining *structure* or the grade of the adjacent or adjoining *premises*.

**Exceptions:**

1. When a registered architect or engineer has certified that the adjacent roof assembly and the entire length and span of its supporting elements have a *fire resistance rating* of not less than one hour, openings shall be allowed in the portions of those *exterior walls* that are more than 3 feet (914 mm) above the level of the roof. The maximum area of openings allowed under this exception shall be 45 percent of the area of such portions of the *exterior wall*.
  - 1.1 Where there are skylights or other unprotected openings in the roof of the adjacent exposing *building* that are less than 10 feet (3048 mm) from the vertical projection of the *exterior wall* of the opposing exposed *building*, the percentage of openings allowed under Section 705.8.7.2.2, Exception 1, shall be reduced to the following percentages of the *exterior wall* of the exposed *building*:
    - a. 0 feet up to 3 feet (0 mm up to 914 mm) from roof opening to wall: 0 percent.
    - b. 3 feet up to 5 feet (914 mm up to 1524 mm) from roof opening to wall: 15 percent.
    - c. 5 feet up to 10 feet (1524 mm up to 3048 mm) from roof opening to wall: 25 percent.
2. When a registered professional engineer has submitted a written report of inspection certifying that the adjacent *building* is protected throughout with an automatic fire sprinkler system conforming to Section 903.3, openings shall be allowed in the portions of the *exterior walls* that are more than 3 feet (914 mm) above the level of the roof. The maximum area of openings allowed under this exception shall be 45 percent of the area of such portions of the *exterior wall*.

**705.8.7.3.2 Greater than or equal to three feet horizontally.** In those portions of the *exterior walls* of a *story* that are 3 feet (914 mm) or greater horizontally from the vertical projection of the nearest edge of the adjacent *structure* or *premises*, and less than 15 feet (4572 mm) above the level of the roof of the adjacent *structure* or above the grade of the adjacent *premises*, a maximum area of openings of 45 percent of such portions of the *exterior wall*, calculated *story* by *story* and for each wall face, shall be

allowed, where any one of the following conditions occur:

- a. the openings are protected by opening protectives having a *fire protection rating* of not less than  $\frac{3}{4}$  hour; or
- b. the roof assembly of the adjacent exposing *building* or *structure*, and the entire length and span of its supporting elements, have a *fire-resistance rating* of not less than one hour for a minimum distance of 10 feet (3048 mm) from the vertical projection of the exposed *exterior wall*.

**Exception:** Where there are skylights or other unprotected openings in the roof of the adjacent exposing *building* that are less than 10 feet (3048 mm) from the vertical projection of the *exterior wall* of the exposed *building*, the percentage of openings allowed under condition (b) of this Section 705.8.7.3.2 shall be reduced to the following percentages:

1. 0 feet up to 3 feet (0 mm up to 914 mm) from roof opening to wall: 0 percent.
2. 3 feet up to 5 feet (914 mm up to 1524 mm) from roof opening to wall: 15 percent.
3. 5 feet up to 10 feet (1524 mm up to 3048 mm) from roof opening to wall: 25 percent.

**705.8.7.4 Other allowable openings.** In portions of the *exterior walls* of any *story*, other than those specified in Sections 705.8.7.1 through 705.8.7.3, openings up to the maximum of 45 percent of those portions of the *exterior wall*, calculated *story* by *story* and for each wall face, shall be authorized. Openings in compliance with Table 705.8 shall also be authorized.

**705.8.7.5 Required opening protection.** Where openings are authorized by Sections 705.8.7.1 through 705.8.7.4, such openings shall be protected as required by Sections 705.8.7.1 through 705.8.7.4, and window openings shall be protected by tempered, wired, or laminated glass, installed in compliance with Section 716.6. Mechanical and door openings shall be protected in compliance with Sections 716.5 or 717.5.6.

**705.8.7.6 Owner's responsibility.** The owner of the *building* where openings are authorized pursuant to Sections 705.8.7.1 through 705.8.7.5.4 is responsible for making any modifications in the openings, the *exterior wall*, or appurtenant protective systems necessary; to maintain the *building's* compliance with this code, whenever changes occur in the exterior envelope of any *building* or *premises* within a distance of 15 feet (4572 mm) or less of that *exterior wall* that render the openings no longer compliant with this code. The owner of the *building* with the resulting non-compliant openings shall complete all actions required to make the openings compliant with this code, as determined by the *code official*, including but

not limited to: closing of openings; upgrading of opening protectives; and removal or extension of parts of the required sprinkler system protecting the openings.

**705.8.7.7 Abatement of unsafe conditions.** If the owner of a *building* or *structure* where any openings in *exterior walls* were allowed pursuant to Sections 705.8.7.1 through 705.8.7.6 fails to maintain in working order the protective systems required, or fails to proceed to make any changes required by the *code official* under Section 705.8.7.5, the *code official* is authorized to cause the necessary work to be done, in the interest of the safety and welfare of the public, in accordance with D.C. Official Code §§ 6-801 *et seq.* (2018 Repl.) and any other applicable laws and regulations. The cost of work shall become a lien against the property of the offending owner, to be recovered by the District of Columbia through appropriate action.

**705.8.7.8 Required covenants.** Prior to issuance of a building permit authorizing work that includes openings authorized under Sections 705.8.7.1 through 705.8.7.7, the applicant shall execute and record a covenant in accordance with the requirements of Section 106.2.19 and Section 120 as applicable to ensure that compliance with the minimum requirements of Sections 705.8.7.1 through 705.8.7.7 will be maintained for as long as the openings shall exist, and that the responsibility to maintain this compliance will be conveyed to any future owner of the *building* or holder of an interest therein.

## 706 FIRE WALLS

*Strike Sections 706.1 and 706.1.1 in the International Building Code in their entirety and insert new Sections 706.1 and 706.1.1 in the Building Code in their place to read as follows:*

**706.1 General.** Each portion of a *building* separated by one or more *fire walls* that comply with the provisions of this section shall be considered a separate *building*. The extent and location of such *fire walls* shall provide a complete separation. Where a *fire wall* also separates occupancies that are required to be separated by a *fire barrier* wall, the most restrictive requirements of each separation shall apply.

**706.1.1 Party walls.** Any wall that straddles, or is in close proximity to, a *lot line*, which is used for structural support by two or more adjoining *buildings* or *structures* shall be constructed as a *fire wall* in accordance with Section 706. Such walls shall be constructed without openings and shall create separate *buildings*.

### Exceptions:

1. Openings allowed pursuant to Section 705.8.7, provided that the *owners* of the adjacent *buildings* shall provide written authorization for such openings to each other and both *buildings* are subject to the covenant required by Section 705.8.7.8.
2. Openings in a party wall separating an *anchor building* and a *covered* or *open mall building* shall be in accordance with Section 402.4.2.2.

*Strike Section 706.8 in the International Building Code in its entirety and insert new Section 706.8 in its place in the Building Code to read as follows:*

**706.8 Openings.** Each opening through a *fire wall* shall be protected in accordance with Section 716.5 and shall not exceed 156 square feet (15 m<sup>2</sup>) in total area. The aggregate width of openings at any floor level shall not exceed 25 percent of the length of the wall.

**Exceptions:**

1. Openings are not permitted in party walls constructed in accordance with Section 706.1.1, unless authorized by and subject to the limitations of Section 705.8.7.
2. Openings are allowed pursuant to Section 705.8.7 where a *fire wall* can be replaced by two *exterior walls*.
3. Openings shall not be limited to 156 square feet (15 m<sup>2</sup>) where both *buildings* are equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.

**717 DUCTS AND AIR TRANSFER OPENINGS**

*Strike Section 717.5.3 of the International Building Code in its entirety and insert new Section 717.5.3 in the Building Code in its place to read as follows:*

**717.5.3 Shaft enclosures.** Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with listed fire and smoke dampers installed in accordance with their listing.

**Exceptions:**

1. Fire and *smoke dampers* are not required at penetrations of exhaust shafts where steel exhaust subducts extend not less than 22 inches (559 mm) vertically in exhaust shafts provided there is a continuous airflow upward to the outside and the fan is provided with backup standby power.
2. *Fire dampers* are not required where penetrations are tested in accordance with ASTM E119 or UL 263 as part of the fire-resistance-rated assembly.
3. Fire and *smoke dampers* are not required where ducts are used as part of an *approved* smoke control system in accordance with Section 909.
4. Fire and *smoke dampers* are not required where the penetrations are in dedicated parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.

5. *Smoke dampers* are not required at penetrations of shafts where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
6. *Fire dampers* and *combination fire/smoke dampers* are not required in kitchen and clothes dryer exhaust systems when installed in accordance with the *International Mechanical Code*.



**CHAPTER 9 FIRE PROTECTION SYSTEMS****903 AUTOMATIC SPRINKLER SYSTEMS****905 STANDPIPE SYSTEMS****906 PORTABLE FIRE EXTINGUISHERS****907 FIRE ALARM AND DETECTION SYSTEMS****908 EMERGENCY ALARM SYSTEMS****909 SMOKE CONTROL SYSTEMS****911 FIRE COMMAND CENTER****913 FIRE PUMPS****917 FIRE APPARATUS ACCESS ROADS****918 KEY BOXES****903 AUTOMATIC SPRINKLER SYSTEMS**

*Insert new Section 903.3.1.2.3 in the Building Code to read as follows:*

**903.3.1.2.3 Attics.** Attic protection shall be provided as follows:

1. Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system.
2. Where fuel-fired equipment is installed in an unsprinklered attic, not fewer than one quick-response intermediate temperature sprinkler shall be installed above the equipment.
3. Where located in a building of Type III, Type IV or Type V construction designed in accordance with Section 510.2 or 510.4 of the *Building Code*, attics not required by Item 1 to have sprinklers shall comply with one of the following if the roof assembly is located more than 55 feet (16 764 mm) above the lowest level of required fire department vehicle access:
  - 3.1. Provide automatic sprinkler system protection.
  - 3.2. Construct the attic using noncombustible materials.
  - 3.3. Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the International Building Code.
  - 3.4. Fill the attic with noncombustible insulation. The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the exterior wall or the top of the highest parapet, whichever yields the greatest distance. For the purpose of this measurement, required fire vehicle access roads shall include only those roads that are necessary for compliance with Section 503.
4. Group R-4, Condition 2 occupancy attics not required by Item 1 to have sprinklers shall comply with one of the following:

- 4.1. Provide automatic sprinkler system protection.
- 4.2. Provide a heat detection system throughout the attic that is arranged to activate the building fire alarm system.
- 4.3. Construct the attic using noncombustible materials.
- 4.4. Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the *Building Code*.
- 4.5. Fill the attic with noncombustible insulation.

*Strike Section 903.4.2 of the International Building Code in its entirety and insert new Section 903.4.2 in the Building Code in its place to read as follows:*

**903.4.2 Alarms.** An approved audible device, located on the exterior of the building in an *approved* location, shall be connected to each *automatic sprinkler system*. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system.

**Exception:** An alarm device shall not be required on the exterior of the building when the sprinkler system is monitored by an approved central station, remote supervising station or proprietary supervising station in accordance with NFPA 72.

*Insert a new Section 903.4.4 into the Building Code to read as follows:*

**903.4.4** Where a sprinkler system is looped such that more than one control valve must be closed to stop flow from that zone, a sign shall be placed at each control valve indicating the locations of the other control valves for that zone.

## **905 STANDPIPE SYSTEMS**

*Strike Section 905.2 of the International Building Code in its entirety and insert new Section 905.2 in the Building Code in its place to read as follows:*

**905.2 Installation standard.** Standpipe systems shall be installed in accordance with this section and NFPA 14. Fire department connections for standpipe systems shall be installed in accordance with Section 912.

### **Exceptions:**

1. The residual pressure of 100 psi for 2½-inch hose connection and 65 psi for 1½-inch hose connection is not required to be greater than 65 psi in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 where the highest floor level is not more than 150 feet above the lowest level of fire department vehicle

access.

2. No fire pump shall be required provided that the standpipes are capable of accepting delivery by fire department apparatus of a minimum of 250 gallons per minute (gpm) at 65 pounds per square inch (psi) to the topmost floor in buildings equipped throughout with an *automatic sprinkler system*, or a minimum of 500 gpm at 65 psi to the topmost floor in all other *buildings*, from the lowest level of fire department vehicle access.

*Strike Section 905.3.1 of the International Building Code in its entirety and insert new Section 905.3.1 in the Building Code in its place to read as follows:*

**905.3.1 Building height.** Class III standpipe systems shall be installed throughout buildings where the floor level of the highest *story* is located more than 30 feet (9144 mm) above the lowest level of fire department vehicle access, or where the floor level of the lowest *story* is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access. In determining the lowest level of fire department vehicle access for purposes of this section, recessed loading docks for four vehicles or less shall be excluded. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible shall be excluded from the determination of the lowest level or highest level of fire department vehicle access.

**Exceptions:**

1. Class I standpipes are allowed in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Class I manual standpipes are allowed in *open parking garages* where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.
3. Class I manual dry standpipes are allowed in *open parking garages* that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.
4. Class I standpipes are allowed in *basements* equipped throughout with an *automatic sprinkler system*.
5. Hose stations for use by the building occupants shall be allowed, subject to the approval of the *Fire Chief*, provided that each hose connection is 2½ in. (63.5 mm) and is equipped with a 2½ x 1½ in. (63.5 mm x 38.2 mm) reducer and a cap attached with a chain.

**906 PORTABLE FIRE EXTINGUISHERS**

*Strike the exception to Section 906.1 Item 1 in the International Building Code in its entirety and insert new exceptions to Section 906.1 Item 1 in the Building Code in its place to read as*

*follows:*

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

1. In Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

**Exceptions:**

1. In new and existing Group A, B, E and R occupancies equipped throughout with quick response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6.
2. In Group R-2 occupancies, which are not equipped throughout with quick response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each *dwelling unit* is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.
3. Within 30 feet (9144 mm) of commercial cooking equipment.
4. In areas where flammable or combustible liquids are stored, used or dispensed.
5. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315.1 of the *International Fire Code*.
6. Where required by the *International Fire Code* sections indicated in Table 906.1.
7. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.

**907 FIRE ALARM AND DETECTION SYSTEMS**

*Strike Section 907.3.3 of the International Building Code in its entirety and insert new Section 907.3.3 in the Building Code in its place to read as follows:*

**907.3.3 Elevator emergency operation.** Automatic fire detectors and all fire alarm system components installed for elevator emergency operation shall be installed in accordance with the provisions of ASME A17.1/CSA B44 and NFPA 72. Smoke detectors shall not be installed in unsprinklered elevator hoistways unless they are installed to activate the elevator hoistway smoke relief equipment.

*Strike Section 907.6.4.1 of the International Building Code in its entirety and insert new Section 907.6.4.1 through 907.6.4.1.1.2.1 to the Building Code in its place to read as follows:*

**907.6.4.1 Zoning indicator panel.** A zoning indicator panel and the associated controls shall be

provided in an *approved* location that is readily discernible and readily accessible to the responding fire department. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible alarm-silencing switch. Zoning indicator panels shall include remote annunciator panels and zoning displays that are integral to the fire alarm control equipment.

**907.6.4.1.1 Remote annunciator panels.** Where remote annunciator panels are required, they shall be provided at the main entrance, at each designated fire department entrance, and where specified by Section 907.6.4.1.1.2. Remote annunciator panels shall be provided as follows:

**907.6.4.1.1.1 Directory-style display.** A directory-style annunciator shall be provided in buildings more than one story above or below grade and in buildings with more than one zone per floor. The directory-style annunciator shall consist of either an alpha-numeric LCD display or an *approved* directory-style panel with individual lamps. As a minimum, the annunciator shall indicate related floor, zone and status conditions using readily identifiable designations in plain English text.

**Exception:** Where a graphic display with individual lamps is provided in accordance with Section 907.6.4.1.1.2.1.

**907.6.4.1.1.2 Graphic display:** A graphic annunciator display shall be provided at the main entrance, and in the fire command center or at the fire alarm control panel location where there is no fire command center, for buildings of the following types:

1. *High-rise buildings.*
2. Covered mall buildings.
3. Nursing homes and hospitals.
4. Buildings of any occupancy where three or more exits are provided per floor level above or below the level of exit discharge.
5. Buildings comprised of more than one street address with separate entrances.
6. Buildings with Group A occupancies of greater than 1000 persons.

**907.6.4.1.1.2.1 Graphic display features:** Graphic annunciator displays shall consist of an integrated graphic annunciator panel, or where *approved* in buildings not more than four stories above or two stories below the fire department entrance, a directory-style annunciator panel with a permanently mounted graphic diagram. Graphic annunciator

displays shall be fabricated of a durable material and shall incorporate the following features:

1. A graphic diagram that identifies:
  - 1.1. Building address.
  - 1.2. North arrow.
  - 1.3. Building floor plan outline of each general type, where the orientation of each diagram is consistent with the annunciator location.
  - 1.4. Fire alarm zoning.
  - 1.5. Location of exit stairways, labeled with designations that are consistent with Section 1023.9 and labeled to indicate stairways that provide roof access.
  - 1.6. Location of elevator banks.
  - 1.7. Location of elevator machine room.
  - 1.8. Location of the annunciator with "YOU ARE HERE" marker.
  - 1.9. Location of fire command center or fire alarm control equipment.
  - 1.10. Location of fire department connections.
2. Individual lamps that identify each associated device, floor, zone, and system status condition. Lamp colors shall be coordinated with the associated system conditions as follows: red for alarm; yellow or amber for supervisory; and yellow or amber for system trouble. Green lamps shall be permitted to indicate annunciator power supervision. A push-button style switch shall be provided for lamp test operation.
3. Audible alert sounder that locally annunciates alarm, trouble, and supervisory conditions, with alert silencing-switch that is accessible to authorized personnel only.

**Exception:** An audible sounder is not required for an annunciator panel where the required audible annunciation is provided by fire alarm control equipment that is located adjacent to the annunciator.

**908 EMERGENCY ALARM SYSTEMS**

*Strike Sections 908.1 and 908.2 of the International Building Code in their entirety and insert new Sections 908.1 and 908.2 to the Building Code in their place to read as follows:*

**908.1 General.** The systems required by this section shall be designed and installed in accordance with the provisions of both this code and the *Fire Code*. Before proceeding with design, construction, installation, or use of systems required by Section 908.2 through 908.6, the *owner* shall request and participate in a coordination meeting with DCRA and the Fire Department to determine the applicable code requirements. The meeting shall be attended by all concerned parties, including, but not limited to, the *owner*, contractor, architect and design professionals.

**908.2 Group H occupancies.** Emergency alarms for the detection and notification of an emergency condition in Group H occupancies shall be provided in accordance with Section 415.5. Emergency alarms for notification of an emergency condition in an HPM facility shall be provided as required in Section 415.11.3.5. A continuous gas-detection system shall be provided for HPM gases in accordance with Section 415.11.7.

**909 SMOKE CONTROL SYSTEMS**

*Strike Section 909.16 of the International Building Code; do not strike Subsections 909.16.1 through 909.16.3 of the International Building Code. Insert new Section 909.16 and accompanying Exception in the Building Code to read as follows:*

**909.16 Fire-fighter's smoke control panel.** A fire-fighter's smoke control panel for fire department emergency response purposes only shall be provided and shall include manual control or override of automatic control for mechanical smoke systems. The panel shall be located in a fire command center complying with Section 911 in high-rise buildings or buildings with smoke-protected assembly seating. In all other buildings, the fire-fighter's smoke control panel shall be installed in an *approved* location adjacent to the fire alarm control panel. The fire-fighter's smoke control panel shall comply with Sections 909.16.1 through 909.16.3.

**Exception:** Where buildings are equipped with stair pressurization systems and/or elevator hoistway venting systems and no mechanical smoke control systems per Section 909 of the *Building Code*, the required manual controls are permitted to be integral to the fire alarm control panel or located at another *approved* location and are not required to comply with the provisions of Section 909.16.

**911 FIRE COMMAND CENTER**

*Strike Section 911.1 of the International Building Code in its entirety and insert new Section 911.1 in the Building Code in its place to read as follows:*

**911.1 General.** Where required by other sections of this code and in buildings classified as high-rise buildings by this code, a fire command center for fire department operations shall be provided and shall comply with Sections 911.1.1 through 911.1.6.

**911.1.1 Location and access.** The fire command center shall be directly accessible from the exterior on the address side of the building; or, where approved by the *code official* in consultation with the Fire Chief, in an interior location which has direct access from the entrance lobby on the address side of the building.

**911.1.1.1 Identification.** The entrance door to the fire command center shall be illuminated and clearly marked “Fire Command Center” with letters a minimum of 3 inches (76 mm) in height on a contrasting background. In instances where the fire command center is not located near the building’s main entrance, a sign indicating the location of the fire control room shall be conspicuously posted near the building’s main entrance.

**911.1.1.2 Prohibited use.** Electrical, mechanical or plumbing equipment other than those associated with the fire command center, shall not be located within the fire command center. The fire command center shall not be used for other than its intended use unless approved by the Fire Chief.

**911.1.1.3 Locking arrangements.** The fire command center shall be secured from unauthorized entry and shall be accessible to the Department at all times.

**911.1.1.4 Access.** Where access to the fire command center from the building’s exterior is restricted because of secured openings, a key box in accordance with Section 506 of the *Fire Code* shall be installed at the building’s main entrance or other approved location for Department access. The key box shall be of an *approved* type and shall contain keys to gain necessary access to the building and fire command center as required by the *code official* in consultation with the Fire Chief.

**911.1.2 Separation.** The fire command center shall be separated from the remainder of the building by not less than a 1-hour *fire barrier* constructed in accordance with Section 707 or *horizontal assembly* constructed in accordance with Section 711, or both.

**911.1.3 Size.** The room shall be of sufficient size to accommodate all equipment and features required by this section but not less than 96 square feet (8.9 m<sup>2</sup>). A minimum clear aisle width of 48 inches (1220 mm) shall be provided in front of all equipment panels.

**911.1.4 Layout approval.** A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation.

**911.1.5 Storage.** Storage unrelated to the operation of the fire command center shall be



prohibited.

**911.1.6 Required features.** The fire command center shall comply with NFPA 72 and shall contain all of the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. Fire detection and alarm system annunciator.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
6. Controls for unlocking *interior exit stairway* doors simultaneously.
7. Sprinkler valve and waterflow detector display panels.
8. Emergency and standby power status indicators.
9. A telephone for Department use with controlled access to the public telephone system.
10. Fire pump status indicators.
11. Schematic building plans indicating the typical floor plan and detailing the building core, *means of egress*, fire protection systems, fire fighter air replenishment system, fire-fighting equipment and fire department access, and other building features affecting emergency response. The schematic plans shall be readily accessible, diagrammatic in nature, and fabricated of durable material or provided with a protective cover and bound in one set.
12. A copy of the facility's Fire Safety Plans and Fire Evacuation Plans that are prepared and maintained in accordance with the *Fire Code*.
13. Generator supervision devices, manual start and transfer features.
14. Public address system, where specifically required by other sections of this code.
15. Elevator fire recall switch in accordance with ASME A17.1/BSA 44.
16. Elevator emergency or standby power selector switch(es), where emergency or

standby power is provided.

17. An *approved* Building Information Card that contains, but is not limited to, the following information:

17.1. General building information that includes: property name, address, the number of floors in the building (above and below grade), use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor), and the estimated building population during the day, night, and weekend.

17.2. Building emergency contact information that includes: a list of the building's emergency contacts including but not limited to building manager and building engineer and their respective work phone number, cell phone number, and email address.

17.3. Building construction information that includes: the type of building construction including but not limited to floors, walls, columns, and roof assembly.

17.4. *Exit access and exit stairway* information that includes: number of *exit access* and *exit stairways* in the building, each *exit access* and *exit stairway* designation and floors served, location where each *exit access* and *exit stairway* discharges, *interior exit stairways* that are pressurized, *exit stairways* provided with emergency lighting, each *exit stairway* that allows reentry, *exit stairways* providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms and control spaces; location of sky lobby, location of freight elevator banks.

17.5. Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator, location of natural gas service.

17.6. Fire protection system information that includes: locations of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers, location of different types of sprinkler systems installed including, but not limited to, dry, wet, and pre-action.

17.7. Hazardous material information that includes: location of hazardous material, quantity of hazardous material.

*Insert a new Exception 3 into Section 913.2.1 of the Building Code to read as follows:*

3. Access to the fire pump room shall not be required to be directly from the exterior or from a fire rated enclosure.

*Insert new Section 917 in the Building Code to read as follows:*

**917 FIRE APPARATUS ACCESS ROADS**

**917.1 General.** Fire apparatus access roads shall be provided and maintained in accordance with Section 503 of the *Fire Code*.

*Insert new Section 918 in the Building Code to read as follows:*

**918 KEY BOXES**

**918.1 General.** Key boxes shall be provided and maintained in accordance with Section 506 of the *Fire Code*.

**918.2 Where required.** Key boxes are required where access to or within a structure or an area is restricted.

**CHAPTER 10 MEANS OF EGRESS****1003 GENERAL MEANS OF EGRESS****1005 MEANS OF EGRESS SIZING****1007 EXIT AND EXIT ACCESS DOORWAY CONFIGURATION****1010 DOORS, GATES AND TURNSTILES****1023 INTERIOR EXIT STAIRWAYS AND RAMPS****1024 EGRESS PATH MARKINGS****1025 LUMINOUS EGRESS PATH MARKINGS****1030 EMERGENCY ESCAPE AND RESCUE****1003 GENERAL MEANS OF EGRESS**

*Insert a new exception 9 to Section 1003.2 of the International Building Code to read as follows:*

**Exceptions:**

9. The *exit discharge* and *exit passageways* in a *means of egress* system shall be allowed to have a ceiling height of not less than 7 feet (2134 mm).

**1005 MEANS OF EGRESS SIZING**

*Strike the Exceptions to Section 1005.3.1 of the International Building Code in their entirety and insert new exceptions to Section 1005.3.1 of the Building Code in their place to read as follows:*

**Exceptions:**

1. For other than Group H and I-2 occupancies, the capacity, in inches (mm), of the *means of egress stairways* shall be calculated by multiplying the *occupant load* served by the *stairway* by a *means of egress* capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Facilities with *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.2 indicated for stepped *aisles* for *exit access* or *exit stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is provided with a smoke control system complying with Section 909.
3. Facilities with outdoor *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.3 indicated for stepped *aisles* for *exit access* or *exit stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is open to the outdoors.

*Strike the Exceptions to Section 1005.3.2 of the International Building Code in their entirety and insert new Exceptions to Section 1005.3.2 of the Building Code in their place to read as follows:*

**Exceptions:**

1. For other than Group H and I-2 occupancies, the capacity, in inches (mm), of *means of egress* components other than *stairways* shall be calculated by multiplying the *occupant load* served by such component by a *means of egress* capacity factor of 0.15 inch (3.8 mm) per occupant in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Facilities with *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.2 indicated for level or ramped aisles for *means of egress* components other than *stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is provided with a smoke control system complying with Section 909.
3. Facilities with outdoor *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.3 indicated for level or ramped aisles for *means of egress* components other than *stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is open to the outdoors.

**1007 EXIT AND EXIT ACCESS DOORWAY CONFIGURATION**

*Strike Section 1007.1.1 of the International Building Code in its entirety and insert new Section 1007.1.1 in the Building Code in its place to read as follows:*

**1007.1.1 Two exits or exit access doorways.** Where two *exits*, *exit access doorways*, *exit access stairways* or *ramps*, or any combination thereof, are required from any portion of the *exit access*, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between them. Interlocking or *scissor stairways* shall be counted as one *exit stairway*.

**Exceptions:**

1. Where interior *exit stairways* or *ramps* are interconnected by a 1-hour fire-resistance-rated *corridor* conforming to the requirements of Section 1020, the required *exit* separation shall be measured along the shortest direct line of travel within the *corridor*.
2. Where a building is equipped throughout with an *automatic sprinkler system* in accordance with Sections 903.3.1.1 or 903.3.1.2, the separation distance shall not be less than one-fourth of the length of the maximum overall diagonal dimension of the area served.

**1010 DOORS, GATES AND TURNSTILES**

*Insert new Section 1010.1.9.5.2 in the Building Code to read as follows:*

**1010.1.9.5.2 Public toilet facility door locking.** Where a *toilet room* is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use *toilet rooms*.

*Revise Section 1010.1.9.7 in the International Building Code to read as follows:*

**1010.1.9.7 Delayed egress.** Delayed egress locking systems shall be permitted to be installed on doors serving any occupancy except Groups A and H in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke or heat detection system* installed in accordance with Section 907. The locking system shall be installed and operated in accordance with all of the following:

*[no change to items 1 through 8 in Section 1010.1.9.7 in the International Building Code.]*

*Insert new Section 1010.1.9.7.1 in the Building Code to read as follows:*

**1010.1.9.7.1 Delayed egress.** Delayed egress locking systems are authorized to be installed on doors serving Group E in buildings that are equipped throughout with an *automatic fire alarm system in accordance with §907.2.3*. The locking system shall be installed and operated in accordance with all of the following:

1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the *automatic fire alarm system*, allowing immediate, free egress.
2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.
3. The delayed egress locking system shall have the capability of being deactivated at the *fire command center* and other *approved* locations, if a *fire command center* is provided.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.

**Exception:** Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.

5. The egress path from any point shall not pass through more than one delayed egress locking system.
6. A sign shall be provided on the door and shall be located above and within 12 inches

(305 mm) of the door exit hardware:

- 6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
- 6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
- 6.3. The sign shall comply with the visual character requirements in ICC A117.
7. Emergency lighting shall be provided on the egress side of the door.
8. The delayed egress locking system units shall be listed in accordance with UL 294.

*Strike Section 1010.1.9.11 of the International Building Code in its entirety and insert new Section 1010.1.9.11 in the Building Code in its place to read as follows:*

**1010.1.9.11 Stairway doors.** Interior *stairway means of egress* doors shall be openable from both sides without the use of a key or special knowledge or effort.

**Exceptions:**

1. *Stairway* discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3.
3. In *stairways* serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the *fire command center*, if present, or upon a signal by emergency personnel from a single location inside the main entrance to the building.
4. *Stairway* exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single *exit stairway* where permitted in Section 1006.3.2.
5. *Stairway* exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the *dwelling unit* is from a single *exit stairway* where permitted in Section 1006.3.2.
6. In buildings five or more stories in height, including existing buildings without a *fire command center* complying with Section 911, doors are permitted to be locked from the

side opposite the egress side, provided they are unlocked without unlatching upon activation of the building's fire alarm system and the stairway is provided with a telephone or other two-way communication system in accordance with Section 403.5.3.

*Insert a new Section 1010.1.9.12 in the Building Code to read as follows:*

**1010.1.9.12 Elevator lobby doors.** Exit access doors in the elevator lobby serving a single Use Group B occupancy tenant are permitted to be equipped with an approved egress access control system when all of the following conditions are met:

1. The building is equipped throughout with either an *automatic sprinkler system* in accordance with Subsection 903.1.1 or an *approved* automatic smoke or heat detection system installed in accordance with Section 907.
2. The elevator lobby exit access doors shall unlock upon loss of power to the access control system.
3. A readily accessible and visible manual unlocking device is installed 40- to 48-inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) horizontally of the secured doors, identified by a sign with minimum ½-inch (12.5 mm) high letters that reads "EMERGENCY DOOR RELEASE –ACTIVATE TO OPEN DOORS". Activation of the device shall unlock the doors for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. Where a manual fire alarm system is required by Subsection 907.2, a manual fire alarm box shall be provided and located within the elevator lobby.

## **1023 INTERIOR EXIT STAIRWAYS AND RAMPS**

**1023.3.1 Extension.** Where interior exit stairways and ramps are extended to an exit discharge or a public way by an exit passageway, the interior exit stairway and ramp shall be separated from the exit passageway by a fire barrier constructed in accordance with Section 707 or a



horizontal assembly constructed in accordance with Section 711, or both. The fire-resistance rating shall be not less than that required for the interior exit stairway and ramp. A fire door assembly complying with Section 716.5 shall be installed in the fire barrier to provide a means of egress from the interior exit stairway and ramp to the exit passageway. Openings in the fire barrier other than the fire door assembly are prohibited. Penetrations of the fire barrier are prohibited.

**Exceptions:**

1. Penetrations of the fire barrier in accordance with Section 1023.5 shall be permitted.
2. Separation between an interior exit stairway or ramp and the exit passageway extension shall not be required where there are no openings into the exit passageway extension.
3. Separation between an interior exit stairway or ramp and the exit passageway extension shall not be required when the interior exit stair and the exit passageway extension are pressurized in accordance with Section 909.20.5.

*Strike Section 1023.9 of the International Building Code in its entirety and insert new Section 1023.9 in the Building Code in its place to read as follows:*

**1023.9 Stairway signage.** Signs shall be provided for all *interior exit stairways* and *ramps* connecting more than three stories, and for all *interior exit stairways* and *ramps* in buildings with three or more *interior exit stairways* or *ramps*.

**1023.9.1 Signs outside stairway.** A sign shall be provided at each entrance to the *exit stairway* and *ramp*, identifying the *stair* or *ramp* with the same designations used for the *stairway* identification signs in Section 1023.9.2.1. The sign also shall state "EXIT" in accordance with Section 1013.4 of the *Building Code*. The sign shall state the required text in visual characters, in raised characters, and in braille complying with ICC A117.1.

**1023.9.2 Signs inside stairway.** *Stairway* identification signs, floor-level signs, and *exit discharge* signs shall comply with the following requirements:

**1023.9.2.1 Stairway identification signs.** A *stairway* identification sign shall be provided at each floor landing in the *interior exit stairway* and *ramp* designating the floor level, the terminus of the top and bottom of the *interior exit stairway* or *ramp* and the identification of the *stair* or *ramp*. The signage shall also identify the story of, and the direction to, the *exit discharge* and the availability of roof access from the *interior exit stairway* and *ramp* for the fire department. The sign shall be located entirely between 5 feet (1524 mm) and 8 feet (2438 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions and located so that occupants egressing from floors that are more remote from the exit discharge will face the sign frontally at some point in their path of egress.

**Exception:** *Stairway* identification signs are not required to identify the *story of*, and direction to the *exit discharge* in *interior exit stairways* and *ramps* that connect less than three stories.

**1023.9.2.1.1 Signage requirements.** *Stairway* identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The word "STAIR" and the *stair* designation or "RAMP" and the *ramp* designation shall consist of numerals and/or capital letters designating the identification of the *interior exit stairway* and *ramp*. *The characters* shall be a minimum of 1<sup>1</sup>/<sub>2</sub> inches (38 mm) in height but not greater than one-third (<sup>1</sup>/<sub>3</sub>) the height of the floor level identification characters.
3. The numerals or capital letters designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch (25 mm) in height but not greater than the *stair* or *ramp* identification characters.
5. The directional arrow shall be a minimum of 4 inches (102 mm) in length.
6. If the *interior exit stairway* or *ramp* provides access to the roof, the words "FIRE DEPT. ROOF ACCESS" shall be displayed immediately after the *stair* or *ramp* identification.
7. The signs shall identify floor levels, *stairs* and *ramps* by one or more characters, using a designation that is consistent with the floor level, *stair* and *ramp* designations used throughout the building.
8. Characters and their background shall have a non-glare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
9. The sign shall be of an approved design, and shall be durable and of a material that complies with other sections of the *Construction*

*Codes.* Unless painted on the wall, the sign shall be securely fastened to the structure.

**1023.9.2.2 Floor-level signs.** In addition to the *stairway* identification sign, a floor-level sign in visual characters, raised characters and braille complying with ICC A117.1 shall be located at each floor-level landing adjacent to the door leading from the *interior exit stairway* and *ramp* into the *corridor* or other building space to identify the floor level.

**1023.9.2.3 Exit discharge signs.** A sign stating "EXIT" in visual characters, raised characters and braille shall be located adjacent to the door to the *exit discharge* in accordance with Section 1013.4 of the *Building Code*.

## 1024 EGRESS PATH MARKINGS

*Strike Section 1025 of the International Building Code in its entirety without substitution.*

## 1025 LUMINOUS EGRESS PATH MARKINGS

*Strike Section 1025 of the International Building Code in its entirety without substitution.*

## 1030 EMERGENCY ESCAPE AND RESCUE

*Strike Section 1030.1 of the International Building Code in its entirety and insert new Section 1030.1 to the Building Code in its place to read as follows:*

**1030.1 General.** In addition to the *means of egress* required by this chapter, provisions shall be made for *emergency escape and rescue openings* in Group R-2 occupancies in accordance with Tables 1006.3.2(1) and 1006.3.2(2) and Group R-3 occupancies. *Basements* and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

### Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit door* or *exit access door* that opens directly into a *public way* or to a *yard, court* or exterior exit balcony that opens to a *public way*.

3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m<sup>2</sup>) in floor area shall not be required to have *emergency and rescue openings*.
4. Where access to a *public way* cannot be provided, a safe dispersal area shall be provided where all of the following are met:
  1. The area shall be of a size to accommodate at least 5 square feet (0.46 m<sup>2</sup>) for each person.
  2. The area shall be located on the same *lot* at least 25 feet (7620 mm) away from the *building* requiring egress.
  3. The area shall be permanently maintained and identified as a safe dispersal area.
  4. The area shall be provided with a safe and unobstructed path of travel from the *building*.

**CHAPTER 11 ACCESSIBILITY****1101 GENERAL****1103 SCOPING REQUIREMENTS****1107 DWELLING UNITS AND SLEEPING UNITS****1108 SPECIAL OCCUPANCIES****1101 GENERAL**

*Strike Section 1101.1 of the International Building Code in its entirety and insert a new Section 1101.1 into the Building Code in its place to read as follows:*

**1101.1 Scope.** The provisions of Chapter 11 of the *Building Code* and Appendix E (except Section E110 Airports) of the *International Building Code*, as amended, shall control the design and construction of facilities for accessibility to persons with physical disabilities. Appendix E of the *International Building Code*, as amended, is adopted as Appendix E of the *Building Code*.

*Insert a new Section 1101.3 into the Building Code to read as follows:*

**1101.3 Fractional Numbers.** Fractional numbers resulting from applying the calculations and percentages in Section 1107 shall be rounded up to the next whole number.

**1103 SCOPING REQUIREMENTS**

*Strike Section 1103.2.9 into the International Building Code and insert a new Section 1103.2.9 into the Building Code in its place to read as follows:*

**1103.2.9 Equipment spaces.** Spaces frequented only by personnel for maintenance, repair or monitoring of equipment are not required to be accessible. Such spaces include, but are not limited to, elevator pits, elevator penthouses, mechanical, electrical or communications equipment rooms, piping or equipment catwalks, water or sewage treatment pump rooms and stations, electric substations and transformer vaults, and highway and tunnel utility facilities.

*Insert a new Section 1103.2.15 into the Building Code to read as follows:*

**1103.2.15 Existing buildings.** Existing buildings shall comply with the *Existing Building Code*.

**1107 DWELLING UNITS AND SLEEPING UNITS**

*Strike Section 1107.5.5.1 of the International Building Code and add a new Section 1107.5.5.1 into the Building Code in its place to read as follows:*

**1107.5.5.1 Group I-3 sleeping units.** In Group I-3 occupancies, at least 5 percent of the *sleeping units*, but not less than one unit, shall be *accessible units*.

*Strike Section 1107.6.1.1 of the International Building Code and insert a new Section 1107.6.1.1 thru 1107.6.1.2 into the Building Code in its place to read as follows:*

**1107.6.1.1 Accessible units.** Accessible *dwelling units* and *sleeping units* shall be provided in accordance with Table 1107.6.1.1. In order to determine the total number of *accessible units*, all *dwelling units* and *sleeping units* on a site shall be considered. *Accessible units* shall be dispersed among the various classes of units. At least one *accessible unit* shall also provide communication features complying with Appendix E, Section E104.2. Not more than 10 percent of *accessible units* shall be used to satisfy the minimum number of units required to provide communication features complying with Appendix E, Section E104.2. Roll-in showers provided in accessible units shall include a permanently mounted folding shower seat.

**1107.6.1.1.1 Accessible unit facilities.** All interior and exterior spaces provided as part of or serving an *Accessible dwelling unit* or *sleeping unit* shall be *accessible* and be located on an *accessible route*.

**Exceptions:**

1. Where multiple bathrooms are provided within an *accessible unit*, at least one full bathroom shall be *accessible*.
2. Where multiple-family or assisted bathrooms serve an *accessible unit*, at least 50 percent, but not less than one bathroom for each use at each cluster shall be *accessible*.
3. Five percent of all beds, but not less than one bed, shall be *accessible*.

**1107.6.1.1.2 Communication features.** *Accessible* communication features shall be provided in accordance with Appendix E, Section E104.2, provided, however, that at least one accessible unit, but not more than 10 percent of the *accessible units*, shall be required to provide *accessible* communication features.

*Strike Section 1107.6.2.2.1 of the International Building Code in its entirety and insert new section 1107.6.2.2.1 to the Building Code in its place to read as follows:*

**1107.6.2.2.1 Type A units.** In Group R-2 occupancies containing more than ten *dwelling units* or *sleeping units*, at least 15 percent of the units shall be *Type A units*, and at least 1 percent of the *Type A units*, but not less than one of the *Type A units*, shall be served by a roll-in shower that includes a permanently mounted folding shower seat. All Group R-2 units on a site shall be considered to determine the total number of units and the required number of *Type A units*. *Type A units* shall be dispersed among the various classes of units. Bedrooms in monasteries and convents shall be counted as *sleeping units* for the purpose of determining the number of units. Where the *sleeping units* are grouped into suites,

only one *sleeping unit* in each suite shall count towards the number of required *Type A units*.

**Exceptions:**

1. The number of *Type A units* is permitted to be reduced in accordance with Section 1107.7.
2. *Existing structures* on a *site* shall not contribute to the total number of units on a *site*.
3. *Type A units* may contain the following adaptable features:
  - 3.1 Kitchen and laundry appliances that do not have *accessible* controls;
  - 3.2 Refrigerator/freezers that do not have the required *accessible* freezer space; and
  - 3.3 Kitchen sink cabinets and countertops that are not *accessible*, but that can be removed provided floor finishes extend under such cabinetry and the walls behind and surrounding cabinetry are finished.
  - 3.4 Switches & outlets located above kitchen counters that are not *accessible* but that can be modified to be accessible.

**1107.6.2.2.2 *Type B units*.** Where there are four or more *dwelling units* or *sleeping units* intended to be occupied as a residence in a single structure, every *dwelling unit* and *sleeping unit* intended to be occupied as a residence shall be a *Type B unit*.

**Exceptions:**

1. The number of *Type B units* is allowed to be reduced in accordance with Section 1107.7.
2. *Type B units* may contain the following adaptable features:
  - 2.1 Shower compartment doors that are not accessible, but that can be removed without damaging the shower enclosure, provided that the mounting holes can be readily made water tight and finishes extend behind the doors.

*Insert a new Section 1108.5 to the Building Code to read as follows:*

**1108.5 Detention and correctional facilities.** Detention and correctional facilities shall comply with Sections 1108.5.1 through 1108.5.5.2

**1108.5.1 General.** Buildings, facilities or portions thereof, in which people are detained for penal or correctional purposes, or in which the liberty of the inmates is restricted for security reasons, shall comply with Section 1108.5

**1108.5.2 General holding cells and general housing cells.** General holding cells and general housing cells shall be provided in accordance with Section 1108.5.2.

**Exceptions:** Alterations to cells shall not be required to comply with this section 1108.5.2 except to the extent determined by the Attorney General of the District of Columbia.

**1108.5.2.1 Cells.** *Accessible* cells shall be provided in accordance with Section 1107.5.5.1.

**1108.5.2.2 Beds.** In cells having more than 25 beds, 5 percent of the beds shall have clear floor space complying with ICC A117.1 Section 806.2.

**1108.5.2.3 Communication features.** At least 2 percent, but not less than one general holding cell and general housing cell shall be equipped with audible emergency alarm systems and permanently installed telephones within the cell, shall comply with ICC A117.1 Section 806.3.

**1108.5.2.4 Overlap.** Cells complying with ICC A117.1 Section 806.2 shall not be used to satisfy the minimum number of cells required to comply with ICC A117.1 Section 806.3.

**1108.5.3 Special holding cells and special housing cells or rooms.** *Accessible* special holding cells or special housing cells or rooms shall be provided in accordance with Section 1107.5.5.2.

**1108.5.4 Medical care facilities.** *Accessible* patient sleeping units or cells in medical care facilities shall be provided in accordance with Section 1107.5.5.3.

**1108.5.5 Visiting areas.** Visiting areas shall comply with Section 1108.5.5.

**1108.5.5.1 Cubicles and counters.** At least 5 percent, but not less than one cubicle, shall be *accessible* on both the visitor and detainee sides. Where counters are provided, at least one shall be *accessible* on both the visitor and detainee or inmate sides.



**Exception:** This requirement shall not apply to the inmate or detainee side of cubicles or counters at non-contact visiting areas not serving holding or housing cells to comply with Section 1108.5.

**1108.5.5.2 Partitions.** Where solid partitions or security glazing separates visitors from detainees, at least 1 of each type of cubicle or counter partition shall be *accessible*.

**CHAPTER 12 INTERIOR ENVIRONMENT****1203 VENTILATION****1205 LIGHTING****1207 SOUND TRANSMISSION****1203 VENTILATION**

*Strike Section 1203.1 of the International Building Code in its entirety and insert new Section 1203.1 in the Building Code in its place to read as follows:*

**1203.1 General.** Buildings shall be provided with natural ventilation in accordance with Section 1203.4, or mechanical ventilation in accordance with the *Mechanical Code*. Each new *dwelling unit* shall be ventilated by mechanical means in accordance with Section 403 of the *Mechanical Code* and shall have at least one opening to the outdoors for natural ventilation of not less than 4 percent of the floor area of the habitable spaces of the *dwelling unit*. *Ambulatory care facilities* and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407 of the *Mechanical Code*.

**1205 LIGHTING**

*Strike Section 1205.1 of the International Building Code in its entirety and insert new Section 1205.1 in its place in the Building Code to read as follows:*

**1205.1 General.** Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with Section 1205.2 or shall be provided with artificial light in accordance with Section 1205.3.

**Exception:** Artificial light shall not be used to meet the lighting requirements for bedrooms, living rooms and *sleeping units*.

*Strike Section 1205.2 of the International Building Code in its entirety and insert new Section 1205.2 in its place in the Building Code to read as follows:*

**1205.2 Natural light.** The minimum net glazed area shall be not less than 8 percent of the floor area of the room or rooms served. At least 50 percent of required glazing shall be clear glass; it is permissible for the remainder of the required glazing to be obscure glass, glass block or other *approved* translucent material.

**1205.2.1 Adjoining spaces.** For the purpose of natural lighting, any room is permitted to be considered as a portion of an adjoining room where one-half of the area of the common wall provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet (2.32 m<sup>2</sup>), whichever is greater.

1. It is permissible for glazing to fill a portion or all of the required opening

between adjoining spaces.

2. It is permissible to install doors in openings between adjoining spaces. However, opaque portions of doors shall not contribute to meeting the minimum opening requirement of not less than one-tenth of the floor area of the interior room or 25 square feet (2.32 m<sup>2</sup>), whichever is greater.

**Exception:** Openings required for natural light shall be allowed to open into a sunroom with *thermal isolation* or a patio cover where the common wall provides a glazed area of not less than one-tenth of the floor area of the interior room or 20 square feet (1.86 m<sup>2</sup>), whichever is greater.

**1205.2.2 Exterior openings.** Exterior openings required by Section 1205.2 for natural light shall open directly onto a *public way, yard or court*, as set forth in Section 1206.

**Exceptions:**

1. Required exterior openings are permitted to open into a roofed porch where the porch:
  - 1.1. Abuts a *public way, yard or court*;
  - 1.2. Has a ceiling height of not less than 7 feet (2134 mm); and
  - 1.3. Has a longer side at least 65 percent open and unobstructed.
2. Skylights are not required to open directly onto a *public way, yard or court*.

**1207 SOUND TRANSMISSION**

*Strike Sections 1207.1 and 1207.2 of the International Building Code in their entirety and insert new Sections 1207.1 and 1207.2 in the Building Code in their place to read as follows:*

**1207.1 Scope.** This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent *dwelling units* and *sleeping units* or between *dwelling units* and *sleeping units* and adjacent public areas such as halls, *corridors, stairs*, service areas, or Group A-2 occupancies.

**1207.2 Interior sound.** Walls, partitions and floor/ceiling assemblies separating *dwelling units* and *sleeping units* from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. Walls, partitions and floor/ceiling assemblies separating Group A-2 occupancies from *dwelling units* and *sleeping units* shall have an STC of not less than 55 and shall be field tested to achieve a rating of not less than 50 for air-borne noise. Penetrations or

openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to *dwelling unit* and *sleeping unit* entrance doors; however, such doors shall be tight fitting to the frame and sill.

**Exception:** Group A-2 occupancies that do not utilize amplified music as part of their use shall be exempt from these provisions.

**CHAPTER 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES****1504 PERFORMANCE REQUIREMENTS****1507 REQUIREMENTS FOR ROOF COVERINGS****1510 ROOFTOP STRUCTURES****1512 ROOF SOLAR REFLECTANCE AND THERMAL EMITTANCE****1504 PERFORMANCE REQUIREMENTS**

*Strike Section 1504.4 of the International Building Code in its entirety and insert new Section 1504.4 to the Building Code in its place to read as follows:*

**1504.4 Ballasted low-slope roof systems.** Ballasted low-slope (roof slope < 2:12) single-ply roof system coverings installed in accordance with Sections 1507.12 and 1507.13, and protected membrane ballasted low-slope (roof slope < 2:12) hot-applied rubberized-asphalt roofing systems installed in accordance with Section 1507.18, shall be designed in accordance with Section 1504.8 and ANSI/SPRI RP-4.

**1507 REQUIREMENTS FOR ROOF COVERINGS**

*Insert new Section 1507.18 to the Building Code to read as follows:*

**1507.18 Hot-applied rubberized-asphalt roofing.** The installation of hot-applied rubberized-asphalt roofing shall comply with the provisions of this section.

**1507.18.1 Slope.** Hot-applied rubberized-asphalt roof membranes shall not be required to have a minimum design slope (0-percent slope).

**1507.18.2 Material standards.** Hot-applied rubberized-asphalt roofing shall be one-part hot-applied rubberized asphalt and comply with CAN/CGSB-37.50-M89.

**1507.18.3 Protected membrane ballasted low-slope roofs.** Protected membrane ballasted roof assemblies with a low-slope (roof slope < 2:12) shall be installed in accordance with this section and Section 1504.4. Stone used as ballast shall comply with ASTM D448.

**1510 ROOFTOP STRUCTURES**

*Strike Section 1510.2.1 in the International Building Code in its entirety and insert new Section 1510.2.1 in the Building Code in its place to read as follows:*

**1510.2.1 Height above roof deck.** Penthouses constructed on buildings of other than Type I construction shall not exceed 20 feet (6096 mm) in height above the roof deck as measured to the highest point of the roof of the penthouse.

**Exceptions:**

1. Where used to enclose tanks or elevators that travel to the roof level, penthouses shall be permitted to have a maximum height of 28 feet (8534 mm) above the roof deck.
2. Penthouses located on the roof of buildings of Type I construction shall not be limited in height.

**1510.6 Mechanical equipment screens.**

*Strike Section 1510.6.1 of the International Building Code in its entirety and insert new Section 1510.6.1 in the Building Code in its place to read as follows:*

**1510.6.1 Height limitations.** Mechanical equipment screens shall not exceed 18 feet 6 inches (5638 mm) in height above the roof deck, as measured to the highest point on the mechanical equipment screen.

**Exceptions:**

1. Where located on buildings of Type IA construction, the height of mechanical equipment screens shall not be limited.
2. Where used to screen elevators that travel to the roof level, mechanical equipment screens shall not exceed 20 feet (6096 mm) in height above the roof deck as measured to the highest point on the mechanical equipment screen.

**1512 ROOF SOLAR REFLECTANCE AND THERMAL EMITTANCE**

*Insert new Section 1512 to the Building Code to read as follows:*

**1512.1 Roof solar reflectance and thermal emittance.** Low-sloped roofs shall comply with the roof solar reflectance and thermal emittance requirements set forth in Section 5.5.3.1.1 of the *Energy Conservation Code-Commercial* and Section R402.6 of the *Energy Conservation Code-Residential*, as applicable.

**CHAPTER 16          STRUCTURAL DESIGN****1602    DEFINITIONS AND NOTATIONS****1603    CONSTRUCTION DOCUMENTS****1607    LIVE LOADS****1608    SNOW LOADS****1609    WIND LOADS****1612    FLOOD LOADS****1602          DEFINITIONS AND NOTATIONS****1602.1 Definitions.**

*Insert a new notation under “NOTATIONS” to read as follows:*

**NOTATIONS:**  $A_f$  = wind area in accordance with Chapters 26-30 of ASCE 7.

**1603          CONSTRUCTION DOCUMENTS**

*Insert a new Section 1603.1.3.1 into the Building Code to read as follows:*

**1603.1.3.1 Roof Drift on Existing Structures.** It shall be the responsibility of the *owner* undertaking work on its *premises* to determine the impact of that work on the roof snow load of any adjacent existing *structure(s)*. The following information shall be provided in any permit application for a new or altered building:

- a. The increased snow load on the roof of adjacent existing structure(s), if any, due to the proposed work;
- b. Information sufficient to show whether the roof of any adjacent structure can safely support any additional drift load caused by the work; and
- c. A plan to strengthen the roof of any adjacent structure so that it is able to support the new snow loads caused by the work.

**Exception:** Items (b) and (c) are not required where:

1. The proposed work will not increase the snow load on the roof of the adjacent structure above 30 psf; and
2. The *owner* of the existing adjacent structure denies access to the *owner* undertaking the proposed work to inspect and measure the roof joists with ceiling access to determine whether the roof of the existing adjacent structure can support any additional snow drift loads caused by the work, and the *owner* undertaking the proposed work provides evidence of such denial in

accordance with Section 3307.5.2.

**1603.1.8 Special Loads.**

*Insert new Section 1603.1.8.2 to the Building Code to read as follows:*

**1603.1.8.2 Superimposed Dead Loads.** The assumed superimposed dead loads, including, but not limited to, hung ceilings, mechanical, electrical, and plumbing equipment shall be indicated on the *construction documents*.

**1607 LIVE LOADS**

*Strike Item 14 in Table 1607.1 of the International Building Code in its entirety and insert new Item 14 in Table 1607.1 to the Building Code in its place to read as follows:*

**TABLE 1607.1  
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L<sub>o</sub>, AND MINIMUM  
CONCENTRATED LIVE LOADS<sup>g</sup>**

<b>OCCUPANCY OR USE</b>	<b>UNIFORM (psf)</b>	<b>CONCENTRATED (lbs.)</b>
14. Garages (Passenger vehicles only)	50 <sup>m</sup>	Note <sup>a</sup>
Top deck of exposed garage	50, plus snow loading in accordance with Section 1608	
Trucks and buses	See Section 1607.7	See Section 1607.7

<sup>a</sup> Floors in garages or portions of buildings used for the storage of motor vehicles shall be designed for the uniformly distributed live loads of Table 1607.1 or the following concentrated loads: (1) for garages restricted to passenger vehicles accommodating not more than nine passengers, 3,000 pounds acting on an area of 4.5 inches by 4.5 inches; (2) for mechanical parking structures without slab or deck that are used for storing passenger vehicles only, 2,250 pounds per wheel.

<sup>m</sup> Live load reduction is not permitted unless specific exceptions of Section 1607.10 apply. *Strike the listing for “All other construction” in Table 1607.1 (item 26) in the International Building Code and insert a new listing for “All other construction, except one and two-family dwellings” in its place in Table 1607.1 (item 26) in the Building Code, and insert a new listing for “Ordinary flat, pitched, and curved roofs (that are not occupiable)” in Table 1607.1 (item 26) in the Building Code to read as follows:*

**TABLE 1607.1**



**MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS,  $L_o$ , AND MINIMUM CONCENTRATED LIVE LOADS<sup>g</sup>**

<b>OCCUPANCY OR USE</b>	<b>UNIFORM (psf)</b>	<b>CONCENTRATED (lbs.)</b>
26. Roofs		
All other construction, except one and two-family dwellings	30	
Ordinary flat, pitched, and curved roofs (that are not occupiable)	30	

*Strike Section 1607.3 of the International Building Code in its entirety and insert new Section 1607.3 to the Building Code in its place to read as follows:*

**1607.3 Uniform live loads.** The live loads used in the design of buildings and other structures shall be the maximum loads expected by the intended use or occupancy but shall in no case be less than the minimum uniformly distributed live loads required by Table 1607.1.

**Exception:** Buildings erected before July 1, 1925: In the alteration of buildings erected before July 1, 1925 the engineer of record is authorized to apply a maximum reduction of 30 percent of the specified minimum live loads in Table 1607.1 for live loads above 40 psf (1.92 kN/m<sup>2</sup>), provided that official live load placards are posted on the public areas of the affected floors showing this reduced live load. Live loads shall not be reduced to less than 40 psf.

**1607.9 IMPACT LOADS**

*Strike Section 1607.9.3 in the International Building Code in its entirety and insert new Section 1607.9.3 in the Building Code in its place to read as follows:*

**1607.9.3 Elements Supporting hoists for Façade Access Equipment.** In combination with any other applicable live loads, structural elements that support hoists for façade access equipment shall be designed for an ultimate load consisting of the larger of the rated load of the hoist times 4.0, but not less than 5000 pounds (22.2 kN).

*Strike Section 1607.9.4 in the International Building Code in its entirety and insert new Section 1607.9.4 in the Building Code in its place to read as follows:*

**1607.9.4 Lifeline Anchorages for Façade Access Equipment.** In combination with any other applicable live loads, lifeline anchorages and structural elements that support lifeline anchorages shall be designed for an ultimate load of at least 5000 pounds (22.2

kN) for each attached lifeline, in every direction that a fall arrest load may be applied.

### 1607.12.3.1 Vegetative and Landscaped Roofs

*Strike Section 1607.12.3.1 in the International Building Code in its entirety and insert new Section 1607.12.3.1 in the Building Code in its place to read as follows:*

**1607.12.3.1** The weight of all landscaping materials shall be considered as dead load and shall be computed on the basis of saturation of the soil as determined in accordance with ASTM E 2397. The uniform design live load in unoccupied landscaped areas on roofs shall be 30 psf (1.44 kN/m<sup>2</sup>). The uniform design live load for occupied landscaped areas on roofs shall be determined in accordance with Table 1607.1.

*Insert new Section 1607.15 in the Building Code to read as follows:*

**1607.15 Powered maintenance platforms.** The structural supports for powered maintenance platforms shall be designed in accordance with the requirements in 29 CFR 1910 Subpart F Standard 1910.66 (“Powered Platforms for Building Maintenance”) of Occupational Safety and Health Administration Standards.

## 1608 SNOW LOADS

*Insert new Section 1608.1.1 to the Building Code to read as follows:*

**1608.1.1 Snow load for the District of Columbia.** The ground snow load for the District of Columbia as shown in Figure 1608.2 shall be a minimum of 25 psf (1.20 kN/m<sup>2</sup>) plus drifting, or 30 psf (1.44 kN/m<sup>2</sup>) equivalent uniform load, whichever is greater.

## 1609 WIND LOADS

*Insert new Section 1609.1.1.2 to the Building Code to read as follows:*

**1609.1.1.2 Minimum Wind Loads.** The wind loads used in the design of the main wind force resisting system ultimate load shall not be less than 30 psf (1.44 kN/m<sup>2</sup>) multiplied by the area of the building or structure projected on a vertical plane normal to the wind direction. In the calculation of design ultimate wind loads for components and cladding for buildings, the algebraic sum of the pressures acting on opposite faces shall be taken into account. The design ultimate wind pressure of components and cladding of buildings shall not be less than 30 psf (1.44 kN/m<sup>2</sup>) acting in either direction normal to the surface. The design ultimate wind pressure for open buildings and other structures shall not be less than 30 psf (1.44 kN/m<sup>2</sup>) multiplied by the area  $A_f$ .

**Exception:** The ultimate wind pressures on tanks, signs, chimneys, stacks, cooling towers, dish antennas, and similar exposed surfaces and their supporting frames shall not be less than 50 psf (2.39 kN/m<sup>2</sup>) of projected area.

**1612 FLOOD LOADS**

*Strike Section 1612.3 of the International Building Code in its entirety and insert new Section 1612.3 in its place in the Building Code to read as follows:*

**1612.3 Establishment of flood hazard areas.** *Flood hazard areas* are established by the *Floodplain Administrator* pursuant to 20 DCMR, Chapter 31.

**1612.3.1 Design flood elevations.** Where design flood elevations are not included in the *flood hazard areas* established in 20 DCMR, Chapter 31, or where floodways are not designated, the *owner* and/or the *owner's registered design professional* shall provide a design floodway analysis and a floodplain analysis to develop design flood elevations. These analyses will be referred to the *Floodplain Administrator* for review and approval.

**1612.3.2 Determination of impacts.** In riverine *flood hazard areas* where design flood elevations are specified but floodways have not been designated, the permit applicant shall provide a floodway analysis that demonstrates that the proposed work will not increase the design flood elevation more than 1 foot (305 mm) at any point within the District of Columbia. This analysis shall be referred to the *Floodplain Administrator* for review and approval.

*Insert a new Section 1612.4.1 in the Building Code to read as follows:*

**1612.4.1 Minimum Elevation.** Minimum elevation of the top of lowest floor and floodproofing of all classes of buildings and structures shall be 2 feet above the Base Flood Elevation, or 500-year flood elevation, whichever is higher.

*Insert a new Section 1612.4.2 in the Building Code to read as follows:*

**1612.4.2 ASCE 24-14.** Table 2-1 and Table 6-1 of ASCE 24-14 do not apply in the District of Columbia.

**CHAPTER 17 SPECIAL INSPECTIONS AND TESTS****1703 APPROVALS****1704 SPECIAL INSPECTIONS AND TESTS, CONTRACTOR RESPONSIBILITY AND STRUCTURAL OBSERVATION****1705 REQUIRED SPECIAL INSPECTIONS AND TESTS****1703 APPROVALS**

*Strike Section 1703.1.1 in the International Building Code in its entirety and insert new Section 1703.1.1 in its place in the Building Code to read as follows:*

**1703.1.1 Independence.** An *approved agency* shall be objective, competent and independent from the contractor and the *registered design professional* responsible for the design and/or installation of the work being inspected. The agency shall also disclose possible conflicts of interest to the *code official*, the *owner* and the *registered design professional in responsible charge* so that objectivity can be confirmed. The agency should not be owned or controlled by any *person* associated with the project.

**1704 SPECIAL INSPECTIONS AND TESTS, CONTRACTOR RESPONSIBILITY AND STRUCTURAL OBSERVATION**

*Strike Section 1704.2.1 in the International Building Code in its entirety and insert new Sections 1704.2.1 and 1704.2.1.1 in its place in the Building Code to read as follows:*

**1704.2.1 Special inspector qualifications.** Prior to the start of the construction, the *owner* shall provide written documentation to the *code official* identifying *approved agency* who will perform the special inspections and tests during construction.

The *registered design professional in responsible charge* and engineers of record involved in the design and/or installation work for the project are not permitted to act as the *approved agency*. The *approved agency* and its personnel shall comply with the independence requirements in Section 1703.1.1.

**1704.2.1.1 Personnel.** An *approved agency* shall employ or contract with experienced personnel educated in conducting, supervising and evaluating tests or inspections, or both. Upon request by the *code official*, documentation shall be provided demonstrating the applicable agency's accreditation as noted in ASTM E329 and the pertinent training, certifications and other qualifications of special inspection personnel performing special inspections or tests associated with the proposed construction. The *code official* is authorized to prescribe the manner of qualification documentation and frequency of updating information regarding agency or individual inspector approval. *Persons* providing special inspection services, including firms or individual inspectors seeking approval of alternative certifications or qualifications, or both, listed in ASTM E329, are

allowed to submit documentation demonstrating equivalency. This documentation is allowed to include evidence of meeting other recognized standards or alternative certifications to demonstrate that the minimum qualifications, certification and experience intended by ASTM E329 have been met. The *code official*, if satisfied that equivalency has been demonstrated, is authorized to approve the credentials of the *person*.

*Strike Section 1704.2.3 in the International Building Code and insert new Section 1704.2.3 in the Building Code in its place to read as follows:*

**1704.2.3 Statement of special inspections.** The applicant shall submit a statement of *special inspections* in accordance with Section 106.3 as a condition for permit issuance. This statement shall be in accordance with Section 1704.3.

**Exception:** A statement of *special inspections* is not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.7 or the conventional light-frame construction provisions of Section 2308.

*Strike Section 1704.6, Structural Observations, in the International Building Code in its entirety without substitution.*

## **1705           REQUIRED SPECIAL INSPECTIONS AND TESTS**

*Insert new Section 1705.19 in the Building Code to read as follows:*

**1705.19 Underpinning.** Underpinning of structures shall be subject to special inspections in accordance with Chapter 17. In addition to the special inspection for structural stability, any new foundation elements installed as part of underpinning operations shall be subject to special inspection as a permanent installation in accordance with the applicable sections of Chapter 17, including, but not limited to, special inspections for soil, concrete, welding, sequencing and pile driving.

**CHAPTER 18        SOILS AND FOUNDATIONS****1804   UNDERPINNING****1804   UNDERPINNING**

*Strike Section 1804.2 in the International Building Code in its entirety and insert new Section 1804.2 in the Building Code in its place to read as follows:*

**1804.2 Underpinning.** Where underpinning is chosen to provide the protection or support of adjacent structures, the underpinning system shall be designed and installed in accordance with provisions of this chapter and Chapter 33, and special inspections shall be performed in accordance with Chapter 17.

**1804.2.1 Underpinning sequencing.** Underpinning shall be installed in a sequential manner that protects the neighbouring structure and the working construction site. The sequence of installation shall be identified in the *approved construction documents*.

**CHAPTER 21        MASONRY****2111 MASONRY FIREPLACES****2113 MASONRY CHIMNEYS****2111            MASONRY FIREPLACES****2111.5 Seismic anchorage**

*Strike the Exception to Section 2111.5 in the International Building Code and insert a new Exception into Section 2111.5 in the Building Code in its place to read as follows:*

**Exception:** Seismic anchorage is not required for the following:

1. In structures assigned to Seismic Design Category A.
2. Where the masonry fireplace is constructed completely integral to the exterior masonry walls.

**2113            MASONRY CHIMNEYS****2113.4 Seismic anchorage**

*Strike the Exception to Section 2113.4 in the International Building Code and insert a new Exception into Section 2113.4 in the Building Code in its place to read as follows:*

**Exception:** Seismic anchorage is not required for the following:

1. In structures assigned to Seismic Design Category A.
2. Where the masonry chimney is constructed completely integral to the exterior masonry walls.

**CHAPTER 23 WOOD****2304 GENERAL CONSTRUCTION REQUIREMENTS****2304 GENERAL CONSTRUCTION REQUIREMENTS**

*Strike Section 2304.11 of the International Building Code and insert new Section 2304.11 and Table 2304.11 in its place in the Building Code to read as follows:*

**2304.11 Heavy timber construction.** Where a structure or portion thereof or individual structural elements are required by provisions of this code to be of heavy timber, the building elements therein shall comply with the applicable provisions of Sections 2304.11.1 through 2304.11.4. Minimum dimensions of heavy timber shall comply with the applicable requirements in Table 2304.11 based on roofs or floors supported and the configuration of each structural element, or in Sections 2304.11.2 through 2304.11.4. Lumber decking shall be in accordance with Section 2304.9.



**TABLE 2304.11  
MINIMUM DIMENSIONS OF HEAVY TIMBER STRUCTURAL MEMBERS**

SUPPORTING	HEAVY TIMBER STRUCTURAL ELEMENTS	MINIMUM NOMINAL SOLID SAWN SIZE		MINIMUM GLUED LAMINATED NET SIZE		MINIMUM STRUCTURAL COMPOSITE LUMBER NET SIZE	
		Width, inch	Depth, inch	Width, inch	Depth, inch	Width, inch	Depth, inch
Floor loads only or combined floor and roof loads	Columns: Framed sawn or glued-laminated timber arches that spring from the floor line; Framed timber trusses	8	8	3 <u>6</u> / <u>4</u>	1 <u>8</u> / <u>4</u>	7	1 <u>7</u> / <u>2</u>
	Wood beams and girders	6	10	5	1 <u>10</u> / <u>2</u>	1 <u>5</u> / <u>4</u>	1 <u>9</u> / <u>2</u>
Roof loads only	Columns (roof and ceiling loads): Lower half of wood-frame or glued-laminated arches that spring from the floor line or from grade	6	8	5	1 <u>8</u> / <u>4</u>	1 <u>5</u> / <u>4</u>	1 <u>7</u> / <u>2</u>
	Upper half of wood-frame or glued-laminated arches that spring from the floor line or from grade	6	6	5	6	1 <u>5</u> / <u>4</u>	1 <u>5</u> / <u>2</u>
	Framed timber trusses and other roof framing: Framed or glued-laminated arches that spring from the top of walls or wall abutments	<u>4</u> <sup>b</sup>	6	<u>3</u> <sup>b</sup>	7 <u>6</u> / <u>8</u>	1 <u>3</u> / <u>2</u> <sup>b</sup>	1 <u>5</u> / <u>2</u>

For SI: 1 inch = 25.4 mm.<sup>5</sup>

a. Spaced members shall be permitted to be composed of two or more pieces not less than 3 inches nominal in thickness where blocked solidly throughout their intervening spaces or where spaces are tightly closed by a continuous wood cover plate of not less than 2 inches nominal in thickness secured to the underside of the members. Splice plates shall be not less than 3 inches nominal in thickness.

b. Where protected by approved automatic sprinklers under the roof deck, framing members shall be not less than 3 inches nominal in width.

*Strike Sections 2304.11.1 through 2304.11.4 of the International Building Code in their entirety and insert new Sections 2304.11.1 through 2304.11.4 in their place in the Building Code to read as follows*

**2304.11.1 Details of heavy timber structural members.** Heavy timber structural members shall be detailed and constructed in accordance with Sections 2304.11.1 through 2304.11.1.3.

**2304.11.1.1 Columns.** Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be continuous or superimposed throughout all stories and connected in an approved manner. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal loads across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof loads only. Where traditional heavy timber detailing is used, connections shall be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other approved methods.

**2304.11.1.2 Floor framing.** Minimum dimensions of floor framing shall be in accordance with Table 2304.11. Approved wall plate boxes or hangers shall be provided where wood beams, girders or trusses rest on masonry or concrete walls. Where intermediate beams are used to support a floor, they shall rest on top of girders, or shall be supported by an approved metal hanger into which the ends of the beams shall be closely fitted. Where traditional heavy timber detailing is used, these connections shall be permitted to be supported by ledgers or blocks securely fastened to the sides of the girders.

**2304.11.1.3 Roof framing.** Minimum dimensions of roof framing shall be in accordance with Table 2304.11. Every roof girder and not less than every alternate roof beam shall be anchored to its supporting member to resist forces as required in Chapter 16.

**2304.11.2 Partitions and walls.** Partitions and walls shall comply with Section 2304.11.2.1 or 2304.11.2.2.

**2304.11.2.1 Exterior walls.** Exterior walls shall be permitted to be cross-laminated timber meeting the requirements of Section 2303.1.4.

**2304.11.2.2 Interior walls and partitions.**

Interior walls and partitions shall be of solid wood construction formed by not less than two layers of 1-inch (25 mm) matched boards or laminated construction 4 inches (102 mm) thick, or of 1-hour fire-resistance-rated construction.

**2304.11.3 Floors.**

Floors shall be without concealed spaces. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

**2304.11.3.1 Cross-laminated timber floors.** Cross-laminated timber shall be not less than 4 inches (102 mm) in actual thickness. Cross-laminated timber shall be continuous from support to support and mechanically fastened to one another. Cross-laminated timber shall be permitted to be connected to walls without a shrinkage gap providing swelling or shrinking is considered in the design. Corbelling of masonry walls under the floor shall be permitted to be used.

**2304.11.3.2 Sawn or glued-laminated plank floors.** Sawn or glued-laminated plank floors shall be one of the following:

1. Sawn or glued-laminated planks, splined or tongue-and-groove, of not less than 3 inches (76 mm) nominal in thickness covered with 1-inch (25 mm) nominal dimension tongue-and-groove flooring, laid crosswise or diagonally, 15/32-inch (12 mm) wood structural panel or 1/2-inch (12.7 mm) particleboard.
2. Planks not less than 4 inches (102 mm) nominal in width set on edge close together and well spiked and covered with 1-inch (25 mm) nominal dimension flooring or 15/32-inch (12 mm) wood structural panel or 1/2-inch (12.7 mm) particleboard.
3. The lumber shall be laid so that continuous lines of joints will occur only at points of support. Floors shall not extend closer than 1/2 inch (12.7 mm) to walls.
4. Such 1/2-inch (12.7 mm) space shall be covered by a molding fastened to the wall and so arranged that it will not obstruct the swelling or shrinkage movements of the floor. Corbelling of masonry walls under the floor shall be permitted to be used in place of molding.

**2304.11.4 Roof decks.** Roofs shall be without concealed spaces and roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be an alternative that provides equivalent fire resistance and structural properties. Where supported by a wall, roof decks shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or approved hardware of sufficient strength to resist prescribed forces.

**2304.11.4.1 Cross-laminated timber roofs.** Cross-laminated timber roofs shall be not less than 3 inches (76 mm) nominal in thickness and shall be continuous from support to support and mechanically fastened to one another.

**2304.11.4.2 Sawn, wood structural panel, or glued-laminated plank roofs.** Sawn, wood structural panel, or glued-laminated plank roofs shall be one of the following:

1. Sawn or glued laminated, splined or tongue-and-groove plank, not less than 2 inches (51 mm) nominal in thickness.
2. 1 1/8-inch-thick (32 mm) wood structural panel (exterior glue).
3. Planks not less than 3 inches (76 mm) nominal in width, set on edge close together and laid as required for floors.

**CHAPTER 29 PLUMBING SYSTEMS**

**2901 GENERAL**

**2902 MINIMUM PLUMBING FACILITIES**

**2901 GENERAL**

*Strike Section 2901.1 of the International Building Code in its entirety and insert new Section 2901.1 to the Building Code in its place to read as follows:*

**2901.1 Scope.** The provisions of this chapter and the *Plumbing Code* shall govern the erection, installation, *alteration*, repairs, relocation, replacement, *addition* to, use or maintenance of plumbing equipment and systems. Toilet and bathing rooms shall be constructed in accordance with Section 1210. Plumbing systems and equipment shall be constructed, installed and maintained in accordance with the *Plumbing Code*.

**2902 MINIMUM PLUMBING FACILITIES**

*In Table 2902.1 of the Building Code, insert a new footnote h in column titled "Bathtubs/showers", under Number 5, Institutional I-4, to read as follows:*

No.	Classification	Occupancy	Description	Water Closets (Urinals See Section 419.2 of the Plumbing Code)	Lavatories	Bathtubs/ Showers	Drinking Fountains (See Section 410 of the Plumbing Code)	Other
5	Institutional	I-4	Adult day care and child day care	1 per 15	1 per 15	1 <sup>h</sup>	1 per 100	1 service sink

h. For child day care occupancies, bathtubs/showers shall not be required.

*Strike Section 2902.2 of the International Building Code in its entirety and insert new Section 2902.2 to the Building Code in its place to read as follows:*

**2902.2 Separate facilities.** Where plumbing fixtures are required, separate facilities shall be provided for each sex.

**Exceptions:**

1. Separate facilities shall not be required for *dwelling units* and *sleeping units*.
2. Separate facilities shall not be required in structures or tenant spaces with a total *occupant load*, including both employees and customers, of 15 or fewer.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or less.

4. Separate facilities shall not be required in *buildings* or tenant spaces where single-occupancy gender-neutral public toilet facilities are provided in accordance with Section 2902.4.

*[No change to Section 2902.2.1]*

*Strike Section 2902.4 of the International Building Code in its entirety and insert new Section 2902.4 to the Building Code in its place to read as follows:*

**2902.4 Signage.** Multi-occupancy public toilet facilities shall be designated by a legible sign for each sex. Single-occupancy public facilities shall be designated with gender-neutral signage. Signs shall be readily visible and located near the entrance to each toilet facility. Signs for *accessible* toilet facilities shall comply with Section 1111.

*[No change to Section 2902.4.1]*

*Insert new Section 2902.5.1 in the Building Code to read as follows:*

**2902.5.1 Drinking fountain substitution.** Drinking fountains shall not be required in restaurants that provide drinking water in a container free of charge. In establishments of occupancies B or M, with an area of 1,500 square feet (139.4 m<sup>2</sup>) or less, a water cooler or a bottled water dispenser may be substituted for the required drinking fountain. In other occupancies, including B or M occupancies with an area of more than 1,500 square feet (139.4 m<sup>2</sup>), water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.

**CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS****3001 GENERAL****3002 HOISTWAY ENCLOSURES****3006 ELEVATOR LOBBIES AND HOISTWAY OPENING PROTECTION****3007 FIRE SERVICE ACCESS ELEVATORS****3008 OCCUPANT EVACUATION ELEVATORS****3009 CERTIFICATE OF INSPECTION****3010 REQUIRED ELEVATOR SIGNAGE****3011 AMENDMENTS TO STANDARD ASME A17.1****3001 GENERAL**

*Strike Sections 3001.1 and 3001.2 of the International Building Code in their entirety and insert new Sections 3001.1 and 3001.2 to the Building Code in their place to read as follows:*

**3001.1 Scope.** This chapter governs the design, construction, installation, *alteration, repair* and maintenance of elevators and conveying systems, including but not limited to, escalators, platform and stairway chair lifts, dumbwaiters, and moving walks, and their components.

**3001.2 Referenced standards.** Except as otherwise provided for in this code, the design, construction, installation, *alteration, repair* and maintenance of elevators and conveying systems and their components shall conform to ASME A17.1/ CSA B44, ASME A18.1, ASME A90.1, ASME B20.1, ANSI MH29.1, ALI ALCTV, ASCE 24 for construction in flood hazard areas established in Section 1612.3, and ICC A117.1. *Alteration* and repair of existing elevators and conveying systems shall comply with the *Existing Building Code*. Maintenance of existing elevators and conveying systems shall also comply with the requirements of the *Property Maintenance Code*.

**3002 HOISTWAY ENCLOSURES**

*Strike Section 3002.9 of the International Building Code in its entirety and insert new Section 3002.9 to the Building Code in its place to read as follows:*

**3002.9 Plumbing and mechanical systems.** Plumbing and mechanical systems shall not be located in an elevator hoistway enclosure.

**Exception:**

1. Floor drains, sumps and sump pumps shall be permitted at the base of the hoistway enclosure provided they are indirectly connected to the plumbing system.
2. Machinery and equipment serving the elevator shall be permitted in an elevator hoistway enclosure in conformance with ASME A17.1/CSA B44 Section 2.8.

**3006 ELEVATOR LOBBIES AND HOISTWAY OPENING PROTECTION**

*Strike Section 3006.1 of the International Building Code in its entirety and insert new Section 3006.1 to the Building Code in its place to read as follows:*

**3006.1 General.** Elevator hoistway openings and enclosed elevator lobbies shall be provided in accordance with the following:

1. Where hoistway opening protection is required by Section 3006.2, such protection shall be in accordance with Section 3006.3.
2. Where enclosed elevator lobbies are required for underground buildings, such lobbies shall comply with Section 405.4.3.
3. Where an area of refuge is required and an enclosed elevator lobby is provided to serve as an area of refuge, the enclosed elevator lobby shall comply with Section 1009.6.
4. Where fire service access elevators are provided, enclosed elevator lobbies shall comply with Section 3007.6.
5. Where occupant evacuation elevators are provided, enclosed elevator lobbies shall comply with Section 3008.6.
6. Where an elevator hoistway serves one or more levels of an underground enclosed parking garage and also serves levels above the ground floor, an elevator lobby shall be provided at each garage level served to separate the hoistway openings from the enclosed parking garage. The enclosure of such lobby shall be of smoke-tight construction and extend from slab to slab, so as to oppose the propagation of smoke and gases, and shall not be required to be fire-resistance rated.

*Strike Section 3006.2 of the International Building Code in its entirety and insert new Section 3006.2 to the Building Code in its place to read as follows:*

**3006.2 Hoistway opening protection required.** Elevator hoistway door openings shall be protected in accordance with Section 3006.3 where (a) an elevator hoistway connects more than three stories, (b) is required to be enclosed within a shaft enclosure in accordance with Section 712.1.1 and (3) any of the following conditions apply: (i) the building is not protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2; (ii) the building contains a Group I-1 Condition 2 occupancy; (iii) the building contains a Group I-2 occupancy; or (iv) the building contains a Group I-3 occupancy.

**Exceptions:**

1. Protection of elevator hoistway door openings is not required where the elevator serves only open parking garages in accordance with Section 406.5.



2. Protection of elevator hoistway door openings is not required at the *level(s) of exit discharge*, provided the *level(s) of exit discharge* is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. Enclosed elevator lobbies and protection of elevator hoistway door openings are not required on levels where the elevator hoistway opens to the exterior.

### **3007 FIRE SERVICE ACCESS ELEVATORS**

*Strike Section 3007.8 of the International Building Code in its entirety and insert new Section 3007.8 to the Building Code in its place to read as follows:*

**3007.8 Electrical power.** The following features serving each fire service access elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.
2. Elevator hoistway lighting.
3. *Ventilation* and cooling equipment for elevator machine rooms, control rooms, machine spaces and control spaces.
4. Elevator car lighting.
5. Lighting of elevator machine rooms, control rooms, machine spaces and control spaces.

**3007.8.1 Protection of wiring or cables.** Wires or cables that are located outside of the elevator hoistway and machine room and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, *ventilation* and fire-detecting systems to fire service access elevators shall be protected by construction having a *fire-resistance rating* of not less than 2 hours, shall be a circuit integrity cable having a *fire-resistance rating* of not less than 2 hours or shall be protected by a listed electrical protective system having a *fire-resistance rating* of not less than 2 hours.

**Exception:** Wiring and cables to control signals are not required to be protected provided that wiring and cables do not serve Phase II emergency in-car operations.

### **3008 OCCUPANT EVACUATION ELEVATORS**

*Strike Section 3008.8 of the International Building Code in its entirety and insert new Section 3008.8 to the Building Code in its place to read as follows:*

**3008.8 Electrical power.** The following features serving each occupant evacuation elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.
2. *Ventilation* and cooling equipment for elevator machine rooms, control rooms, machinery spaces and control spaces.
3. Elevator car lighting.
4. Lighting of elevator machine rooms, control rooms, machine spaces and control spaces.

**3008.8.1 Protection of wiring or cables.** Wires or cables that are located outside of the elevator hoistway, machine room, control room and control space and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, *ventilation* and fire-detecting systems to occupant evacuation elevators shall be protected by construction having a *fire-resistance rating* of not less than 2 hours, shall be circuit integrity cable having a fire-resistance rating of not less than 2 hours or shall be protected by a listed electrical circuit protective system having a *fire-resistance rating* of not less than 2 hours.

**Exception:** Wiring and cables to control signals are not required to be protected provided that wiring and cables do not serve Phase II emergency in-car operation.

*Insert new Section 3009 in the Building Code to read as follows:*

### **3009 CERTIFICATE OF INSPECTION**

**3009.1 General.** No elevator or conveying system, including, but not limited to, escalators, dumbwaiters, wheelchair lifts, cartveyors, manlifts and moving walks, shall be operated without a valid certificate of inspection issued by the *code official*.

#### **Exceptions:**

1. Where the *code official* authorizes limited approval of use in accordance with the provisions of Section 3009.2.
2. Elevators and conveying systems covered by the *Residential Code* where the equipment is serving one *dwelling unit*.
3. In Groups R-2 and R-3 occupancies where the equipment is serving one *dwelling unit*.

**3009.2 Limited approval of use.** The *code official* is authorized to grant limited approval of use for any equipment covered by this chapter.

**3009.2.1 Work performed under permit.** A permit issued to install, relocate, *alter* or repair any equipment covered by this chapter, shall serve as limited approval of use of the

equipment by the permit holder during the period of such installation, relocation, *alteration* or repair.

**3009.2.2 Construction use.** Limited approval of use of an elevator may be granted by the *code official* during authorized construction or demolition to provide transportation for construction personnel, tools, and materials, provided that full compliance with ASME A17.1-5.10 has been confirmed by the testing, inspection and certification of the elevator by the *code official* or by an *approved* third party inspector. Public use of an elevator with limited approval of use under this Section 3009.2.2 is prohibited. Equipment other than elevators shall be tested and protective measures shall be provided as deemed necessary by the *code official* to ensure safe operation for the limited service specified.

**3009.2.2.1 Time limitation.** For elevators approved for “Construction Use” under ASME A17.1-5.10, the limited approval of use shall be valid for a maximum period of 90 days. The *code official* is authorized to renew the limited approval of use, after performance of the required inspections and/or tests required by ASME A17.1-8.11.5.13, for additional periods of time not exceeding 90 days each.

**3009.3 Final inspection.** Upon installation, relocation or *alteration* of an elevator or conveying system for which a permit is required, a final inspection of the equipment is required to verify that all required inspections have been performed and approved. The permit holder shall apply for and obtain a valid certificate of inspection from the Department within 30 working days after completion of the final inspection.

**3009.4 Content of certificate of inspection; posting.** The certificate of inspection shall contain the following information:

1. The address of the structure.
2. The name and address of the owner.
3. A description of the vertical transportation equipment (*e.g.*, escalator, elevator, dumbwaiter, wheelchair lift, moving walk or conveyor).
4. The rated load and speed.
5. A statement that the described equipment has been inspected for compliance with the requirements of the *Construction Codes*.
6. The name of the *code official*.
7. Any special stipulations and conditions of the permit under which the equipment was installed, relocated or altered.

**3009.4.1 Posting of certificate.** A copy of the most current certificate of inspection shall be conspicuously displayed at all times within the elevator car or attached to the conveying system unless exempted pursuant to Section 3009.6. If the building operator maintains an office in the same building, the certificate of inspection may be made available for public inspection in the office instead of being on display within the elevator.

**3009.5 Maintenance, testing, inspections.** Periodic tests and inspections shall be made by the *code official*, or by an *approved* third party agency, and shall be made at the expense and responsibility of the *owner*. Except as otherwise provided for in this code, the maintenance, inspection and testing of all elevators and conveying systems and their components, including the frequency of inspections and testing, shall conform to:

**3009.5.1 Elevators, escalators and other conveyances listed in ASME A17.1, Appendix N.** Inspection and tests shall be performed at not less than the periodic intervals listed in ASME A17.1, Appendix N, except where otherwise specified by the *code official*.

**Exception:** Units in residential use serving one family *dwelling unit*.

**3009.5.2 Platform lifts and stairway chair lifts.** Inspections and testing of platform lifts and stairway chair lifts shall be performed for all units as stated in ASME A18.1- Section 10.

**Exception:** Units in residential use serving one family *dwelling unit*.

**3009.5.3 Manlifts.** Inspections and testing of manlifts shall be performed for all units as stated in ASME A90.1, Safety Standard for Manlifts.

**3009.5.4 Conveyors and related equipment.** Inspections and testing of conveyors and related equipment shall be performed as stated in ASME B20.1, Safety Standard for Conveyors and Related Equipment.

**3009.5.4.1 Cartveyors.** Cartveyors shall be maintained as per original equipment manufacturer's recommendations. Inspection and testing shall be at the same frequency as escalators in ASME A17.1, Appendix N.

**3009.6 Reports and certificates.** Where inspections and tests are not made by the *code official*, the *approved* agency shall submit a report of the inspections and tests to the *code official* on *approved* forms not more than 30 days after completion of the inspection and tests. Upon receipt of satisfactory inspection and test reports, the *code official* shall authorize the issuance of a certificate of inspection, or a renewal certificate as provided in Section 3009.9, for each unit of equipment.

**Exceptions:** The submission of test reports to the *code official* and the issuance of certificates and display of certificates is not required:

1. In Groups R-2 and R-3 occupancies where the equipment is serving one *dwelling unit*.
2. In buildings under the jurisdiction of the *Residential Code* where the equipment is serving one *dwelling unit*.

**3009.7 Out of service; temporarily dormant.** A permit from the *Department* shall be required: (a) to take an elevator or conveying system out of service pursuant to ASME A17.1, Section 8.11.1.4; or (b) to place an elevator or conveying system in temporarily dormant status as set forth in Section 3009.7.1.

**3009.7.1 Temporarily dormant.** An elevator or conveying system shall be temporarily dormant where removed from its normal class of service for an extended period of time (not to exceed five years) by an owner's decision and not due to maintenance or repair. During this period of time, the equipment shall be secured for the benefit of public safety in accordance with the following requirements:

1. The power supply shall be disconnected by removing fuses and placing a padlock on the mainline disconnect switch in the "OFF" position. The padlock shall not be removed without permission from the *code official*.
2. The unit shall be parked and the hoistway/runway doors securely bolted from opening in any plane. The means of securing the doors shall be exclusive of the interlocks.
3. A wire seal shall be installed on the mainline disconnect switch by an elevator inspector accredited by a national certifying agency and *approved* by the *code official*. The wire seal shall not be removed without permission from the *code official*.
4. The equipment shall not be used again until it has been put in safe running order and passed an acceptance test, congruent with the installation date or the Code Data Tag posted on the equipment, as provided in ASME A17.1, Section 8.10 and the *owner* has obtained a valid certificate of inspection from the *code official*.
5. Annual inspections shall continue for the duration of the period that the elevator is temporarily dormant, and the inspector shall file an annual report with the *code official*, to confirm that the requirements set forth in this section are met.

**3009.8 Equipment in operation.** In buildings equipped with passenger elevators, at least one elevator shall be maintained in operation at all times when the building is occupied.

**Exception:** Buildings equipped with only one elevator or conveying system shall be permitted to have the elevator or conveying system temporarily out of service for testing, maintenance and/or repair.

**3009.9 Renewal of certificates.** The certificate of inspection, for each elevator and conveying system, must be renewed every 24 months, or at an alternate interval specified by the *code official*, as long as the unit is in service. Renewal of the certificate of inspection will be granted upon satisfactory demonstration to the *code official* that the unit of equipment has met all of the inspections and testing required by the *Construction Codes* and referenced standards.

**3009.10 Unsafe equipment.** When, in the opinion of the *code official*, an elevator or conveying system or its components are unsafe or unlawful, the *code official* is authorized and empowered to place the unit out of service, and to prohibit the operation of the equipment until the unsafe or unlawful condition is corrected. The *code official* shall post on the unsafe equipment a placard or notice bearing the words “Unsafe to Use” and may also attach a lead seal to prevent the equipment from being operated.

**3009.10.1 Notification of unsafe or unlawful condition.** When an *approved* Third Party Inspection Agency inspector observes or identifies unsafe or unlawful condition(s) causing an elevator to be removed from service, the inspector shall immediately notify the *code official*. The inspector is authorized to place on the unit adjudged to be unsafe or unlawful an “Unsafe to Use” placard. The *code official* must be notified immediately of the Third Party Inspector’s action, pursuant to the notification procedures established by the *code official*.

**3009.10.2. Placard removal.** The *code official* shall remove the “Unsafe to Use” notice whenever the defect or defects upon which the closure action was based have been eliminated. Any person who defaces or removes an “Unsafe to Use” notice or lead seal without the approval of the *code official*, or operates the placarded equipment, shall be subject to the penalties provided by this code.

An *approved* Third Party Inspector is permitted to remove an “Unsafe to Use Notice” issued by that inspector, after abatement of the unsafe or unlawful condition and appropriate reinspection of the conveyance.

**Exception:** Placarded equipment may be operated solely as necessary to effectuate repairs.

**3009.10.3 Abatement methods.** The *owner* of the equipment deemed unsafe by the *code official* shall abate or cause to be abated or corrected such unsafe conditions either by repair, rehabilitation, replacement or other *approved* corrective action.

*Insert new Section 3010 in the Building Code to read as follows:*

**3010 REQUIRED ELEVATOR SIGNAGE**

**3010.1 Required Elevator Signage.** A permanent sign of durable material, with lettering no smaller than one quarter inch (6 mm) high shall be placed in all elevators cars, with the following wording:

**ALL ACCIDENTS ON OR DAMAGE TO ELEVATORS ARE TO BE REPORTED TO THE DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS 202 442-4400; OR AFTER WORKING HOURS BY CALLING 311.**

**3011 AMENDMENTS TO STANDARD ASME A17.1**

**3011.1 ASME A17.1, Section 1.2.1.**

*Strike Section 1.2.1 of ASME A17.1 and insert new Section 1.2.1 in ASME A17.1 in its place to read as follows:*

**1.2.1 Purpose.** The purpose of ASME A17.1/CSA B44, Safety Code for Elevators and Escalators, is to provide for the safety of life and limb, and to promote the public welfare. Compliance with this Safety Code shall be achieved by:

- (a) Conformance with the requirements in ASME A17.1/CSA B44; or
- (b) Using alternative materials, equipment, or methods of construction and design approved in conformance with the requirements of Section 104.11, 12-A DCMR for systems, subsystems, components, or functions that do not conform with requirements in ASME A17.1/CSA B44.

**3011.2 ASME A17.1, Section 2.2.**

*Insert new Section 2.2.2.7 in ASME A17.1, Section 2.2, to read as follows*

**2.2.2.7** The sump pump located in the elevator pit shall be connected to a non GFCI dedicated single receptacle or outlet compliant with NEMA 4 “Wet Duty.”

*Strike Section 2.2.4.2.2 of ASME A17.1 and insert new Section 2.2.4.2.2 in its place to read as follows:*

**2.2.4.2.2** The ladder rungs, cleats, or steps shall be a minimum of 400 mm (16 in.) wide. When obstructions are encountered, the width shall be permitted to be decreased to less than 400 mm (16 in.). The reduced width shall be as wide as the available space permits, but not less than 304.8 mm (12 in.).

**3011.3 ASME A17.1, Section 2.27.**

*Strike Section 2.27.1.1.1 of ASME A17.1 and insert new Section 2.27.1.1.1 in its place to read as follows:*

**2.27.1.1.1** A two-way communications means between the car and a location staffed by authorized personnel shall be provided and an audible signaling device shall be provided. It shall be operable from the emergency stop switch, where required by Section 2.26.2.5, and from a switch identified as “ALARM,” which shall be provided in or adjacent to each car operating panel. The “ALARM” switch or visual identification shall illuminate when the “ALARM” switch is actuated. One audible signaling device shall be permitted to be used for a group of elevators. The audible signaling device shall:

- (a) Have a rated sound pressure rating of not less than 80 dBA and no more than 90 dBA at 3 m (10 ft);
- (b) Respond without delay after the switch has been activated;
- (c) Be located inside the building and audible inside the car and outside the hoistway; and
- (d) For elevators with a travel greater than 30 m (100 ft), be duplicated as follows:
  - (1) One device shall be mounted on the car; and
  - (2) A second device shall be placed at the designated level.

*Strike Section 2.27.1.1.5 of ASME A17.1 and insert new Section 2.27.1.1.5 in its place to read as follows:*

**2.27.1.1.5** If the two-way emergency communications or if the audible signaling device means are normally connected to the building power supply, they shall automatically transfer to a source of standby or emergency power as required by the applicable building code, or where applicable, Standard for Health Care Facilities (ANSI/NFPA-99, after the normal power supply fails. The power source shall be capable of providing power for illumination of the visual indication [see 2.27.1.1.3(c)] within the car, and the means of emergency communications for at least 4 hours; and the audible signaling device (see 2.27.1.1.1 and 2.27.1.2) for at least 1 hour.

**3011.4 ASME A17.1, Section 3.26.**

*Strike Section 3.26.10 of ASME A17.1 and insert new Section 3.26.10 in ASME A17.1 in its place to read as follows:*



**3.26.10 Auxiliary Power Lowering Operation.** In the absence of an emergency power supply, an auxiliary power supply shall be provided solely for the purpose of lowering the car in the case of main power failure. The auxiliary lowering operation shall conform to 3.26.10.1 through 3.26.10.3.

**3.26.10.1** Auxiliary lowering shall be permitted to be initiated, provided that all operating and control devices, including door open and close buttons function as with normal power supply, except that the following devices shall be permitted to be bypassed or made inoperative:

- (a) Landing and car floor registration devices (or call buttons);
- (b) Devices enabling operation by designated attendant (hospital service, attendant operation);
- (c) Devices initiating emergency recall operation to the recall level, unless otherwise specified in Section 3.27; and
- (d) “FIRE OPERATION” switch, unless otherwise specified in Section 3.27.

**3.26.10.2** When the auxiliary lowering operation has been initiated, the car shall descend directly to the lowest landing, except that the operating system shall be permitted to allow one or more intermediate stops, and then, after a predetermined interval, the car shall proceed to the lowest landing, provided the auxiliary power supply is of sufficient capacity to open and close doors at each intermediate stop.

**3.26.10.3** If the car and landing doors are power operated, and if the auxiliary power supply is of adequate capacity, the doors shall open when the car stops at the lowest landing and shall close after a predetermined interval.

**NOTE (3.26.10):** For the main disconnect switch auxiliary contact, see ANSI/NFPA 70 and CSA-C22.1 requirements, where applicable (see Part 9).

### **3011.5 ASME A17.1, Section 8.6.**

*Strike Section 8.6.4.19.7 in ASME A17.1 and insert new Section 8.6.4.19.7 to ASME A17.1 in its place to read as follows:*

**8.6.4.19.7 Standby or Emergency Power Operation.** Operation of elevators equipped with standby or emergency power shall be tested to determine conformance with the applicable requirements. Automatic sequence of operation, if provided, shall be tested. Tests shall be performed with no load in the car.

*Strike Section 8.6.5.14.3(f) of ASME A17.1 and insert new Section 8.6.5.14.3(f) to ASME A17.1 in its place to read as follows:*

**8.6.5.14.3(f) Additional Tests.** The following tests shall also be performed:

- (f) Standby or Power Operation (8.6.4.19.7). Automatic sequence of operation, if provided, shall be tested.

**CHAPTER 31 SPECIAL CONSTRUCTION****3101 GENERAL****3102 MEMBRANE STRUCTURES****3103 TEMPORARY STRUCTURES****3105 AWNINGS AND CANOPIES****3106 MARQUEES****3107 SIGNS****3112 FENCES****3101 GENERAL**

*Insert new Section 3101.2 in the Building Code to read as follows:*

**3101.2 Other requirements.** Special construction encroaching into the *public right-of-way* or *public space* shall conform to the pertinent standards set forth in Chapter 32, and other applicable requirements, including the D.C. Department of Transportation (DDOT) regulations set forth in 24 DCMR, and D.C. Official Code, Title 10, Subtitle III.

**3102 MEMBRANE STRUCTURES**

*Strike Section 3102.1 in the International Building Code and insert new Section 3102.1 in the Building Code in its place to read as follows:*

**3102.1 General.** The provisions of Sections 3102.1 through 3102.8 shall apply to air-supported, air-inflated, membrane-covered cable, membrane-covered frame and *tensile membrane structures*, collectively known as membrane structures, erected for a period of 180 days or longer. Those erected for a shorter period of time shall comply with Section 3103 as applicable, except that membrane structures erected on a building, balcony, deck or other structure for any period of time shall comply with Sections 3102.1 through 3102.8. Membrane structures covering water storage facilities, water clarifiers, water treatment plants, sewage treatment plants, greenhouses and similar facilities not used for human occupancy are required to meet only the requirements of Sections 3102.3.1 and 3102.7.

**3102.1.1 Tensile membrane structures.** Tensile membrane structures, including permanent and temporary structures, shall be designed and constructed in accordance with ASCE 55. The provisions in Sections 3102.3 through 3102.6 shall apply.

**3103 TEMPORARY STRUCTURES**

*Strike Section 3103.1 in the International Building Code and insert new Section 3103.1 in the Building Code in its place to read as follows:*

**3103.1 General.** The provisions of Sections 3103.1 through 3103.4 shall apply to structures erected for a period of less than 180 days.

**Exception:** Tents and other membrane structures erected for a period of less than 180 days shall comply with the provisions of Sections 3103 and 3104 of the *Fire Code*. Those erected for a longer period of time shall comply with applicable sections of this code. Membrane structures erected on a building, balcony, deck or other structure for any period of time shall comply with Sections 3102.1 through 3102.8.

**3103.1.1 Conformance.** Temporary structures and uses shall conform to the structural strength, fire safety, *means of egress*, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure public health, safety and general welfare.

**3103.1.2 Permit required.** Temporary structures that cover an area greater than 150 square feet (13.9 m<sup>2</sup>), including connecting areas or spaces with a common *means of egress* or entrance shall not be erected, operated or maintained for any purpose without obtaining a *permit* from the *code official*. Activities or uses regulated by Chapter 3 of the *Fire Code* require a separate permit issued by the *fire code official*.

## 3105            AWNINGS AND CANOPIES

*Strike Section 3105.1 of the International Building Code in its entirety and insert new Section 3105.1 to the Building Code in its place to read as follows:*

**3105.1. General.** *Awnings* and *canopies* shall comply with the requirements of this Section 3105, other applicable sections of the *Construction Codes*, the *Zoning Regulations* and other applicable requirements. *Awnings* or *canopies* projecting over or into *public space* shall also comply with Section 3202.12.

**[no change to Section 3105.2, 3105.3, and 3105.4]**

*Insert new Sections 3105.5, 3105.6, 3105.7 and 3105.8 in the Building Code to read as follows:*

**3105.5 Fixed or permanent awnings.** The minimum clearance from the sidewalk or any other space used by the public to the lowest part of any fixed or permanent *awning* shall be 8 feet (2438 mm). Fixed or permanent *awnings* installed above the first story shall not project more than 5 feet (1524 mm) from the face of the building.

**Exception:** Above doors on detached one and two family *dwelling*s, and townhouses not more than three stories above grade in height with a separate *means of egress*, the minimum clearance from the sidewalk or any other space used by the public to the lowest part of the *awning* shall be 80 inches (2032 mm).

**3105.6 Retractable awnings.** The minimum clearance from the sidewalk or any other space used by the public to the lowest part of any *retractable awning* shall be 8-feet (2438 mm). *Retractable awnings* shall be securely fastened to the building and, in the fully extended position, no part of the *awning* shall be closer than 12 inches (305 mm) to the vertical plane of the *lot line*.

*Retractable awnings* shall be equipped with a mechanism or device for raising and holding the *awning* in a retracted or closed position against the face of the building.

**Exception:** Above doors on detached one and two family dwellings and townhouses not more than three stories above grade in height with a separate *means of egress*, the minimum clearance from the sidewalk or any other space used by the public to the lowest part of the *awning* shall be 80 inches (2032 mm).

**3105.7 Canopies.** *Canopies* shall not extend closer than 2 feet (610 mm) from the *lot line*. The minimum clearance from the sidewalk or any other space used by the public to the lowest part of any canopy shall be 8 feet (2438 mm).

**3105.8 Lettering on awnings or canopies.** Lettering on *awnings* or canopies shall comply with Appendix N or any superseding regulations adopted pursuant to the Sign Legislation.

### **3106 MARQUEES**

*Strike Section 3106.1 of the International Building Code in its entirety and insert new Section 3106.1 in the Building Code in its place to read as follows:*

**3106.1 General.** Marquees shall comply with Sections 3106.3 through 3106.5 and other applicable sections of this code. Marquees projecting over or into *public space* shall also comply with Section 3202.12.3

*Strike Section 3106.2 of the International Building Code in its entirety without substitution.*

### **3107 SIGNS**

*Strike Section 3107.1 of the International Building Code in its entirety and insert new Section 3107.1 to the Building Code in its place to read as follows:*

**3107.1 General.** Signs shall be designed, constructed and maintained in accordance with the applicable requirements of the *Construction Codes*, including, but not limited to, the *Property Maintenance Code*, and Chapters 1, 16, 24 and 26 and Appendix N of the *Building Code*, except to the extent that any of the provisions of the *Construction Codes* are superseded by regulations adopted in the District of Columbia pursuant to the *Sign Legislation*.

### **3112 FENCES**

*Insert new Section 3112 to the Building Code to read as follows:*

**3112.1 General.** Fences shall comply with the requirements of this section, other applicable sections of the *Construction Codes* and other municipal regulations. All barbed wire and similar fences shall comply with the requirements of Sections 3112.4.

**Exception:** Fences or portions of fences located on privately-owned land beyond a *building restriction line* shall comply with the requirements for fences in *public space* set forth in 24 DCMR § 103.

**3112.1.1 Fence walls.** Fence walls shall conform to the requirements for fences.

**3112.1.2 Screens or trellises.** Screens or trellises shall conform to the requirements for fences.

**3112.1.3 Height measurement.** The measurement of the height of a fence shall be made from the top of the fence to grade, on the side of the fence where grade level is higher.

**3112.1.4 Permit applications.** Application for permits to erect or increase the height of a fence, or change the grade adjacent to a fence, shall be accompanied by an official building plat upon which the proposed fence location is indicated. Review and approval by the *Zoning Administrator* shall be required before a permit shall be issued.

**Exception:** Review or approval by the *Zoning Administrator* shall not be required where: (a) an existing lawful fence is replaced; (b) the extent, location, and the height of the fence is unchanged; and (c) the adjacent grade is unchanged.

**3112.2 Party line fences.** Only those portions of the length of a fence, including footings, which are partly on each side of a *party line* shall be considered as *party line* fences. Permit applications for *party line* fences shall be signed by the owners of the adjoining properties on which the fence is to be located.

**3112.2.1 Fence materials.** A *party line* fence shall be a wood, woven wire, or iron fence of open pattern, unless otherwise agreed upon by the adjoining owners.

**3112.2.2 Height agreements.** Where owners propose to erect a *party line* fence over 7 feet (2134 mm) in height in *Residential Zones* or on properties with frontage on the Anacostia or Potomac Rivers, or over 10 feet (3048 mm) in *Mixed Use, Special Purpose, Commercial, or PDR Zones*, a written agreement as to the height of the *party line fence* shall be executed by the *owners* of the properties on which the fence is to be located and such agreement shall be filed with the *code official* before issuance of a permit.

**3112.3 Other fences.** Fences other than *party line* fences shall comply with Sections 3112.3.1 through 3112.3.5.

**3112.3.1 Fences abutting streets.** Fences abutting a street shall not exceed 7 feet (2134 mm) in height in *Residential Zones* or on properties with frontage on the Anacostia or Potomac Rivers, nor 10 feet (3048 mm) in height in *Mixed Use, Special Purpose, Commercial, or PDR Zones*.

**3112.3.1.1 Special provisions applicable to historic districts and landmarks.**

Within a historic district or at a designated historic landmark, fences or walls between the front façade of a structure and the front lot line shall not exceed 3 feet 6 inches (1067 mm) in height. Fences between the front façade of a structure and the front lot line shall be at least 50 percent open. (The ratio shall be computed in elevation by dividing the fence elements themselves by the open space between the fence elements.) The *code official* is authorized to allow fences or walls covered by this subsection to exceed 3 feet 6 inches (1067 mm) in height upon recommendation of the Historic Preservation Office.

**3112.3.2 Fences abutting alleys.** Fences abutting alleys shall not exceed 7 feet (2134 mm) in height in *Residential Zones* or on properties with frontage on the Anacostia or Potomac Rivers, nor 10 feet (3048 mm) in *Mixed Use, Special Purpose, Commercial, or PDR Zones*.

**Exception:** The *code official* is authorized to approve a greater height where the alley is 15 feet (4572 mm) wide or more.

**3112.3.3 Fences near party lines.** Fences located 10 feet (3048 mm) or less from a *party line* shall not exceed 7 feet (2134 mm) in height in *Residential Zones* or on properties with frontage on the Anacostia or Potomac Rivers, nor 10 feet (3048 mm) in *Special Purpose, Mixed Use, Commercial, or PDR Zones*. Fences shall not obstruct light or ventilation for any required window.

**Exception:** Where the written consent of the adjoining owners is filed with the *code official*, the *code official* is authorized to approve a greater height, not to exceed 10 feet (3048 mm).

**3112.3.4 Fences located in lot interior.** Fences more than 10 feet (3048 mm) from (a) a *lot line*, including a *party line*; (b) an *alley*; or (c) if applicable, a *building restriction line*, shall not be subject to height limitations except as necessary to avoid (i) encroachment on a required yard or court, or (ii) obstruction of the light or ventilation for any required window.

**3112.3.5 Gate height.** Gates shall not exceed the height of the fence.

**3112.4 Barbed wire fences.** Fences, barriers or obstructions, composed in whole, or in any part, of *barbed wire* (collectively referred to as "*barbed wire fences*") are prohibited in the District of Columbia, except as expressly permitted by this Section 3112.4. The term *barbed wire* shall include (a) barbed, razor or electrified wire; (b) sharp or jagged glass; (c) metal such as, but not limited to, razor-spikes; or (d) similar materials.

**3112.4.1 Barbed wire fences on private property.** *Barbed wire fences* on private property that meet the following conditions are permitted:

1. The *barbed wire fence* is not located in a *Residential Zone* or along the zoning

boundary lines of any *Residential Zone*, except where the *code official* determines that the condition or the nature of the improvements located upon the *premises* pose a significant, demonstrable hazard to members of the public;

2. The *barbed wire fence* is not located on the *lot line*, or *building restriction line* if one exists, and does not project beyond the *lot line* or *building restriction line*;
3. The minimum height of the lowest strand of *barbed wire* is 6 feet (1829 mm) above adjacent ground; and
4. The *barbed wire fence* complies with any other applicable requirements, including, but not limited to, Sections 802.17, 804.14 and 825.13 of the *Zoning Regulations*.

**3112.4.2 Barbed wire fences in public space.** No *barbed wire fence* shall be erected, constructed, or maintained, along the *lot line* or *building restriction line*, if one exists, or in or upon any *street*, or other *public space*, including but not limited to any sidewalk, *public parking* or *building restriction area*, in the District of Columbia.



**CHAPTER 32 ENCROACHMENTS INTO PUBLIC SPACE, THE PUBLIC RIGHT-OF-WAY OR BUILDING RESTRICTION AREA**

**3201 GENERAL**

**3202 PROJECTIONS**

**3201 GENERAL**

*Strike Section 3201.1 of the International Building Code in its entirety and insert new Section 3201.1 in the Building Code in its place to read as follows:*

**3201.1 Scope.** The provisions of this chapter shall govern the encroachment of *structures* or any portion thereof into the *public right-of-way, public space* or *building restriction area*. Such encroachments are referred to as *projections* in this chapter.

*Insert new Section 3201.1.1 in the Building Code to read as follows:*

**3201.1.1 Other requirements.** All *projections* shall also comply with other applicable requirements, including DDOT regulations set forth in 24 DCMR, and D.C. Official Code, Title 10, Subtitle III, Chapter 11.

*[No change to Sections 3201.2 through 3201.4 of the International Building Code]*

*Insert new Sections 3201.5, 3201.6 and 3201.7 in the Building Code to read as follows:*

**3201.5 Code Official authority.** The *code official* is authorized to approve the *projections* expressly which meet the parameters set forth in Section 3202, in acting upon permit applications required by Section 105 of the *Building Code*, unless approval of the Public Space Committee and/or DDOT is expressly required. Notwithstanding the foregoing, a separate public space permit issued by DDOT shall be obtained for any excavation in *public space* or changes to grade of *public space*.

**3201.6 Vaults.** Construction or alteration of *vaults* shall also require a public space permit.

**3201.7 Definitions.** The following terms are defined in Chapter 2:

**AREAWAY**

**AWNING**

**BAY WINDOW (for Chapter 32).**

**BUILDING RESTRICTION LINE.**

**BUILDING RESTRICTION AREA.**

**CANOPY**

**COLONNADE.**

**EMBELLISHMENT**

**MARQUEE**

**ORIEL WINDOW**  
**PORCH (for Chapter 32).**  
**PORTE-COCHERE**  
**PROJECTIONS (for Chapter 32)**  
**PUBLIC PARKING**  
**PUBLIC RIGHT-OF-WAY**  
**PUBLIC SPACE**  
**SHOW WINDOW (for Chapter 32).**  
**STORY ABOVE GRADE PLANE**  
**STREET (for Chapter 32).**  
**TERRACE (for Chapter 32).**  
**TOWER (for Chapter 32).**  
**VAULT (for Chapter 32).**  
**ZONE, COMMERCIAL.**  
**ZONE, MIXED-USE.**  
**ZONE, PRODUCTION, DISTRIBUTION AND REPAIR (PDR).**  
**ZONE, RESIDENTIAL.**  
**ZONE, SPECIAL PURPOSE.**

## **3202 PROJECTIONS**

*Strike Sections 3202.1 through 3202.4 of the International Building Code in their entirety and insert new Sections 3202.1 through 3202.43.2.5-14 in the Building Code in their place to read as follows:*

**3202.1 Character of projections.** *Projections* are a privilege, and cannot be claimed as a right. The provisions of Chapter 32 establish limitations on the *projections* that the *code official* is authorized to approve. The *code official* is authorized to further restrict or refuse proposed *projections* if the *code official* considers such action best for the public interest.

**3202.2 Removal of projections.** Approval of *projections* shall be issued with the understanding and agreement by the *applicant* that any and all such *projections* shall be promptly removed upon notice from the *code official*.

### **3202.3 [RESERVED]**

**3202.4 Modification of projection requirements.** Where an *owner* proposes a *projection*, associated with a project requiring a permit pursuant to Section 105, and the projection is not authorized by the provisions of Chapter 32, the *owner* shall (a) obtain a modification from the *code official* as authorized by Section 3202.4.1 where the modification is deemed in the general public interest, or, (b) in the case of foregone construction, as set forth in Section 3202.4.2 obtain approval from the Public Space Committee.

**3202.4.1 Modifications in the general public interest.** The *code official* is authorized to grant modifications in the general public interest for *embellishments* or to enhance views along a *street*, subject to all the conditions set forth below:

1. The applicant shall submit a written modification request to the *code official* on an *approved* form that complies with Section 104.10 as applicable;
2. The modification request shall be referred by the *code official* to the Department of Transportation (DDOT) and the Office of Planning (OP) for their review and recommendation;
3. No modification request shall be approved without a written report from the Directors of DDOT and OP, or their designees, that covers the review criteria set forth in Section 3202.4.1.1, provided that the *code official* is authorized to proceed without such a report if DDOT or OP fail to comply with the time period for review provided in Section 3202.4.1.1; and
4. The *code official* determines (a) the primary object of the modification is not changing of interior arrangements; (b) the modification will not interfere with adjacent buildings and (c) the modification will not create an unsafe condition for occupants of the *premises* or any portion thereof or for occupants of adjacent *premises*.

**3202.4.1.1 DDOT and OP review and recommendation.** DDOT and OP shall have ten *business days* from the referral date to submit a written recommendation to the *code official*, provided that the *code official* may allow for an extension of this period for good cause when requested by DDOT or OP. If DDOT or OP fail to provide the written recommendation required by this section within the specified ten *business day* period or any extension thereto, DDOT or OP, as applicable, shall be deemed to have no objection to the modification request.

**3202.4.1.1.1 Relevant criteria.** In reviewing the modification request, DDOT and OP shall consider the following criteria:

1. Whether the proposed modification is inconsistent with the District of Columbia's policies for use of *public space* and will negatively impact current or future use of the transportation network and infrastructure systems;
2. Whether the proposed modification is not an *embellishment*;
3. Whether the proposed modification detracts from the *public parking* and experience of *public space*; and

4. Whether the primary effect of the modification is the private occupation of *public space*.

**3202.4.1.2 Action on modification request.** The *code official* shall review and approve or deny a *projection* modification request after considering timely-submitted reports provided by the Department of Transportation and the Office of Planning pursuant to Section 3202.4.1.1.

**3202.4.2 Foregone Construction.** Foregone construction is deemed to occur when, in conformity with a plan previously approved by the National Capital Planning Commission for improvement of any *street* or thoroughfare, the *owner* will permanently forego construction on, or the use of a portion of the *owner's lot*. In such cases, the *code official* is authorized to grant a *projection* modification to authorize projections which shall equitably compensate such *owner*, if: (a) the *code official* determines the public interest will thereby be better served; and (b) the *projection* modification complies with the limitations and conditions set forth in Sections 3202.4.2.1 through 3202.4.2.5.

**3202.4.2.1 Width.** The width of *projections* allowed under Section 3202.4.2 shall be limited as follows:

1. The proposed *projection* shall be authorized to be constructed to the *lot line extended*, on the side of any adjoining structure that contains *projections*, facing the same *public right-of-way*, that project into *public space* at least as much as the proposed *projection*.
2. The proposed *projection* shall not extend to within 10 feet (3048 mm) of the *lot line extended*, on the side of any adjoining structure that does not project or that only contains *projections*, facing the same *public right-of-way*, that project into *public space* less than the proposed *projection*.

**Exception.** A portion of the proposed *projection* shall be allowed to encroach into this 10-foot (3048 mm) restriction zone if the angle formed by the *lot line* and the face of that portion of the projection does not exceed 45 degrees.

3. *Projections* at the corner of two *streets* shall be allowed to continue around the corner if similar *projections* are approved for both *streets*.

**3202.4.2.2 Height.** The height above grade of *projections* approved under Section 3202.4.2 shall be limited to the height of the building. A clearance of not less than 20 feet (6096 mm) above the sidewalk or parking grade shall be maintained under any portion of such *projections* or supports thereof. Balconies or other *projections* which in the judgment of the *code official* will embellish the area, when *approved*, shall be allowed to be constructed with lower clearances above

grade; provided, such clearances shall be at least 8 feet (2438 mm) above walkways and at least 15 feet (4572 mm) above driveways.

**3202.4.2.3 Projecting distance.** The footprint of *projections* approved under Section 3202.4.2 shall be entirely located between the *lot line* and the outer edge of the curb, and the outer face of all projections shall be at least 4 feet (1219 mm) from the outer edge of the curb. In addition, the projecting distance of the *projection* shall be limited as specified in Table 3202.4.2.

**TABLE 3202.4.2  
MAXIMUM PROJECTIONS  
UNDER FOREGONE CONSTRUCTION MODIFICATIONS**

TYPE OF STREET	WIDTH OF STREET (feet) <sup>a</sup>	MAXIMUM PROJECTING DISTANCE (feet) <sup>a</sup>
<i>Streets without public parking</i>	40 to 45 feet	4
<i>Streets without public parking</i>	More than 45 feet; up to, and including, 70 feet	6
<i>Streets without public parking</i>	More than 70 feet; up to, and including, 80 feet	8
<i>Streets without public parking</i>	More than 80 feet	14
<i>Streets with public parking</i>	Any width	14

Note a. 1 foot = 304.8 mm

**3202.4.2.4 Covenant for modification of projection requirements for foregone construction.** Prior to the issuance of a building permit, the *owner* who applies for a *projection* modification under Section 3202.4.2 shall submit a certified copy

of a written covenant, complying with Section 120.2, that establishes such limitations and conditions as shall be imposed by the *code official*, which shall include, but not be limited to, an agreement (i) to hold harmless the District of Columbia, its officers and agents, from liability by virtue of the grant of authority to construct said *projection*, and (ii) to landscape or otherwise treat, and thereafter maintain, to the satisfaction of the *code official*, the area upon which the covenanter has forborne to build.

**3202.4.2.5 Referral to Public Space Committee.** The *code official* shall refer to the Public Space Committee, for consideration and recommendation, all applications for modification of projection requirements for foregone construction proposed under Section 3202.4.2.

**3202.5 Projections on streets to be widened.** Except as otherwise permitted by this chapter, no projections shall be allowed on the parts of *streets* to be widened in conformity with adopted and recorded highway extension plans, including a *building restriction area* where the same exists on a lot, until such parts of *streets* are so widened.

**3202.5.1 Existing buildings.** Where existing *streets* are widened, or new *streets* are laid out and opened, in conformity with the adopted and recorded highway extension plans, in subdivisions existing at the time of record of such plans, and such widening or opening shall leave buildings or parts of buildings on such *streets*, such buildings or parts of buildings will be allowed to remain as projections beyond the new *lot line* or *building restriction line* if one exists. Such grandfathered projections of such existing buildings shall be limited in projection distance to that allowed for porches by Section 3202.11.2.3, but no limitations shall be placed upon the kind of *projection* unless the facade is structurally altered. Such buildings are permitted to be moved under permit to another location on the same *lot*, upon compliance with applicable regulations.

**3202.5.1.1 Structurally altered facades of existing buildings.** Where the facade of an existing building covered by Section 3202.5.1 is structurally altered, the *projections* resulting from such alterations shall conform in all respects to the requirements of Chapter 32 for new *projections*.

**3202.6 Streets on which projections are prohibited.** *Projections* shall not be permitted on the following street segments:

1. North side of Good Hope Road, S.E. between Martin Luther King, Jr. Avenue, S.E. and 18th Street, S.E.;
2. Florida Avenue, N.W., from 7th Street, N.W. to 9th Street, N.W.;
3. Maine Avenue, S.W., from 7th Street, S.W. to 14th Street, S.W.;
4. M Street, N.W., from 29th Street, N.W. to 36th Street, N.W.;

5. K Street, N.W., from Rock Creek westward to Wisconsin Avenue, N.W.;
6. Water Street, N.W., from Wisconsin Avenue, N.W. westward to the termination of said street;
7. Wisconsin Avenue, N.W., from the angle south of N Street, N.W. to the north roadway of Q Street, N.W.;
8. Twelfth Street, N.W., from Monroe Street, N.W. to the angle north of Otis Street, N.W.;
9. Martin Luther King, Jr. Avenue, S.E. from Good Hope Road, S.E. to the northern boundary of the grounds of St. Elizabeth's Hospital.

**Exception:** Projecting cornices, bases, sills, belt courses, pilasters and *water tables* are not restricted by this section.

**3202.7 General restrictions.** All *projections* shall comply with the provisions of Sections 3202.7.1 through 3202.7.6.

**3202.7.1 Limitations based on street width and zoning zone.** Except as otherwise permitted by this chapter, *projections* shall not be allowed on any *street* less than 60 feet (18 288 mm) in width subject to specific requirements that may be applicable to *buildings* and *structures* located in certain zoning zones as identified in Section 3202.7.

**Exception:** Projecting cornices, bases, *water tables*, pilasters or uncovered steps.

**3202.7.1.1 Minimum clearance to curb line.** A minimum clear space from the outer edge of the curb to the outer face of all *projections* and steps shall be preserved, as follows:

1. Ten feet (3048 mm) on *streets* 40 feet (18288 mm) to and including 80 feet (24 384 mm) wide;
2. Twelve feet (3658 mm) on *streets* more than 80 feet (24384 mm) to and including 90 feet (27 432 mm) wide; and
3. Fifteen feet (4572 mm) on *streets* more than 90 feet (27 432 mm) wide.

For purposes of Section 3202.7.1.1, the term "*street*" shall include the public thoroughfare and any adjoining *building restriction areas*.

**3202.7.1.2 Minimum sidewalk clearance.** No *projection* shall be approved where the *projection* limits or encroaches upon the sidewalk width or sidewalk clearance for the specific Zoning Zone or use as specified in Chapter 31 of the DDOT Design and Engineering Manual (June 2017).

**3202.7.2 Projection Clearances.** Clearances adjacent to *projections* shall comply with the following distances:

1. A clear space of at least 8 inches (203 mm) shall be preserved between *party lines extended* or *alley lines extended* and the outer walls or sides of *projections*.
2. A clear space equal to or greater than the distance that a *projection* extends over the *lot line* or *building restriction line* shall be preserved between separate *bay window*, *tower*, *oriel window*, balcony, and *porch projections*.
3. A clear space of at least 42 inches (1067 mm) shall be preserved between *show windows* and a clear space of at least 48 inches (1219 mm) shall be preserved between *show windows* and *bay windows* or *oriel windows*.

**Exception:** Cornices, belt courses, pilasters, bases, *water tables*, and walls of *areaways*, are permitted to extend to, but not over, *party lines extended* or *alley lines extended*. Such *projections* shall be constructed so that the removal of one structure or its *projections* will not affect or damage the adjoining structure or *projections* and will not interfere with the construction or reconstruction of *projections* or buildings on the adjoining property.

**3202.7.3 Chimneys.** Chimneys shall not project beyond the *lot line* or *building restriction line*, if one exists.

**3202.7.4 Plumbing fixtures.** Plumbing fixtures shall not be located in *projections*.

**Exception:** *Areaway* drains and roof drains.

**3202.7.5 Overhead projections.** The footprint of any projecting sign, *awning*, *canopy*, *marquee*, or *port-cochere* shall not extend over *public space* or into the *public right of way* beyond a line 18 inches (457 mm) behind the curb line.

**Exception:** Market sheds, as provided for in Sections 3202.12.4 through 3202.12.4.3.

**3202.7.6 Construction of projections.** *Projections* shall be constructed of any materials permitted by the *Construction Codes* for the type of construction of the building.



**Exceptions:**

1. Roofing, skylights and roof domes in projecting structures are permitted to be of the same materials allowed for similar non-projecting structures.
2. Where noncombustible materials are specifically required elsewhere in this chapter for specific *projections*.
3. Where combustible materials are specifically allowed elsewhere in these regulations for specific *projections*.

**3202.8 Projections requiring special approval.** *Projections* regulated under Sections 3202.8.1 and 3202.8.2 shall require approval by the *Public Space Committee*.

**3202.8.1 Pedestrian walkways and tunnels.** Pedestrian walkways and tunnels shall meet the requirements of Section 3104. In addition, the vertical clearance above the *public right-of-way* or the surface of *public space* to the lowest part of an elevated pedestrian walkway shall be no less than 15 feet (4572 mm).

**3202.8.2 Porte-cocheres.** *Porte-cocheres* shall be permitted one story in height. All driveways and approaches that serve a *porte-cochere* and cross sidewalks or parking lots shall be paved and otherwise improved to the satisfaction of DDOT.

**3202.9 Subsurface projections.** *Areaway* and *vault projections* shall comply with the requirements of Sections 3202.9.1, 3202.9.2 and 3202.9.3, respectively.

**3202.9.1 Areaways.** *Areaway projections* shall comply with the requirements of Sections 3202.9.1.1 through 3202.9.1.5.

**3202.9.1.1 Width.** The width of an *areaway*, measured from outside to outside of the *areaway's* enclosing walls, shall not be limited if located between *party lines extended*.

**3202.9.1.2 Enclosure height.** The height of *areaway* enclosures shall be limited to the highest point of the surface of the adjoining pavement or grade.

**Exception:** Copings not over 8 inches (203 mm) high, and railings or guardrails.

**3202.9.1.3 Projection.** The extent of *areaway* projection shall be measured from the *lot line* or *building restriction line*, if one exists, to the inside face of the *areaway* wall. Projection beyond the *lot line* or *building restriction line*, if one exists, shall be limited as follows:

1. Four feet (1219 mm) on *streets* in *Commercial* and *PDR Zones*.

2. Four feet (1219 mm) on *streets* without *public parking* in *Residential, Mixed Use and Special Purpose Zones*, more than 60 feet (18288 mm) wide.
3. Six feet (1829 mm) on *streets* with *public parking* in *Residential, Mixed Use and Special Purpose Zones*, 60 to 70 feet (18 288 mm to 21336 mm) wide.
4. Six and a half feet (1981 mm) on *streets* with *public parking* in *Residential, Mixed Use and Special Purpose Zones*, more than 70 feet (21 336 mm) wide.
5. Seven feet (2134 mm) on *streets* with *public parking* in *Residential, Mixed Use and Special Purpose Zones*, where *public parking* is 20 feet (6096 mm) or more in width.

**3202.9.1.4 Other requirements.** *Areaways* shall be protected by substantial metal guardrails not less than 42 inches (1067 mm) nor more than 48 inches (1219 mm) high. Proper protection by metal railings that meet the guardrail requirements of Section 1013 of the *Building Code* shall be provided where steps or platforms are built over *areaways*, subject to the requirements of 24 DCMR § 103. Basement or cellar steps in *areaways* shall be protected in the same way and shall have gates at top of the steps unless otherwise protected. Steps leading to an *areaway* are considered part of an *areaway*.

**3202.9.1.5 Locations prohibited.** *Areaways* shall not be located in an alley.

**3202.9.2 Vaults.** *Vaults* shall comply with the requirements of Sections 3202.9.2.1 through 3202.9.2.5.

**3202.9.2.1 Public space permit required.** In addition to a permit issued by DCRA, construction or alteration of a *vault* shall require a public space permit issued by DDOT, and the *owner* proposing to construct or alter a *vault* shall be responsible for obtaining the required public space permit prior to permit issuance by DCRA. The provisions of D.C. Official Code, Title 10, Chapter 11 also apply to construction, maintenance and use of *vaults* in *public space*.

**3202.9.2.2 Size and openings.** *Vault* design shall comply with the following:

1. Approval of the size and extent of *vaults*, and of the number and size of *vault* openings, shall be a matter of special determination in each case by the *code official* and the *Public Space Committee*.
2. *Vaults* extending under *alleys* shall have no openings in the *alley* pavement, and shall not extend within 2.5 feet (762 mm) of the center of the *alley*.

**3202.9.2.3 Use of vault space.** The use of the *vault* space shall be subject to the following conditions:

1. The *code official* is authorized to approve transformer *vaults* exclusively to house utility equipment. Storage in such *vaults* shall be prohibited.
2. *Vaults* in *Commercial, Mixed Use, Special Purpose* or *PDR Zones* shall not be used for the following purposes: public entrances to basements; means of egress corridors; housing of boilers; housing of plumbing fixtures; housing of storage tanks for propane or other flammable gas; or the housing of mechanical appliances or any equipment not removable within 24 hours.
3. *Vaults* shall be allowed to be used for the following purposes: access to open areaway stairs; storage of readily movable personal property and equipment; sales or office space; housing of fuel oil storage tanks; parking of motor vehicles; installation of ducts, pipes or wiring; location of ducted air shafts; housing of fans; and housing of similar items which can be removed or relocated if vault space is removed.
4. Fuel oil filling pipes, in *vaults* in *Commercial, Mixed Use, Special Purpose* or *PDR Zones*, shall be extended to within 18 inches (457 mm) of the curb line when physically possible. Such pipes shall terminate in filling boxes of approved design. A separate permit shall be required for such filling pipes and filling boxes.
5. If openings in the roofs of *vaults* are used for sidewalk elevators or for runways, they shall be located as near to the curb as possible and shall be equipped with heavy metal safety doors and frames.
6. The *code official* is authorized to approve other uses not forbidden by law, code, or regulation.

**3202.9.2.4 Vault cover.** Coverings over *vaults* shall comply with the following:

1. Vaults located in the sidewalk shall have a solid cover with paving that matches the adjacent sidewalk. The paving over *vaults* shall be laid according to specifications of DDOT for surface paving and shall conform to established grades. All such coverings shall be so constructed as to be flush with pavement, and have a roughened surface to provide security to persons passing over them.
2. When paving over *vaults* is installed pursuant to a public space permit or order issued by DDOT, the paving shall be laid at the expense and risk of the *person* doing the work.
3. The roof of a *vault* located between the curb and the *lot line*, or in a *building restriction area*, shall at no place be less than 4 inches (102 mm) below the approved sidewalk grade at that point.
4. *Vaults* shall be roofed over within a reasonable time or within the time fixed by the public space permit.
5. Whenever the grade over the *vault* is changed, the *vault* covering shall be changed and re-paved at the expense of the *person* doing the work, except where the grade change impacts the top of the *vault*, in which case the *owner* of the abutting property shall pay for that portion of the work required to conform the *vault* to the new grade.

**Exception.** Transformer *vaults* shall be allowed to have grated openings at the level of the sidewalk in *public space*.

**3202.9.2.5 Interference with utilities.** Construction of *vaults* shall be subject to the following conditions:

1. *Vaults* shall be constructed so as not to interfere with sewers, water mains, gas mains, electric or telephone conduits, signal conduits, manholes, lamp posts, trees, or any other public or public utility works or improvements.
2. If construction or alteration of a *vault* requires the removal or relocation of utilities, and if by agreement a public utility or District utility arranges to alter its facilities, the *owner* of the abutting *lot* shall notify the appropriate utility company or utility office concerned when a permit has been issued and construction or alteration work is ready to commence.

**3202.10 Balconies, windows, towers and structural trim.** Balconies, windows, towers and structural trim shall conform to the provisions of Sections 3202.10.1 through 3202.10.9.

**3202.10.1 Prohibition on alley location.** Balconies, *bay windows*, *oriel windows* or *show windows*, or *towers* shall not project into or over an *alley*.

**3202.10.2 Balconies.** Balconies shall comply with the width and projection requirements of Sections 3202.10.2.1 and 3202.10.2.2.

**3202.10.2.1 Width.** Balconies shall maintain an 8-inch (203 mm) separation from *party lines extended*. Aggregate balcony width is otherwise unlimited. Where balconies are connected to *bay windows*, the width of the balconies shall be included in the width of the bay windows and the combined width shall comply with the requirements for *bay windows*. A balcony at the corner of two *streets* is permitted to be continued around the corner. The portion of such a continued balcony that is located beyond *party lines extended* shall not be counted in the width of projections on either front.

**3202.10.2.2 Projection.** Balcony *projections* shall be limited as follows:

1. Three feet (914 mm) beyond the *lot line* or *building restriction line*, if one exists, on *streets* more than 60 feet (18 288 mm) and less than 70 feet (21336 mm) wide.
2. Four feet (1219 mm) beyond the *lot line* or *building restriction line*, if one exists, on *streets* 70 feet (21 336 mm) or more in width.

For purposes of Section 3202.10.2.2, the term “*street*” shall include the public thoroughfare and any adjoining *building restriction areas*.

**3202.10.2.3. Other restrictions.** Balconies with railings that are more than 50% solid or opaque shall comply with maximum width requirements for *bay windows*.

**3202.10.3 Bay windows.** *Bay window projections* shall comply with the requirements of Sections 3202.10.3.1 through 3202.10.3.4.

**3202.10.3.1 Width.** The width of *bay windows* at each *lot line* or *building restriction line*, if one exists, shall be limited as follows:

1. A *bay window projection* shall not be allowed on buildings less than 16 feet (4877 mm) wide at the *lot line* or *building restriction line*, if one exists;
2. A single *projection* of up to 9 feet (2743 mm) in width shall be allowed for all buildings having a width of 16 feet (4877 mm) or more at the *lot line* or *building restriction line*, if one exists;

3. The allowable width of a single *projection* shall increase 6 inches (152 mm) for every foot (305 mm) of increase in the width of the building between 16 feet (4877 mm) and 24 feet (7315 mm) wide at the *lot line* or *building restriction line*, if one exists;
4. For buildings over 24 feet (7315 mm) in width the allowable width of a single *projection* shall increase 2 inches (51 mm) for every foot (305 mm) of increase in width of the building over 24 feet (7315 mm).
5. Multiple projections (two or more separate projections) shall not be allowed on buildings less than 34 feet (10 363 mm) wide at the *lot line* or *building restriction line*, if one exists;
6. The allowable aggregate width of multiple projections on buildings exceeding 34 feet (10 363 mm) in width at the *lot line* or *building restriction line*, if one exists shall be increased 6 inches (152 mm) for each foot (305 mm) of increased building width over 34 feet (10 363 mm).
7. The width of bay window projections shall be measured at a distance of 1 foot (305 mm) from the *lot line* or *building restriction line*, if one exists.
8. Bay window projections of buildings on interior lots shall not extend beyond *party lines extended*.
9. A bay window at the corner of two streets is permitted to be continued around the corner. The portion of such a continued bay window that is located beyond *party lines extended* shall not be counted in the width of projections on either front.

**3202.10.3.2 Height.** The height of bay windows shall not be limited.

**3202.10.3.3 Projection.** The *projection* of *bay windows* shall be limited as follows:

1. Three feet (914 mm) on *streets* 60 feet (18 288 mm) to 70 feet (21 336 mm) wide.
2. Four feet (1219 mm) on *streets* more than 70 feet (21 336 mm) wide.

For purposes of Section 3202.10.3.3, the term “*street*” shall include the *public thoroughfare* and any adjoining *building restriction areas*.

**3202.10.3.4 Other restrictions.** Stairways shall not be permitted in *bay window projections*. Doors in *bay windows* that do not swing beyond the *projection* shall be permitted.

**3202.10.4 Oriel and show windows.**

**3202.10.4.1 Oriel windows.** *Oriel window* projections shall conform to all the requirements governing bay window projection.

**3202.10.4.2 Show windows.** *Show window projections* shall comply with the requirements of Sections 3202.10.4.2.1 to 3202.10.4.2.4.

**3202.10.4.2.1 Projection.** The maximum amount that a *show window* can project into *public space* shall be 3 feet (305 mm).

**3202.10.4.2.2 Width.** The maximum width of an individual *show window* is limited to 20 feet (6096 mm) and the total width of multiple windows is unlimited except as to leaving 8 inches (203 mm) from the *party line extended*.

**3202.10.4.2.3 Height.** The height of *show window projections* shall not exceed 18 feet (5486 mm) above the sidewalk.

**3202.10.4.2.4 Other requirements.** Design of *show windows projections* shall use a base wall of opaque material up to a maximum height of thirty-six inches (914 mm) from the sidewalk level and the enclosing wall shall be of a transparent material.

**3202.10.5 Towers.** *Tower projections* shall conform with the width and height requirements of Sections 3202.10.5.1 to 3202.10.5.2.

**3202.10.5.1 Width.** *Tower projections* shall conform with all width requirements governing *bay window projections*.

**3202.10.5.2 Height.** *Tower projection* heights shall extend above the roof height of the part of the building to which it is attached.

**3202.10.6 Colonnades.** *Colonnade projections* shall comply with the width, height and *projection* requirements of Sections 3202.10.6.1 through 3202.10.6.3.

**3202.10.6.1 Width.** *Colonnade projections* are subject to the minimum clearance of 8 inches (203 mm) from *party lines extended* and *alley lines extended*, required under Section 3202.7.2.

**3202.10.6.2 Height.** The height of *colonnade projections* is limited to two stories above grade.

**3202.10.6.3 Projection.** *Colonnade projection* is limited to 6 feet (1829 mm) where *public parking* exists and the depth of *public parking* is 17 feet (5182 mm) or more wide. *Colonnade projections* shall not be permitted on streets where *public parking* exists and the depth of *public parking* is less than 17 feet (5182 mm) wide.

**3202.10.7 Pilasters.** Pilasters not more than 5 feet (1524 mm) wide are permitted to project up to 4 inches (102 mm) beyond the *lot line* or *building restriction line*, if one exists. Pilaster bases are permitted to project 8 inches (203 mm) beyond the *lot line* or *building restriction line*, if one exists.

**3202.10.8 Bases, water tables and sills.** Bases, *water tables*, window and other sills are permitted to project up to 8 inches (203 mm) beyond the *lot line* or a *building restriction line*, if one exists. Projecting bases and *water tables* shall not be more than 4 feet (1219 mm) above grade at the building wall nor above window sill level of the main story. Their length is not limited.

**3202.10.9 Belt courses, cornices and roof overhangs.** Belt courses are permitted to project up to 8 inches (203 mm), and cornices and roof overhangs are permitted to project up to 60 inches (1524 mm), beyond the *lot line* or *building restriction line*, if one exists.. The length and height of projecting belt courses, cornices, and roof overhangs are not limited.

**3202.11 Porches, steps, ramps and doors.** *Porches*, step, ramp and door *projections* shall conform to the provisions of Sections 3202.11.1 through 3202.11.5.

**3202.11.1 Restrictions by zoning zone.** *Porch* and step *projections* shall be allowed only in *Residential*, *Mixed Use*, and *Special Purpose Zones*.

**3202.11.2 Porches.** *Porch projections* shall have open balustrades or guardrails and shall be open to the roof. The floor of the *porch* shall be not more than 5 feet (1524 mm) above the *terrace*, *public parking*, adjacent grade or pavement.

**3202.11.2.1 Width.** Where there are no *bay window*, *oriel window* or *tower projections*, one-story high porches shall not be limited in width. Where there are *bay window*, *oriel window* or *tower projections* in the same story, the aggregate width of porch, *bay window*, *oriel window*, or *tower projections* shall not exceed the limits specified for multiple *bay window projections* in Section 3202.10.3.1. The width of porches of more than one story in height shall conform to the provisions for *bay window projections* in Section 3202.10.3.1.



**3202.11.2.2 Height.** *Porch projections* of wood frame construction shall be limited to one story. *Porch projections* of more than one story in height shall be of noncombustible construction throughout.

**3202.11.2.3 Projection.** *Projection* of one-story high *porches* shall be limited as follows:

1. Three feet (914 mm) on *streets* without *public parking*, 60 feet (18 288 mm) to 70 feet (21 336 mm) wide.
2. Four feet (1219 mm) on *streets* without *public parking*, more than 70 feet (21 336 mm) wide.
3. Five feet (1524 mm) on *streets* with *public parking*. *Porches* more than one story in height shall conform to the provisions for bay windows in Section 3202.10.3.3 as to the extent of projection beyond the *building line*.

For purposes of Section 3202.11.2.3, the term “*street*” shall include the public thoroughfare and any adjoining *building restriction areas*.

**3202.11.2.4 Rear porches.** *Porches* on rear of *dwelling*s shall not project over the *lot line* or a *building restriction line*, if one exists.

**3202.11.3 Steps and ramps.** Projecting steps and ramps are not limited in width but shall comply with the following height and projection requirements.

**3202.11.3.1 Height.** Step and ramp *projections* shall not extend above the finished floor of the *story above grade plane*.

**3202.11.3.2 Projection.** Step and ramp *projections* shall be limited as follows:

1. Three feet (914 mm) on *streets* without *public parking*, 40 feet (12 192 mm) or more in width, but less than 45 feet (13 716 mm) wide.
2. Four feet (12 192 mm) on *streets* without *public parking*, 45 feet (13 716 mm) or more in width, but less than 70 feet (21 336 mm) wide.
3. Five feet (1524 mm) on *streets* without *public parking*, 70 feet (21 336 mm) or more in width, but less than 80 feet (24 384 mm) wide.
4. Six feet (1829 mm) on *streets* without *public parking*, 80 feet (24 384 mm) or more in width.

5. Ten feet (3048 mm) on *streets* with *public parking*, 80 feet (24 384 mm) or more in width.

For purposes of Section 3202.11.3.2, the term “*street*” shall include the public thoroughfare and any adjoining *building restriction areas*.

**3202.11.3.3 Steps and ramps below grade.** Steps and ramp *projections* that are below grade shall conform with the requirements for *areaways*.

**3202.11.4 Projecting doors and windows.** Door and window *projections* shall conform to the provisions of Sections 3202.11.4.1 through 3202.11.4.2.

**3202.11.4.1 Permanent doors or windows.** Permanent doors or windows shall not open outward into *public space* where the base of the door or window opening is less than 12 feet (3658 mm) above the sidewalk grade.

**Exception:** Where the line of travel is protected by an adjoining *porch, terrace, bay window, areaway, or similar construction*, projecting not less than the outward swing of the door, permanent doors or windows are permitted to open outward.

**3202.11.4.2 Restrictions by zoning zone.** Permanent doors and windows in *Residential, Mixed Use and Special Purpose Zones* shall be allowed to open on *public parking*, provided they do not encroach on any sidewalk or driveway.

**3202.12 Awnings, canopies, marquees, market sheds, platforms, and scales.** Projecting *awnings, canopies, marquees, market sheds, platforms, and scales* shall conform to the applicable provisions of Section 3202.12, in addition to complying with any structural or design requirements set forth in Section 3105 or elsewhere in the *Construction Codes*.

**3202.12.1 Projecting awnings.** Folding, hinged or fixed type *awnings* attached only to the structure are permitted to be erected over windows, *show windows* and doors, and shall comply with the provisions of Sections 3202.12.1.1 through 3202.12.1.3.

**Exception:** The openings of projecting *porches* in *Residential Zones* are permitted to be covered with an awning.

**3202.12.1.1 Clearance.** Projecting *awnings* shall have a minimum clear height of 8 feet (2438 mm) above the sidewalk or the surface of any other adjacent *public space*.

**3202.12.1.2 Width.** The width of projecting *awnings* shall be limited to the width of the window, *show window, door or opening* and a reasonable distance each side thereof.

**3202.12.1.3 Projection.** Projecting *awnings* shall not extend over 5 feet (1524 mm) beyond the vertical plane of the point of attachment into a *public right-of-way*.

**3202.12.2 Projecting canopies.** *Canopies* are permitted to be erected over doors, windows, *show windows* or other display openings and loading platforms, subject to the limitations of Sections 3202.12.2.1 through 3202.12.2.5.

**3202.12.2.1 Restrictions based on zoning zone.** *Canopies* projecting over or into a *public space* or *public right-of-way* are permitted to be erected in *Commercial* and *PDR Zones*. *Canopies* approved pursuant to Section 3202.12.2.5 shall not be restricted based on zoning zone.

**3202.12.2.2 Width.** *Canopy projections* are permitted to extend laterally on a *building* so as to cover the width of a *show window* or other display opening and a reasonable distance on each side thereof.

**3202.12.2.3 Clearance.** Projecting *canopies* shall have a minimum clear height of 8 feet (2438 mm) above the sidewalk or the surface of any other *public space*.

**3202.12.2.4 Projection.** *Canopy* projections shall not exceed 5 feet (1524 mm) into *public space* unless the plans are submitted to and approved by the *code official*.

**3202.12.2.5 Canopies over public parking and sidewalks.** The *code official* is authorized to approve permits for *canopies* with fixed iron posts and frames to be erected beyond the *lot line* or *building restriction line*, if one exists, to the inner line of the sidewalk where such *canopies* will be used in conjunction with any of the following:

1. A Group A occupancy having an *occupant load* greater than 100 persons.
2. A Group R occupancy having more than 50 *dwelling units*
3. A Group M or B occupancy with a frontage of 100 feet (30 480 mm) or more on the *street* on which the *canopy* is proposed.
4. A Group M or B occupancy that contains more than 15,000 square feet (1395 m<sup>2</sup>) in area per floor.

**3202.12.2.5.1. Special merit cases.** In specific cases where the *code official* determines that such an installation would be of merit without being detrimental to the public, the *code official* is authorized to grant

approval of *canopies* over sidewalks that extend as close as 18 inches (457 mm) from the curb, when the *code official* determines that: (a) pedestrian traffic flow will not be impeded; (b) the presence of such a *canopy* will not detract from the appearance of the neighborhood; and (c) such a *canopy* will be of convenience to the patrons of the establishment served by the *awning*, especially in the loading and unloading of vehicular traffic in inclement weather.

**3202.12.2.5.2 Canopy design.** The width of *canopies* over *public parking* or sidewalks shall be limited to the width of the door or opening and a reasonable distance each side thereof. *Canopies* shall be of *approved* fire-retardant material, preserving a minimum clearance of 8 inches (203 mm) from the *party lines extended*. Permit applications for these *canopies* shall be accompanied by drawings showing the spacing of all posts and method of anchoring. The frames shall be structurally stable and posts shall be so located as not to impede the principal flow of pedestrian traffic. Posts shall be rigidly secured at the base in sockets or by other approved means.

**3202.12.2.5.3 Temporary canopies.** Installation of sockets in the sidewalk for temporary covered ways across sidewalks or *public parking*, as provided in Section 105 of DCMR Title 24 (Public Space and Safety), Chapter 1 (Occupations and Use of Public Space) requires a public space permit issued by the *Public Space Committee*. Permits for sockets confer no authority to erect temporary covered ways across sidewalks or any other space used by the public. Where sockets have been regularly installed, the Metropolitan Police Department will thereafter issue temporary permits authorizing the use of the temporary covered way in inclement weather.

**3202.12.3 Projecting marquees.** *Marquee projections* shall conform to the provisions of this Section 3202.12.3, and shall also comply with the structural and design requirements set forth in Section 3106 and other applicable sections of the *Construction Codes*.

**3202.12.3.1 Width.** Projecting *marquees* supported directly from the building, shall not be permitted to extend laterally on a building more than a sufficient length to cover the entrance and a reasonable distance on each side thereof.

**3202.12.3.2 Clearance.** The minimum clearance from the sidewalk or any other space used by the public to the lowest part of any *marquee* shall be 8 feet (2438 mm).

**3202.12.3.3 Projections.** *Marquee projections* shall not exceed 5 feet (1524 mm) into *public space*.

**3202.12.4 Market sheds.** A market shed shall be permitted only on a site occupied by a market or building whose predominant purpose is to sell agricultural produce, when such site has been specifically designated as a market area.

**3202.12.4.1 Design.** The design of market sheds shall be approved by the *code official*, a permit shall be required, and all market sheds shall comply with the following provisions:

1. The shed roof is permitted over *public parking* and public sidewalk of a building or buildings used for market purposes, extending from the *lot line* or *building restriction line*, if one exists, to the curb.
2. The line of supports for the shed roof shall be at the inner edge of the sidewalk, the overhang being supported as a cantilever, unless the location of supports is otherwise approved by DDOT. The shed is permitted to be supported by hanging from the wall of the building when approved by the *code official*.
3. Gutters shall be provided throughout the length of all shed roofs, with downspouts equivalent to a 2 1/2-inch pipe per 200 square feet of surface drains, the pitch of the roof to be at least 1/2 inch per foot.
4. Shed roofs shall be furnished with electric lights that provide levels of illumination in compliance with Section 1205.3.
5. Shed roofs shall comply with all structural requirements of Chapter 16 and other applicable Sections of the *Construction Codes*.

**3202.12.4.2 Use of space.** No *public space* beneath a shed constructed pursuant to Sections 3202.12.4 shall be used for the display, sale or storage of produce or containers. This restriction shall not apply to the temporary storage of materials incident to loading and unloading.

**Exception:** An area specifically designated as a market area for the retail or wholesale sale of produce on the premises is permitted to be used for the display, sale or storage of produce or containers.

**3202.12.4.3 Special conditions.** The foregoing rules shall be observed by the *code official* as a guide in issuing permits for market sheds except where the conditions are so obviously at variance with these general rules as to require special consideration. Cases requiring special consideration shall be reviewed as modifications pursuant to Section 104.10.

**3202.12.5 Loading platforms.** The *code official* is authorized to approve loading platforms projecting more than 5 feet (1524 mm) beyond the *lot line* or *building*

*restriction line*, if one exists, in *Commercial* and *PDR Zones*. Canopies over such platforms shall be permitted. Special approval by the *code official* shall be required for such platforms and canopies.

**3202.12.6 Platform scales.** Platform scales projecting on *public space* are permitted in *Commercial* and *PDR Zones*. Plans for such platform scales shall be submitted to and approved by DDOT.

**3202.13 Enclosed sidewalk cafés.** Enclosed sidewalk cafés including enclosed cafes located wholly or partially beyond the *lot line* or within a *building restriction area*, if one exists, shall comply with Sections 3202.13.1 through 3202.13.2 and all other applicable sections of the *Construction Codes*.

**3202.13.1 Permits.** Permits for enclosed sidewalk cafés shall be issued by the *code official* and shall comply with all applicable laws and regulations. Each application shall be accompanied by drawings of the structure, prepared and signed by a structural engineer registered in the District of Columbia. Other enforceable laws and regulations governing sidewalk cafés include: Section 5 of the Enclosed Sidewalk Cafe Act of 1982, effective September 17, 1982 (D.C. Law 4-148; D.C. Official Code § 10-1102.02 (2012 Repl. & 2018 Supp.)); DCMR Title 24, Chapter 2 (Rental of Public Space) and Chapter 3 (Administrative Procedures for Sidewalk Cafés); Mayor’s Order No. 77-150, dated August 31, 1977; and regulations of the Department of Public Works, 30 DCR 4346, August 26, 1983, now delegated to DDOT.

**3202.13.2 Design.** Enclosed sidewalk cafés shall comply with Sections 3202.13.2.1 through 3202.13.2.5.

**3202.13.2.1 Walls and roofs.** Enclosed sidewalk cafés shall have walls and roofs constructed of noncombustible materials.

**3202.13.2.2 Flooring.** Flooring shall comply with Section 804.

**3202.13.2.3 Enclosure materials.** Any enclosure materials, and the contents enclosed therein, must be capable of being removed within 24 hours.

**3202.13.2.4 Structural requirements.** Enclosed sidewalk cafés shall be constructed in accordance with Chapter 16, Chapter 24, and other applicable sections of the *Building Code*.

**3202.13.2.5 Means of egress.** When the combined occupant loads of the sidewalk café and the adjacent restaurant exceed 75 persons, two *means of egress* shall be provided from the sidewalk café, one of which shall open directly to the sidewalk, public alley, or *public space* abutting the café. The second *means of egress* is allowed through the abutting restaurant. If two *means of egress* are required for the adjacent restaurant, two *means of egress* shall be required for the sidewalk

café. If one of the *means of egress* of the café serves the interior of the restaurant, the width of the respective egress aisle across the café shall meet the requirement for a corridor serving the combined occupant load of the sidewalk café and the restaurant.

**3202.14 Facades on existing buildings.** Alteration of a facade attached to the primary structural frame of an existing building that causes the altered facade to project beyond the lot line, or building restriction line if one exists, into the public right-of-way, shall be allowed when all of the following conditions are met:

1. A permit authorizing construction of the primary structural frame of the existing building was issued by the Department prior to (the date of adoption of this provision);
2. The owner submits a report, sealed by the Structural Engineer of Record, as part of the permit application covering the proposed facade alteration that describes in detail the technical reasons why it is infeasible to alter the existing primary structural frame to accommodate the altered facade to be within the lot line, or building restriction line if applicable;
3. The depth of the altered facade shall be the minimum dimension required for structural integrity and attachment of the altered facade to the existing primary structural frame;
4. The altered facade shall not project more than 6 inches (152 mm) beyond the lot line, or building restriction line if one exists, into the public right-of-way;
5. All facade and window projections on the building that are beyond the lot line, or building restriction line if one exists, into the public right-of-way shall not exceed in aggregate the total square footage that would otherwise be allowed at each lot line or building restriction line in compliance with Section 3202.10.3 Bay Windows;
6. All facades on additions to existing buildings shall be within the lot line, or building restriction line if applicable;
7. Facade alterations shall not project into or over an alley;
8. All other projections shall comply with other requirements of Chapter 32: Encroachments Into The Public Right-Of-Way; and
9. Projecting facades shall be constructed of fired brick, natural or manufactured stone, precast concrete, terracotta, architectural metal panels, clear/low emissivity glass or other high quality or innovative materials deemed appropriate by the code official.

## CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

## 3307 PROTECTION OF ADJOINING PROPERTY

## 3307 PROTECTION OF ADJOINING PROPERTY

*Strike Section 3307 of the International Building Code in its entirety and insert new Section 3307 in the Building Code in its place to read as follows:*

**3307.1 Protection required.** Adjoining public and private property shall be protected from damage during construction, *alteration*, repair, *demolition* or *raze* of a *premises* at the expense of the *person* causing the work. Protection must be provided for lots, and for all elements of a building or other structure, including, but not limited to, footings, foundations, party walls, chimneys, vents, skylights, porches, decks, roofs, roof outlets, roof structures and flashing. Provisions shall be made to control water runoff and erosion during construction or *demolition* or *raze* activities. This section shall also apply where (1) the work will cause operable chimneys or vents on adjoining *premises* to become non-compliant with the Chimney Provisions (as defined in Section 3307.1.1) or (2) the work will cause the live load of the roof of an adjoining or adjacent *premises* to exceed the design capacity as a result of the increased snow drift load.

**3307.1.1. Definitions.** For purposes of Section 3307, the following terms shall have the meaning stated:

**PROTECTIVE WORK.** Work required by Section 3307.1.

**ORIGINAL WORK SITE.** The *premises* or portion thereof where the work causing the required Protective Work is performed.

**PROTECTIVE WORK REQUIRING ACCESS.** Protective Work that requires access to adjoining or adjacent *premises* to be completed.

**PARTY WALL.** A wall that straddles, or is in close proximity to, a *lot line*, which is used for structural support by two or more adjoining *buildings* or *structures*.

**CHIMNEY PROVISIONS.** Section 2113 (Masonry Chimneys), Chapter 5 of the *Fuel Gas Code* (Chimneys and Vents), Chapter 8 of the *Mechanical Code* (Chimneys and Vents), Chapter 10 of the *Residential Code* (Chimneys and Fireplaces) and Section 903.1 of the *Plumbing Code*.

**3307.1.2 Notice requirements for protective work.** *Persons* proposing work on an Original Work Site that requires or potentially requires Protective Work on an adjoining or adjacent *premises* shall comply with the notice requirements set forth in [Section 106.2.18.3] as applicable.



**3307.1.3 Protective work requiring access.** In situations involving Protective Work Requiring Access, the *person* requiring access to the adjoining or adjacent *premises* for the purpose of performing Protective Work, or determining whether Protective Work is required, shall be responsible for obtaining a legal right of access from the *owner* of the adjoining or adjacent *premises*, as applicable, or a court order authorizing such access in accordance with the requirements of Section 106.2.18.4.

**Exceptions:**

1. A limited or temporary right of access is expressly granted in Section 3307.2.2 or 3307.4.1 for the specific Protective Work required;
2. A revised work plan is submitted to the *Department* that eliminates the need for Protective Work Requiring Access; or
3. A written agreement signed by the *person* proposing work on a Original Work Site that requires or potentially requires Protective Work on an adjoining or adjacent *premises*, and the *owner* of such *premises* that denies access and acknowledges the *owner's* obligation to be responsible for any Protective Work Requiring Access.

**3307.1.3.1 Where responsibility for protective work requiring access shifts to owner of adjoining premises.** Where the *owner* of the *premises* adjoining a Original Work Site (or adjacent to the Original Work Site in the case of snow drift loads) is responsible for Protective Work on the *owner's premises*, then said *owner* shall execute such measures to make safe the said *owner's premises*, and to obtain any necessary permits for the Protective Work from the *Department*, without delay so as not to impede or materially delay the construction work subject to the permit application that required the Protective Work. Any permit application filed by the *owner* in these circumstances shall be exempted from the notification requirements in Section 106.2.18.3.

**3307.1.3.1.1 Access to Original Work Site.** Where the *owner* of the *premises* adjoining or adjacent to the Original Work Site is responsible for Protective Work on the *owner's premises*, and the Protective Work requires access to the Original Work Site, the *owner* of the adjoining or adjacent *premises*, as applicable, shall obtain written permission to gain such access from the *owner* of the Original Work Site. If the *owner* of the Original Work Site fails to grant written permission (conditional or unconditional) for entry to the *owner* of the adjoining or adjacent *premises* to undertake the Protective Work then any Protective Work requiring access to the Original Work Site shall be the responsibility of the *owner* of the Original Work Site, who shall execute such measures to make safe the Original Work Site.

**3307.2 Party walls.**

**3307.2.1 Responsibility of person doing construction work.** Where construction work occurs that could affect the structural integrity of a *party wall*, the *person* causing the work shall preserve the *party wall* from injury and ensure the structural stability of the *party wall*, subject to the provisions for Protective Work Requiring Access in Section 3307.1.3.

**3307.2.1.1 Underpinning.** Proper underpinning of existing *party walls* which require underpinning shall be provided in accordance with applicable sections of the *Construction Codes*, including Sections 1705.19 and 1804.2.

**3307.2.2 Limited access authorized.** A limited right of access to adjoining *premises* is authorized in the following circumstance:

1. Where a *party wall* requires underpinning as a result of the proposed work;
2. Where the underpinning can be provided by the *owner* undertaking the work from said *owner's premises*, even if the footing extends onto the adjoining *owner's* premises;
3. Where extension of the footing is required to stabilize and support the adjoining *owner's* building or structure, and to avoid unreasonable delay in excavation and development of the permitted project; and
4. The *owner* undertaking the work has provided notice to the *owner* of the adjoining *premises* in accordance with Section 106.2.18 where required.

**3307.2.3 Demolition or Raze.** During a demolition or *raze*, the *person* undertaking the work must maintain fire and life safety and structural integrity of the *party wall*. If any *party wall* or portion thereof which is left standing and exposed after a building is demolished or razed is deemed unsafe or dangerous by the *code official*, then the *owner* of the building that is being demolished or razed shall either remove and reconstruct, or anchor, brace, or buttress all of those portions of the *party wall* deemed unsafe or dangerous, and shall do all other work necessary to enclose properly the building or structure left standing.

**3307.2.4 Party wall weatherization.** The party wall shall be properly maintained and weatherized in accordance with Sections 3307.2.4.1 through 3307.2.4.3 as applicable.

**3307.2.4.1 Temporary protection.** If the party wall is to remain exposed for 60 days or less, the exposed portions of the wall shall be protected from weather damage by tarpaulins, waterproof paper, or other temporary means approved for use by the *code official*. Such temporary protection shall be maintained in a weatherproof condition.

**3307.2.4.2 Intermediate protection.** If the party wall is to remain exposed for more than 60 days, but less than 18 months, the exposed wall shall be restored and weatherproofed in accordance with the requirements for the particular type of construction involved. All plaster and other material not commonly used for exterior construction shall be removed; all holes shall be properly filled; and masonry party walls shall be repointed.

**3307.2.4.3 Permanent protection.** If the party wall is to remain exposed for 18 months or longer, the party walls shall be permanently restored and weatherproofed in accordance with the requirements for the particular type of construction involved. Party walls shall be faced with material commonly used for exterior finish, or restored as closely as practicable with the facing material and construction of the other exterior walls of the building left standing, and shall be painted or otherwise finished in a manner similar to other parts of the building.

**3307.3 Chimneys and vents.** Whenever a *building* or *structure* is erected, altered, or increased in height so that any portion of such *building* or *structure* causes any previously constructed chimneys or vents on an adjoining *premises* to become non-compliant with the Chimney Provisions (as defined in Section 3307.1.1), the *owner* of such new or altered *building* or *structure* shall have the responsibility of altering any such operable chimneys or vents to make them conform with the requirements of the Chimney Provisions, subject to the provisions for Protective Work Requiring Access in Section 3307.1.3. The requirements of Sections 3307.3 and 3307.3.1 shall not dispense with or modify any additional requirements that may be applicable pursuant to federal or local environmental laws or regulations.

**Exceptions:**

1. Where the chimney or vent is no longer connected with a fireplace or combustion or other equipment for which the chimney or vent was required, or where the chimney or vent is otherwise inoperable.
2. Any existing violations on previously constructed equipment shall be corrected by the owner of the equipment before any equipment is added or alterations made at the expense of the *owner* of the new or altered building.

**3307.3.1 Required alterations.** Protective Work required by Section 3307.3 shall be accomplished by one of the following means or a combination thereof:

1. Carry up the previously constructed chimneys or vents to the height required by the Chimney Provisions (as defined in Section 3307.1.1).
2. Offset such chimneys or vents to a distance beyond that required in the Chimney Provisions from the new or altered building provided that the

new location of the outlet of the offset chimney or vent shall otherwise comply with the requirements of the Chimney Provisions. .

3. Provide any alternate materials or methods of construction pursuant to Section 104.11 that satisfies the intent of the Chimney Provisions for mechanical drafting of chimney or vents.

**3307.3.1.1 Approval.** The plans and method of alteration shall be subject to the approval of the *code official*, and any *approved* work needed to accomplish the alteration shall be authorized pursuant to a permit application submitted by the *owner* of the existing adjoining *premises* with the previously constructed chimneys or vents.

**3307.3.2 Protection of draft.** Where a chimney or vent is altered pursuant to Section 3307.4 through the provision of any mechanical equipment or devices necessary to maintain the proper draft in the chimney or vent, the maintenance of such mechanical equipment or devices shall be the responsibility of the *owner* who is responsible for installing such equipment or devices unless otherwise agreed.

**3307.3.3 Procedure for chimney or vent alterations.** Where the alterations required by Section 3307.4 are the obligation of the *owner* of the new or altered building or structure, such *owner* shall be subject to the following requirements:

1. Schedule the Protective Work so as to create a minimum of disturbance to the occupants of the affected building; and
2. Provide such essential services as are normally supplied by the equipment while it is out of service; and
3. Where necessary, support such extended chimneys, vents and equipment from the new or altered building or structure or carry up such chimneys or vents within the new or altered building or structure; and
4. Provide for the maintenance, repair, and/or replacement of such extensions and added equipment; and
5. Make such alterations of the same material as the original chimney or vent so as to maintain the same quality and appearance, except where the affected owner of the chimney or vent shall give his or her consent to do otherwise. All work shall be done in such fashion as to maintain the architectural aesthetics of the existing building. Where there is practical difficulty in complying strictly with the provisions of this item, the *code official* may permit an equally safe alternative.

**3307.4 Roofs, roof outlets, roof structures and flashing.** Subject to the provisions for Protective Work Requiring Access in Section 3307.1.3, where a new *building* or *structure* is being constructed, or a *demolition* or *raze* of an existing *building* or *structure* is being conducted, the roof, roof outlets and roof structures of adjoining *buildings* or other *structures* shall be protected against damage with adequate safeguards by the *person* doing the work.

**3307.4.1 Flashing repairs.** Without excluding other repairs or protective measures that may be required pursuant to Section 3307, and subject to the provisions for Protective Work Requiring Access in Section 3307.1.3, the *owner* undertaking the work shall repair and restore all flashing on any adjoining building or structure which has been broken or damaged during any construction, *demolition* or *raze* operations. The *owner* undertaking the repairs shall also install such new flashing as may be required to protect any joints exposed or created by such *owner's* operations. The *owner* of the adjoining *premises* shall be deemed to have authorized temporary access to his, her or its property to effectuate repairs to the extent that repairs are required under this section.

**3307.4.2 Snow loads.** Subject to the provisions for Protective Work Requiring Access in Section 3307.1.3, whenever a building or structure is erected, enlarged or increased in height so that any portion of such building or structure extends higher than the top of an adjoining or adjacent existing building or structure, it shall be the responsibility of the *owner* of the Original Work Site to strengthen the roof of the adjoining or adjacent existing *building* or *structure* to support any additional snow drift loads caused by the new work or to provide permanent means of removing the additional snow load such that the existing roof will comply with the snow load requirements in Section 1603.1.3 or Section R301.2.3 of the *Residential Code* as applicable.

**CHAPTER 34        EXISTING BUILDINGS****3401            GENERAL**

*Strike Chapter 34 in the International Building Code in its entirety and insert new Chapter 34 in the Building Code to read as follows*

**3401            GENERAL**

*Alteration, repair, addition and change of occupancy of existing buildings and structures shall be governed by the Existing Building Code.*

**CHAPTER 35 REFERENCED STANDARDS**

*Strike the ASME referenced standards in Chapter 35 of the International Building Code in their entirety and insert the following new ASME referenced standards in their place in the Building Code to read as follows:*

**3500 — ASME**

<b>ASME</b>	American Society of Mechanical Engineers Two Park Avenue New York, NY 10016-5990	
Standard Reference Number	Title	Referenced in code section number
ASME/A17.1 - 2013/ CSA B44 - 2013	Safety Code for Elevators and Escalators	907.3.3, 911.1.5, 1009.4, 1607.9.1, 3001.2, 3001.4, 3002.5, 3003.2, 3007.1, 3008.1.3, 3008.7.1, 3009.2.2.1, 3009.5.4.1
A18.1 - 2014	Safety Standard for Platform Lifts and Stairway Chairlifts	1109.8 , 3001.2, 3009.5.2
A90.1 - 2015	Safety Standard for Belt Manlifts	3001.2, 3009.5.3
B16.18 - 2012	Cast Copper Alloy Solder Joint Pressure Fittings	909.13.1
B16.22 – 2001 (R2010)	Wrought Copper and Copper Alloy Solder Joint Pressure Fittings	909.13.1
B20.1 - 2015	Safety Standard for Conveyors and Related Equipment	3001.2, 3004.3, 3009.5.4
B31.3 - 2012	Process Piping	415.11.6

**3501** ——— **ASTM**

*Insert new Standard Reference Number ASTM/E 329-14a in Chapter 35 Referenced Standards of the Building Code under the subheading “ASTM” to read as follows:*

	ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428-2959	
<b>ASTM</b>		
Standard Reference Number	Title	Referenced in code section number
E 329-14a	Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection	
		1704.2.1.1

*Insert new subheading “DOE” in Chapter 35 of the Building Code and insert, under that subheading, a new standard reference to read as follows:*

U.S. Department of Energy  
1000 Independence Ave SW  
Washington, DC 20585

**DOE**

<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>DOE Zero Energy Ready Homes 2017</u>	<u>Zero Energy Ready Homes</u>	<u>101.10.7.5</u>

*Insert new subheading Enterprise Community Partners in Chapter 35 of the Building Code and insert, under that subheading, a new standard reference to read as follows:*

Enterprise Community Partners,  
Inc.  
11000 Broken Land Parkway  
Suite 700  
Columbia, MD 21044

**Enterprise Community Partners**



<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
E 329-14a <u>Enterprise Green Communities Criteria 2015</u>	<u>Enterprise Green Communities Criteria</u>	<u>1704.2.1.1101.12.5.3</u>

*Insert new subheading EPA in Chapter 35 of the Building Code and insert, under that subheading, new standard references to read as follows:*

**EPA**  
Environmental Protection Agency  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>Energy Star Certified Homes Version 3.1</u>	<u>Energy Star Certified Homes</u>	<u>101.12.5.2, 101.12.5.3, 101.12.5.4</u>
<u>Energy Star Multifamily New Construction, Version 1</u>	<u>Energy Star Multifamily New Construction</u>	<u>101.12.5.2, 101.12.5.3, 101.12.5.4</u>

*Under subheading “ICC” in Chapter 35 of the Building Code, insert a new standard reference to read as follows:*

<b><u>ICC</u></b>	<u>International Code Council Inc</u> <u>500 New Jersey Avenue, NW</u> <u>6th Floor</u> <u>Washington, DC 20001</u>	
<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>ICC-700-2015</u>	<u>ICC 700 National Green Building Standard</u>	<u>101.12.5.4</u>

*Insert new subheading “International Living Future Institute” in Chapter 35 of the Building Code and insert, under that subheading, a new standard reference to read as follows:*

**International Living Future Institute**  
International Living Future Institute  
1501 E Madison St  
#100  
Seattle, WA 98122

<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>Living Building Challenge 3.1 Standard</u>	<u>Living Building Challenge Certification</u>	<u>101.10.6.2, 101.10.7.3, 101.12.5.1</u>
<u>Zero Energy Building Certification 3.1</u>	<u>Zero Energy Building Certification</u>	<u>101.10.6.3, 101.10.7.4</u>

*Insert new subheading “Passive House Institute” in Chapter 35 of the Building Code and insert, under that subheading, a new standard reference to read as follows:*

Passive House Institute  
Rheinstraße 44/46  
64283 Darmstadt, Germany

**Passive House Institute**

<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>Passive House Version 9f, 2016</u>	<u>Passive House Institute Standard, Version 9f, 2016</u>	<u>101.10.6.5, 101.10.7.7</u>

*Insert new subheading “Passive House Institute US” in Chapter 35 of the Building Code and insert, under that subheading, a new standard reference to read as follows:*

Passive House Institute US  
(PHIUS)  
116 West Illinois St.  
Suite 5E  
Chicago, IL 60654, USA

**Passive House Institute US**

<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>PHIUS+ 2018</u>	<u>PHIUS+ 2018 Passive House Building Standard</u>	<u>101.10.6.4, 101.10.7.6</u>

*Insert new subheading “USGBC” in Chapter 35 of the Building Code and insert, under that subheading, new standard references to read as follows:*

**USGBC**                      U.S. Green Building Council  
    2101 L Street, NW, Suite 500  
    Washington, DC 20037

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<u>Standard Reference Number</u>	<u>Title</u>	<u>Referenced in code section number</u>
<u>LEED BD+C v.4</u>	<u>New Construction &amp; Major Renovations</u> <u>Core &amp; Shell</u> <u>Healthcare</u> <u>Retail</u> <u>Schools</u> <u>Homes and Multifamily</u> <u>Lowrise</u> <u>Homes Multifamily Midrise</u>	<u>101.10.6.6, 101.10.6.7, 101.10.7.8, 101.10.7.9, 101.12.5.2</u>
<u>LEED ID+C v.4</u>	<u>Commercial Interiors</u>	<u>101.10.6.6, 101.10.6.7, 101.10.7.8, 101.10.7.9, 101.12.5.2</u>
<u>LEED Zero Carbon v.1</u>	<u>LEED Zero Carbon</u>	<u>101.10.6.6, 101.10.7.8</u>
<u>LEED Zero Energy v.1</u>	<u>LEED Zero Energy</u>	<u>101.10.6.7, 101.10.7.9</u>

**APPENDIX E SUPPLEMENTARY ACCESSIBILITY REQUIREMENTS****E102 DEFINITIONS****E104 SPECIAL OCCUPANCIES**

*Appendix E of the International Building Code is adopted in the District of Columbia and incorporated by reference as part of the Building Code with the following amendments:*

**E102 DEFINITIONS**

*Insert new definition in Appendix E, Section E102.1 in the Building Code to read as follows:*

**TTY.** An abbreviation for teletypewriter. Machinery that employs interactive text-based communication through the transmission of coded signals across the telephone network. TTYS may include, for example, devices known as TDDs (telecommunication display devices or telecommunication devices for deaf persons), or computers with special modems. TTYS are also called text telephones.

**E104 SPECIAL OCCUPANCIES**

*Strike Section E104.1 in Appendix E of the International Building Code in its entirety and insert new Section E104.1 in Appendix E to the Building Code in its place to read as follows:*

**E104.1 General.** *Transient lodging* facilities shall be provided with *accessible* features in accordance with Sections E104.2 and E104.3. Group I-3 occupancies shall be provided with *accessible* features in accordance with Section E104.2.

*Insert a new Section E104.3 in Appendix E to the Building Code to read as follows:*

**E104.3 Vanity countertop space.** In *transient lodging* facilities, if vanity countertop space is provided in toilet or bathing rooms serving sleeping units that are not required to be *accessible*, *accessible* vanity countertop space, comparable in terms of size and proximity to the lavatory, shall also be provided in *toilet rooms* or *bathrooms* serving *accessible units*.

**APPENDIX G FLOOD-RESISTANT CONSTRUCTION****G101 ADMINISTRATION****G102 APPLICABILITY****G103 POWERS AND DUTIES****G104 PERMITS****G105 CODE MODIFICATIONS****G106 INSPECTIONS****G107 VIOLATIONS****G201 DEFINITIONS****G301 SUBDIVISIONS****G401 SITE IMPROVEMENT****G501 MANUFACTURED HOMES****G601 RECREATIONAL VEHICLES****G701 TANKS****G801 OTHER BUILDING WORK****G802 MIXED-USE BUILDINGS****G901 TEMPORARY STRUCTURES AND TEMPORARY STORAGE****G1001 UTILITY AND MISCELLANEOUS GROUP U****G1101 REFERENCED STANDARDS**

*Appendix G of the International Building Code is adopted in the District of Columbia and incorporated by reference as part of the Building Code with the following amendments.*

**G101 ADMINISTRATION**

**G101.1 Purpose.** The purpose of this appendix is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific *flood hazard areas* through the establishment of comprehensive regulations in the *Construction Codes* for management of construction activities in *flood hazard areas* that meet the requirements of the National Flood Insurance Program for District of Columbia participation as set forth in the Code of Federal Regulations, Title 44, Section 59.22.

**G101.2 Floodplain Management Regulations of the District of Columbia.** The flood-resistant construction provisions of the *Construction Codes*, including this appendix, in combination with the Department of Energy and Environment (DOEE)'s flood resilience rules, set forth in Title 20, Chapter 31 of the District of Columbia Municipal Regulations (DCMR), and Section 6-502 of the D.C. Official Code (2018 Repl.), comprise the *Floodplain Management Regulations of the District of Columbia*. The *Floodplain Administrator* retains all floodplain management responsibilities that are not assigned to the *code official*.

**G101.3 Objectives.** The objectives of this appendix, in combination with the flood-resistant construction provisions of the *Construction Codes*, are to protect human life, minimize the expenditure of public money for flood control projects, minimize the need for rescue and relief efforts associated with flooding, minimize prolonged business interruption, minimize damage to

public facilities and utilities, help maintain a stable tax base by providing for the sound use and development of flood-prone areas, contribute to improved construction techniques in the floodplain and ensure that potential owners and occupants are notified that property is within *flood hazard areas*.

**G101.4 Scope.** The provisions of this appendix, in combination with the flood-resistant construction provisions of the *Construction Codes*, shall apply to all proposed *development* on a *development site* that is wholly or partially within a *flood hazard area* established in 20 DCMR Chapter 31, including certain work exempt from permit under Section 105.2 of the *Building Code*, 12-A DCMR.

**G101.5 Administration and Enforcement.** The administrative and enforcement provisions of Chapter 1 of the *Building Code*, 12-A DCMR, shall apply to any *development* within the scope of this appendix, and to any permits and inspections relating thereto.

**G101.46 Violations.** Any violation of a provision of this appendix, or failure to comply with a *permit* or code modification associated with a permit issued pursuant to this appendix or any requirement of this appendix, shall be handled in accordance with the administration and enforcement provisions set forth in Chapter 1 of the *Building Code*, 12-A DCMR.

**G101.7 Warning.** The degree of flood protection required by the *Floodplain Management Regulations of the District of Columbia* is considered the minimum reasonable degree of protection for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur. Flood heights may be increased by man-made or natural causes. This appendix does not imply that land outside of mapped *flood hazard areas*, or that uses permitted within such *flood hazard areas*, will be free from flooding or flood damage. No guarantee of vested use, existing use, or future use is implied or expressed by compliance with the *Floodplain Management Regulations of the District of Columbia*.

**G101.8 Disclaimer of Liability.** The *Floodplain Management Regulations of the District of Columbia* shall not create liability on the part of the District of Columbia or by any official or employee thereof for any flood damage that results from reliance on the *Floodplain Management Regulations of the District of Columbia* or any administrative decision lawfully made thereunder.

## **G102            APPLICABILITY**

**G102.1 General.** This appendix, in conjunction with the *Construction Codes*, provides minimum requirements for *development* on a *development site* located wholly or partially within a *flood hazard area*.

**G102.2 Establishment of flood hazard areas.** *Flood hazard areas* are established in 20 DCMR Chapter 31.

## **G103            POWERS AND DUTIES**

**G103.1 Permit applications.** The *code official* shall review all *permit* applications to determine whether the proposed *development* is located on a *development site* that is wholly or partially within *flood hazard areas* established in Section G102.2. Where a proposed *development site* is located wholly or partially within a *flood hazard area*, all development to which this appendix is applicable as specified in Section G102.1 shall be designed and constructed with methods, practices and materials that minimize *flood* damage and that are in accordance with the *Construction Codes* and ASCE 24.

**G103.1.1 Determinations of Substantial Improvement and Substantial Damage.** For applications for reconstruction, rehabilitation, *repair*, *alteration*, *addition* or other improvement of existing buildings or structures located in *flood hazard areas*, the *code official*, in coordination with the *Floodplain Administrator*, shall determine if the proposed work constitutes *substantial improvement* or *repair of substantial damage*. Where the *code official* determines that the proposed work constitutes *substantial improvement* or *repair of substantial damage*, and where required by the *Construction Codes*, the *code official* shall require the *building* or *structure* to meet the flood resistant construction requirements of the *Construction Codes* as applicable. The *code official's* determinations of *substantial damage* and *substantial improvement* shall be subject to review by the *Floodplain Administrator*, and receipt of recommendations and comments from the *Floodplain Administrator* regarding disposition of the application by the *code official*.

**G103.1.1.1 Authority to Request Data.** The *code official* shall have authority to request submission by a permit applicant of any information or documentation that the code official deems necessary to make a determination of *substantial improvement* and *substantial damage*, including but not limited to estimates of the improvement or repair costs pursuant to the methodology set forth in the *Substantial Improvement/Substantial Damage Desk Reference*.

**G103.2 Determination of design flood elevations.** *Design flood elevations* shall be reviewed and approved by the *Floodplain Administrator* in accordance with 20 DCMR. If *design flood elevations* are not specified on the FIRM, the *code official* is authorized to require the applicant to:

1. Obtain, review and reasonably utilize data available from a federal, state or other source; or
2. Determine the *design flood elevation* in accordance with accepted hydrologic and hydraulic engineering techniques. Such analyses shall be performed and sealed by a *registered design professional*. Studies, analyses and computations shall be submitted in sufficient detail to allow review and approval by the *code official*. The accuracy of data submitted for such determination shall be the responsibility of the applicant.

**G103.3 Activities in riverine flood hazard areas.**—In riverine *flood hazard areas* where design flood elevations are specified but *floodways* have not been designated, the *code official* shall not

permit any new construction, substantial improvement or other *development*, including fill, on a *development site*, unless the applicant (a) submits an engineering analysis prepared by a *registered design professional* in accordance with Section 1612.3.2; and (b) such analysis is reviewed and approved by the *Floodplain Administrator* pursuant to 20 DCMR Chapter 31.

**G103.4 Floodway encroachment.** Prior to issuing a *permit* for any *floodway encroachment*, including fill, new construction, *substantial improvements* and other *development* or land-disturbing activity, the applicant shall submit a “no-rise” certification, prepared by a *registered design professional*, along with supporting technical data, demonstrating that such *development* will not cause any increase of the *base flood* level. The *code official* shall refer the certification to the *Floodplain Administrator* for review and approval before issuing a permit for any *floodway encroachment*.

**G103.5 Watercourse alteration.** Authorization to alter or relocate any watercourse shall be obtained from the *Floodplain Administrator* pursuant to 20 DCMR Chapter 31.

**G103.6 Review and Consultation by Floodplain Administrator.** No permit application within the scope of this appendix and the flood-resistant construction provisions of the *Construction Codes* shall be granted without review by the *Floodplain Administrator*. The *Floodplain Administrator* shall review applications and make recommendations to the *code official* pursuant to his or her responsibilities as set forth in 20 DCMR Chapter 31.

**G103.7 Coordination of Duties.** The *code official* and the *Floodplain Administrator* shall coordinate duties and responsibilities relating to *development* on a *development site* located wholly or partially within a *flood hazard area* as necessary to achieve compliance with the requirements of the National Flood Insurance Program for District of Columbia participation (Title 44 CFR, Section 59.22), and to streamline the permitting and inspection process for such *development*, consistent with this appendix.

**G103.8 Records.** The *code official* shall comply with the record retention requirements applicable to *permits* and associated documentation related to *development* on a *development site* wholly or partially within a *flood hazard area*, as set forth in 12-A DCMR Section 104.7.

## **G104 PERMITS**

**G104.1 Required.** Any person, *owner* or *owner's* authorized agent who intends to conduct any development of a *development site* located wholly or partially within a *flood hazard area* shall first make application to the *code official* and shall obtain the required *permit* in accordance with the administrative procedures set forth in Chapter 1 of the *Building Code* and this appendix.

**G104.2 Application for permit.** All applications proposing *development* of a *development site* located wholly or partially within a *flood hazard area* that is within the scope of this appendix shall comply with the requirements of the *Building Code*, 12-A DCMR Sections 105 and 106, and this appendix.



**G104.2.1 Additional information and data required.** Permit applications within the scope of this appendix shall, in addition to the information and data required by Sections 105 and 106 of the *Building Code*, include the following additional information and data as applicable:

1. A site plan showing the delineation of *flood hazard areas*, *floodway* boundaries, *base flood elevation(s)*, flood zones, *design flood elevations*, ground elevations, proposed fill and excavation and drainage patterns and facilities. Where not included on the *FIRM* or in the *Flood Insurance Study*, *base flood elevations* or *floodway* data shall be established in accordance with Section G103.2 of this appendix.
2. For proposed developments with more than 50 *tax lots* or *record lots* or larger than 5 acres (20 234 m<sup>2</sup>), *base flood elevation* data in accordance with Section G103.2 of this appendix if such data are not identified for the *flood hazard areas* established in 20 DCMR Chapter 31. Where the *base flood elevations* are not included on the *FIRM* or in the *Flood Insurance Study*, such elevations shall be established in accordance with Section G103.3 of this appendix
3. Location of the proposed work and proposed structures, and locations of existing buildings and structures.
4. Location, extent, amount, and proposed final grades of any filling, grading, or excavation.
5. Where the placement of fill is proposed, the amount, type, and source of fill material; compaction specifications; a description of the intended purpose of the fill areas; and evidence that the proposed fill areas are the minimum necessary to achieve the intended purpose.
6. Existing watercourse[s] and approval by the *Floodplain Administrator* for any proposed alignment or proposed alteration thereof in accordance with Section G103.5.
7. Information or data deemed necessary by the *code official* to make determinations of *substantial improvement* or *substantial damage*.
8. “No-rise” certification for *floodway encroachments* in accordance with Section G103.4, as applicable.
9. A *floodway* analysis for riverine *flood hazard areas* in accordance with G103.3 as applicable.
10. Elevation Certificate(s) as required by Sections 105.3.2 and 1612.5.

11. Floodproofing Certificate(s) as required by Sections 105.3.2 and 1612.5.
12. *Letter of Map Change*, if applicable.
13. An approved code modification in accordance with Section G10 for mixed-use projects with Residential Group R occupancies proposing underground garages located in *basements (for flood loads)*.
14. Such other data and information as required by the *code official*.

**G104.3 Validity of permit.** The issuance of a *permit* under this appendix shall not be construed to be a *permit* for, or approval of, any violation of this appendix or any other District of Columbia law or regulation. The issuance of a *permit* based on submitted documents and information shall not prevent the *code official* from requiring the correction of errors. The *code official* is authorized to prevent occupancy or use of a structure or site that is in violation of this appendix or other ordinances of this jurisdiction.

**G104.4 Expiration.**— Expiration and extensions of permits issued under this appendix shall be governed by Sections 105.5 and 105.5.1 of the *Building Code*, 12-A DCMR.

**G104.5 Suspension or revocation.** Suspension or revocation of a permit issued under this appendix shall be governed by Section 111 of the *Building Code*, 12-A DCMR.

## **G105 CODE MODIFICATIONS**

**G105.1 General.** The *code official* shall not grant modifications to any provision in the *Construction Codes* required in *flood hazard areas*, including but not limited to provisions of this appendix, unless (1) the code modification complies with the procedures set forth in Section 104.10 of the *Building Code*; (2) the code modification request has been referred to the *Floodplain Administrator* for review and recommendation pursuant to 20 DCMR; and (3) after the *Floodplain Administrator's* review and recommendation, a determination has been made by the *code official* that all of the following criteria are met:

1. A technical showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards inappropriate.
2. Failure to grant the code modification would result in exceptional hardship by rendering the lot undevelopable.
3. Granting of a code modification will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. The code modification is the minimum necessary to afford relief, considering the

flood hazard.

5. The applicant has been provided with written notice by the *code official* specifying the difference between the *design flood elevation* and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the *design flood elevation* increases risks to life and property.

#### **Exceptions:**

1. No code modifications shall be issued for any proposed *development* in a *floodway* if any increase in flood levels would result during the *base flood discharge*.
2. The *code official* shall not issue a code modification that affects the *base flood elevation* without approval of the *Floodplain Administrator* pursuant to 20 DCMR Chapter 31.

**G105.2 Historic Structures.** Subject to review and approval by the *Floodplain Administrator*, the *code official* shall have authority to issue a code modification for proposed *development* of a *historic structure* on a *development site* located wholly or partially in a *flood hazard area*, upon the certification of the *state historic preservation officer* that: (i) the proposed *development* will not preclude the *structure's* continued designation as a *historic structure*, and (ii) the code modification is the minimum necessary to preserve the historic character and design of the *structure*.

**G105.3 Functionally dependent facilities.** A code modification is authorized to be issued for the construction or *substantial improvement* of a *functionally dependent facility* provided the criteria in Section 1612.1 are met and the code modification is the minimum necessary to allow the construction or substantial improvement, and that all due consideration has been given to methods and materials that minimize flood damages during the design flood and create no additional threats to public safety.

## **G106 INSPECTIONS**

**G106.1 General.** Work under a permit within the scope of this appendix shall be subject to inspection by the *code official* in accordance with Section 109 of the *Building Code*.

**G106.2 Elevation Certificate.** An *elevation certificate* in accordance with Section 1612.5 shall be submitted to the *code official* and reviewed and approved by the *Floodplain Administrator* in accordance with the following:

1. Upon placement of the *lowest floor* and prior to further vertical construction, as specified in Section 109.3.1.5.; and

2. Prior to the final inspection or prior to the issuance of a conditional certificate of occupancy for core and shell, whichever is earlier as specified in Section 109.3.1.11.1.

**G106.3 Floodproofing Certificate.** A *floodproofing certificate* in accordance with Section 1612.5 shall be submitted to the *code official* and reviewed and approved by the *Floodplain Administrator* prior to: (a) the final inspection, or (b) the issuance of a certificate of completion or the issuance of the first certificate of occupancy for a occupied space at grade or above, whichever of (a) or (b) is earlier, to certify a floodproofing design for a non-residential building that is permitted as an alternative to elevating to or above the *base flood elevation* as specified in Section 109.3.1.11.1.

## **G107 VIOLATIONS**

**G107.1 General.** The administrative and enforcement provisions of Chapter 1, 12-A DCMR are applicable to any violations of this appendix.

**G107.1.1 Presumptive Violation.** A *building* or *structure* located on a *development site* wholly or partially within a *flood hazard area*, that is constructed or substantially improved pursuant to a permit issued by the *code official* after the effective date of the *Construction Codes*, but without the documentation of elevation of the *lowest floor*, other required design certifications, or other evidence of compliance required by the *Construction Codes*, shall be deemed to be in violation of the *Construction Codes* until such time as the requisite documentation is provided.

## **G201 DEFINITIONS**

**G201.1 Definitions.** The following words and terms are defined in Chapter 2 of the *Building Code*.

### **ACCESSORY (for Appendix G)**

**ALTERATION OF A WATERCOURSE.**

**BASE FLOOD.**

**BASE FLOOD ELEVATION.**

**BASEMENT (for flood loads).**

**DESIGN FLOOD.**

**DESIGN FLOOD ELEVATION.**

**DEVELOPMENT.**

**DEVELOPMENT SITE.**

**ELEVATION CERTIFICATE.**

**ENCROACHMENT (for Appendix G).**

**FLOODWAY.**

**FLOOD HAZARD AREA.**

**FLOOD INSURANCE RATE MAP (FIRM).**

**FLOOD INSURANCE STUDY (FIS).**

**FLOODPROOFING CERTIFICATE.****FUNCTIONALLY DEPENDENT FACILITY.****HISTORIC STRUCTURE (for Appendix G).****LETTER OF MAP CHANGE.****LOWEST FLOOR.****MANUFACTURED HOME (for Appendix G).****MANUFACTURED HOME PARK OR SUBDIVISION (for Appendix G).****MARKET VALUE.****RECREATIONAL VEHICLE (for Appendix G).****SUBSTANTIAL DAMAGE.****SUBSTANTIAL IMPROVEMENT.****G301 SUBDIVISIONS**

**G301.1 General**— Each application for subdivision of land in the District of Columbia sought pursuant to the provisions of the *Subdivision Regulations of the District of Columbia* (10-B DCMR §§ 2700 *et seq.*) shall be referred to the *Floodplain Administrator* for a determination as to whether the proposed development site that is the subject of the application is located wholly or partially within a *flood hazard area*.

**G401 SITE IMPROVEMENT**

**G401.1 Compliance with DOEE’s Resilience Rules.** Any site improvements in a *flood hazard area* shall comply with requirements in 20 DCMR Chapter 31.

**G401.2 Approval of Site Improvements.** The *owner* shall obtain *code official* approval of civil drawings for site work/groundwork pursuant to an application for a civil site work (BCIV) permit , as part of a building permit application, or as otherwise directed by the *code official* for any proposed *development* on a *development site* that is located wholly or partially within a *flood hazard area*.

**G401.3 Sewer facilities.** All new or replaced sanitary sewer facilities, private sewage treatment plants (including all pumping stations and collector systems) and on-site waste disposal systems for any proposed *development* on a *development site* that is located wholly or partially within a *flood hazard area* shall be designed in accordance with Chapter 7, ASCE 24, to minimize or eliminate infiltration of flood waters into the facilities and discharge from the facilities into floodwaters, or impairment of the facilities and systems.

**G401.4 Water facilities.** All new or replacement water facilities for any proposed *development* on a *development site* that is located wholly or partially within a *flood hazard area* shall be designed in accordance with the provisions of Chapter 7, ASCE 24, to minimize or eliminate infiltration of floodwaters into the systems.

**G501 MANUFACTURED HOMES**

**G501.1 Elevation.** All new and replacement *manufactured homes* to be placed or substantially improved on a *development site* that is located wholly or partially within a *flood hazard area* shall be elevated such that the lowest floor of the manufactured home is elevated to or above the design flood elevation.

**G501.2 Foundations.** All new and replacement *manufactured homes*, including substantial improvement of existing manufactured homes, shall be placed on a permanent, reinforced foundation on a *development site* that is located wholly or partially within a *flood hazard area* that is designed in accordance with Section R322 of the *Residential Code*.

**G501.3 Anchoring.** All new and replacement *manufactured homes* to be placed or substantially improved on a *development site* that is located wholly or partially within a *flood hazard area* shall be installed using methods and practices that minimize flood damage. *Manufactured homes* shall be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement. Methods of anchoring are authorized to include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

**G501.4 Protection of mechanical equipment and outside appliances.** Mechanical equipment and outside appliances for any proposed *development* on a *development site* that is located wholly or partially within a *flood hazard area* shall be elevated to or above the *design flood elevation*.

**Exception:** Where such equipment and appliances are designed and installed to prevent water from entering or accumulating within their components and the systems are constructed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding up to the elevation required by Section R322 of the *Residential Code*, the systems and equipment shall be permitted to be located below the elevation required by Section R322 of the *Residential Code*. Electrical wiring systems shall be permitted below the *design flood elevation* provided they conform to the provisions of NFPA 70.

**G501.5 Enclosures.** Fully enclosed areas below elevated *manufactured homes* that are located wholly or partially within a *flood hazard area* shall comply with the requirements of Section R322 of the *Residential Code*.

## **G601 RECREATIONAL VEHICLES**

**G601.1 Placement prohibited.** The placement of *recreational vehicles* wholly or partially within a *flood hazard area* shall not be authorized in coastal high-hazard areas and in *floodways*.

**G601.2 Temporary placement.** *Recreational vehicles* located wholly or partially within a *flood hazard area* shall be fully licensed and ready for highway use, and shall be placed on a site for not more than 180 consecutive days.

**G601.3 Permanent placement.** *Recreational vehicles* located wholly or partially within a *flood hazard area* that are not fully licensed and ready for highway use, or that are to be placed on a site for more than 180 consecutive days, shall meet the requirements of Section G501 for *manufactured homes*.

## **G701 TANKS**

**G701.1 Tanks.** Underground and above-ground tanks located wholly or partially within *flood hazard areas* shall be designed, constructed, installed and anchored in accordance with ASCE 24.

## **G801 OTHER BUILDING WORK**

**G801.1 Garages and accessory structures.** Garages and *accessory structures* located wholly or partially within *flood hazard areas* shall be designed and constructed in accordance with ASCE 24 and comply with the following conditions as applicable.

**G801.1.1 DOEE covenant required.** No permit to construct or to make *substantial improvement* in an *accessory structure* located wholly or partially within a *flood hazard area* will be issued by the *Department* without evidence of DOEE's approval of a non-conversion agreement not to convert the *accessory structure* to a residential use.

**G801.1.2 Size Limitation.** No code modifications or variances will be granted to allow an *accessory structure* located wholly or partially within a *flood hazard area* to exceed 600 square feet (55.74 m<sup>2</sup>).

**G801.1.3 Exception to Chapter 16 requirements for certain accessory structures.** *Accessory structures* that are less than 600 square feet(55.74 m<sup>2</sup>), in area and are not elevated or dry floodproofed in accordance with Chapter 16 of the *Building Code* are allowed where the *accessory structure* meets the following conditions:

1. Constructed with flood damage-resistant materials below the *design flood elevation*;
2. Constructed and placed to offer the minimum resistance to the flow of floodwaters;
3. Anchored to prevent flotation;
4. Electrical service and mechanical equipment elevated to or above the *design flood elevation*; and
5. Provided with flood openings that meet the following criteria:
  - a. There shall be a minimum of two flood openings on different sides of each enclosed area; if an *accessory structure* has more than one enclosure

below the lowest floor, each such enclosure shall have flood openings on exterior walls;

- b. The total net area of all flood openings shall be at least one square inch for each one square foot of enclosed area (non-engineered flood openings), or the flood openings shall be engineered flood openings that are designed and certified by a licensed professional engineer to automatically allow entry and exit of floodwaters; the certification requirement is allowed to be met by the professional engineer's certification or by submission of an Evaluation Report issued by the ICC Evaluation Service or another approved entity;
- c. The bottom of each flood opening shall be one foot or less above the higher of either the interior floor or grade or the exterior grade immediately below the opening; and
- d. Any louvers, screens, or other covers for the flood openings shall allow the automatic flow of floodwaters into and out of the enclosed area.

**G801.1.41 Underground garages in basements.** Underground garages located in *basements (for flood loads)* of an existing or proposed *building or structure* that: (a) is located on a *development site* wholly or partially within a *flood hazard area*, and (b) is used or will be used partially for Residential Group R occupancies, including a mixed use *building* with Residential Group R occupancies, will not be approved in permit applications for new construction or *substantial improvement*, without a code modification granted pursuant to Section G105.

**G801.2 Fences.** Fences in *floodways* that may block the passage of floodwaters, such as stockade fences and wire mesh fences, shall meet the requirement of Section G103.4.

**G801.3 Oil derricks.** Oil derricks located wholly or partially in *flood hazard areas* shall be designed in conformance with the flood loads in Sections 1603.1.7 and 1612.

**G801.4 Retaining walls, sidewalks and driveways.** Retaining walls, sidewalks and driveways located wholly or partially within *flood hazard areas* shall meet the requirements of Section 1804.5.

**G801.5 Swimming pools.** Swimming pools located wholly or partially within *flood hazard areas* shall be designed and constructed in accordance with ASCE 24. Above-ground swimming pools, on-ground swimming pools and in-ground swimming pools that involve placement of fill in *floodways* shall also meet the requirements of Section G103.4.



**G801.6 Decks, porches, and patios.** Decks, porches and patios located wholly or partially within *flood hazard areas* shall be designed and constructed in accordance with ASCE 24.

**G801.7 Roads and watercourse crossings in regulated floodways.** Roads and watercourse crossings that encroach into regulated *floodways*, including roads, bridges, culverts, low-water crossings and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other, shall meet the requirement of Section G103.4.

## **G802 MIXED-USE BUILDINGS**

**G802.1 Lowest floor.** The lowest floor (including basement or underground parking garage) of any new construction of, or substantial improvement to, a mixed-used building located on a development site wholly or partially within a flood hazard area shall either be at or above the design flood elevation, or be designed and constructed to be dry floodproofed during any flood up to the design flood elevation.

**G802.2 Residential portion.** The lowest floor of the residential portion of any new construction of, or substantial improvement to, a mixed-use building located on a development site wholly or partially within a flood hazard area shall be at or above the design flood elevation.

**G802.3 Non-residential portion.** The non-residential portion of any new construction of, or substantial improvement to, a mixed-use building located on a development site wholly or partially within a flood hazard area shall either be at or above the design flood elevation, or be designed and constructed to be dry floodproofed during any flood up to the design flood elevation.

**G802.4 Ancillary residential use portion.** The lowest floor of the ancillary residential use portion of any new construction of, or substantial improvement to, a mixed-use building located on a development site wholly or partially within a flood hazard area shall either be at or above the design flood elevation, or be designed and constructed to be wet floodproofed during any flood up to the design flood elevation.

## **G901 TEMPORARY STRUCTURES AND TEMPORARY STORAGE**

**G901.1 Temporary structures.** Temporary structures located wholly or partially within *flood hazard areas* shall comply with Section 119 of the *Building Code*, 12-A DCMR, and with the following conditions:

1. Temporary structures shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the *design flood*.
2. Fully enclosed temporary structures shall have flood openings that are in accordance with ASCE 24 to allow for the automatic entry and exit of floodwaters.

**G901.2 Floodway encroachment.** Temporary structures and temporary storage in *floodways* shall meet the requirements of G103.4.

## **G1001 UTILITY AND MISCELLANEOUS GROUP U**

**G1001.1 Utility and miscellaneous Group U.** Utility and miscellaneous Group U includes buildings that are accessory in character and miscellaneous structures not classified in any specific occupancy in this code, including, but not limited to, agricultural buildings, aircraft hangars (accessory to a one- or two-family residence), barns, carports, fences more than 6 feet (1829 mm) high, grain silos (accessory to a residential occupancy), greenhouses, livestock shelters, private garages, retaining walls, sheds, stables and towers.

**G1001.2 Flood loads.** Utility and miscellaneous Group U buildings and structures located wholly or partially within *flood hazard areas*, including substantial improvement of such *buildings* and *structures*, shall be anchored to prevent flotation, collapse or lateral movement resulting from flood loads, including the effects of buoyancy, during conditions of the design flood.

**G1001.3 Elevation.** Utility and miscellaneous Group U buildings and structures located wholly or partially within *flood hazard areas*, including substantial improvement of such *buildings* and *structures*, shall be elevated such that the lowest floor, including basement, is elevated to or above the *design flood elevation* in accordance with Section 1612 of this code.

**G1001.4 Enclosures below design flood elevation.** Fully enclosed areas located wholly or partially within *flood hazard areas* below the *design flood elevation* shall be constructed in accordance with ASCE 24.

**G1001.5 Flood-damage-resistant materials.** Flood-damage-resistant materials shall be used below the *design flood elevation*.

**G1001.6 Protection of mechanical, plumbing and electrical systems.** Mechanical, plumbing and electrical systems, including plumbing fixtures, located wholly or partially within *flood hazard areas* shall be elevated to or above the *design flood elevation*.

**Exception:** Electrical systems, equipment and components; heating, ventilating, air conditioning and plumbing appliances; plumbing fixtures, duct systems and other service equipment shall be permitted to be located below the design flood elevation provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in compliance with the flood-resistant construction requirements of this code. Electrical wiring systems shall be permitted to be located below the design flood elevation provided they conform to the provisions of NFPA 70.

## **G1101 REFERENCED STANDARDS**

ASCE 24—14	Flood Resistant Design and Construction	G103.1, G401.3, G401.4, G701.1, G801.1, G801.5, G801.6, G801.7, G901.1, G1001.4 G201
HUD 24 CFR Part 3280 (2008)	Manufactured Home Construction and Safety Standards	
NFPA 70—14	<i>National Electrical Code</i>	G501.4, G1001.6
FEMA P-758 (May 2010)	<i>Substantial Improvement/Substantial Damage Desk Reference</i>	G103.1.1

**APPENDIX N SIGNS****N101 GENERAL**

*Insert a new Appendix N into the Building Code to read as follows:*

**N101 GENERAL**

**N101.1 General.** This section shall govern the erection, hanging, placing, painting, display, and maintenance of outdoor display signs and other forms of exterior advertising. Except as otherwise specifically provided, signs bearing non-commercial statements of fact, belief, or personal or political opinion posted on private property are not subject to the provisions of this section.

**N101.2 Definitions.** The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

**BILLBOARD.** This term includes billboards and poster panels.

**N101.3 Permits.** No sign subject to the provisions of Section 101 that exceeds 1 square foot (0.093 m<sup>2</sup>) in area, unless exempted by Section 101.3.5, shall be erected, made a part of a building, painted, repainted, placed, replaced, hung, re-hung, altered, repaired structurally, changed in color, made to flash, or maintained, without a permit issued in accordance with this section by the code official.

**N101.3.1 Application for permit.** Application for sign permit shall be made upon a form provided by the code official. Application for a permit to install a sign shall be accompanied by drawings in triplicate, drawn to scale showing details of construction dimensions, lettering, and method of attachment of the sign.

**N101.3.2 Dimensions of the premises.** The application shall contain a statement of width of premises or width and height of the building, or any other dimensions deemed necessary by the code official to determine the allowable area of the sign.

**N101.3.3 Materials specifications.** The applicant shall furnish specifications or other information covering type and thickness of materials for the sign and its support.

**N101.3.4 Permits for electrical signs.** Any sign on or in which lighting of any type is to be used, or which will be illuminated by artificial means, or which will contain other electrical features, shall be designed in accordance with Chapter 27 of this code and require the issuance of a separate electrical installation permit.

**N101.3.5 Exemptions from permit.** The types of signs and advertising specified in Sections N101.3.5.1 through N101.3.5.7 do not require permits unless located within areas requiring review by the Commission of Fine Arts.

**N101.3.5.1 Theater bills and changeable copy signs.** The changing of bills of acts and features of theaters on established frames at such theaters, and the changing of the copy of any authorized changeable copy sign, the wording of which does not conflict with the provisions of this section.

**N101.3.5.2 Billboard advertising.** Changing of matter advertised on authorized billboards and poster panels included in the official list of billboards.

**N101.3.5.3 Signs within a building.** Any sign located entirely inside a building, unless the sign: (1) is attached directly or painted on a window; (2) is located within 18 inches (457 mm) of a window or entrance; or (3) contains writing that is legible, or an image that is clearly discernible, from property other than the property on which the sign is located. A sign inside a building that (1) is attached directly or painted on a window; (2) is located within 18 inches (457 mm) of a window or entrance; or (3) contains writing that is legible, or an image that is clearly discernible, from property other than the property on which the sign is located shall require a permit and shall be regulated as a sign under this Appendix N.

**N101.3.5.4 Signs on windows.** Signs upon a show window, or upon any other window abutting on, or overlooking a street or public way, within the Commercial and PDR Districts as fixed by the *Zoning Regulations*, which signs advertise only the name of the occupant of the building, office, or store, the business conducted or products sold therein, when the aggregate area of those signs does not exceed 20 percent of the area of the window upon which they are displayed.

**N101.3.5.5 Small unilluminated signs.** Unilluminated signs located outside of and unattached to buildings in areas zoned Commercial or PDR, otherwise complying with Section N101.6, when such signs do not exceed three (3) per record lot, when each such sign does not exceed 3 feet (914 mm) in its maximum dimension and 4 square feet (0.371 m<sup>2</sup>) in area, and when each of such signs is located more than 20 feet (6096 mm) back of the building line or of the building restriction line. Such signs shall be allowed in addition to those for which a permit is required under this section.

**N101.3.5.6 Real estate signs.** Real estate signs not exceeding 6 square feet (0.557 m<sup>2</sup>) in area.

**N101.3.5.7 Vacated property.** One sign not to exceed 6 square feet (0.557 m<sup>2</sup>) in area, giving the name, business, and new address of the former occupant, is permitted to be displayed for not more than 60 days.

**N101.3a** Notwithstanding the limitations and exemptions stated in Section N101.1 and N101.3.5, a permit is required for the erection, painting, repainting, placement, replacement, hanging,

replacing, alteration, repair, or change of a sign larger than one (1) square foot in size on the outside of a building on historic property or located within the first eighteen (18) inches inside a glazed opening of a building on historic property.

**N101.3a.1** Permits shall be issued or denied for signs on historic property bearing non-commercial statements of fact, belief, or personal or political opinion that would otherwise be excluded from regulation under this section pursuant to Section N101.1, and for signs on historic property that would otherwise be exempt from the permit requirement pursuant to Section 3103.5, based solely on their compliance with the requirements of 10-A DCMR, Chapter 25.

**N101.3b** Notwithstanding the limitations stated in Section N101.1, a permit is required for the erection, painting, repainting, placement, replacement, hanging, re-hanging, alteration, repair, or change of a sign bearing a non-commercial statement of fact, belief, or personal or political opinion that would otherwise be excluded from regulation under this section pursuant to Section N101.1, if the sign is subject to review by the Commission of Fine Arts under Section N101.4. Permits shall be issued or denied for these signs based solely on their compliance with Section N101.4 and applicable Commission of Fine Arts requirements.

**N101.4 Commission of Fine Arts submission.** The provisions of Sections N101.4.1 through N101.4.2.9 shall govern applications for review of signs to be made to the Commission of Fine Arts.

**N101.4.1 Shipstead-Luce Act area submissions.** All applications to erect signs on buildings or land within the area controlled by An Act to regulate, the height, exterior design, and construction of private and semipublic buildings in certain areas of the National Capital (“Shipstead-Luce Act”), approved May 16, 1930 (46 Stat. 366; D.C. Official Code § 6-611.01 *et seq.* (2018 Repl.)), shall be submitted to the Commission of Fine Arts for review before a permit is issued. In addition to compliance with all other applicable provisions of this section, signs within the meaning of the Shipstead-Luce Act shall comply with the requirements of Sections N101.4.1.1 through N101.4.1.9.

**N101.4.1.1 Billboards, roof signs, projecting and revolving signs.** Billboards as described in Section N101.7.6, roof signs as described in Section N101.7.2, projecting signs as described in Section N101.7.1, and revolving signs as described in Section N101.7.11, shall not be permitted.

**N101.4.1.2 Permissible signs.** Single-faced signs, only, shall be permitted upon the exterior walls of buildings, and all signs shall be stationary. The maximum sign projection allowed shall not exceed 12 inches (305 mm) beyond the building or building restriction lines.

**N101.4.1.3 Illuminated signs.** Illuminated signs shall consist of freestanding, back-lighted, opaque letters, illuminated by steady light. Exposed sources of sign illumination shall be prohibited.

**N101.4.1.4 Sign dimensions.** The aggregate area of all signs advertising any one business on a building or premises shall be limited to 25 sq. feet (2.322 m<sup>2</sup>) per street frontage.

**N101.4.1.5 Sign copy.** Copy on signs shall be limited to the address or name of the establishment, or both, and the type of business conducted, as indicated by the Certificate of Occupancy issued for the premises involved.

**N101.4.1.6 Number of colors on sign.** No more than two colors, nor more than one color in addition to black or white, shall be used for any sign, including the illumination of such sign.

**N101.4.1.7 Signs on awnings.** Signs on awnings shall be limited to the valance and shall otherwise comply with other applicable requirements of this section.

**N101.4.1.8 Show window lettering.** Lettering of signs limited to a show window, or any other window, abutting on or overlooking a street or public way, shall cover an aggregate area of not more than 25 square feet (2.322 m<sup>2</sup>), per business, nor more than 20 percent of the area of the window, whichever is less.

**N101.4.1.9 Nonconforming signs.** Despite the limitations imposed by the requirements above, when the Commission of Fine Arts finds that the sign or the conditions surrounding it justify granting a variance from or exception to any of the requirements of Sections N101.4.1.1 through N101.4.1.8 and the Commission finds that granting such a variance or exception will not impair the intent and purpose of this section or of the Shipstead-Luce Act, the code official is authorized to approve an application to erect a sign not conforming to the said requirements.

**N101.4.2 Old Georgetown Act area submissions.** All applications to erect signs on buildings or land within the area controlled by An Act to regulate the height, exterior design, and construction of private and semipublic buildings in the Georgetown area of the National Capital (“Old Georgetown Act”), approved September 22, 1950 (64 Stat. 903; D.C. Official Code §§ 6-1201 *et seq.* (2018 Repl.)), shall be submitted to the Commission of Fine Arts for review before a permit is issued. In addition to compliance with all other applicable provisions of this section, signs within the meaning of the Old Georgetown Act shall comply with the requirements of Sections N101.4.2.1 through N101.4.2.9.

**N101.4.2.1 Billboards, roof signs, projecting and revolving signs.** Billboards as described in Section N101.7.6, roof signs as described in Section N101.7.2, and revolving signs as described in Section N101.7.11, shall not be permitted. Projecting signs as described in Section N101.7.1, shall be allowed upon favorable recommendation by the Commission of Fine Arts, which shall include

the maximum allowable projection of the sign.

**N101.4.2.2 General restriction.** All signs shall be stationary.

**N101.4.2.3 Illuminated signs.** Illuminated signs shall consist of freestanding, back-lighted, opaque letters, illuminated by steady light. Exposed sources of sign illumination shall be prohibited.

**N101.4.2.4 Sign dimensions.** The aggregate area of all signs advertising any one business on a building or premises shall be limited to 25 square feet (2.322 m<sup>2</sup>) per street frontage.

**N101.4.2.5 Sign copy.** Copy on signs shall be limited to the address or name of the establishment, or both, and the type of business conducted, as indicated by the Certificate of Occupancy issued for the premises involved.

**N101.4.2.6 Number of colors on sign.** No more than two colors, nor more than one color in addition to black or white, shall be used for any sign, including the illumination of such sign.

**N101.4.2.7 Signs on awnings.** Signs on awnings shall be limited to the valance and shall otherwise comply with other applicable requirements of this section.

**N101.4.2.8 Show window lettering.** Lettering of signs limited to a show window, or any other window, abutting on or overlooking a street or public way, shall cover an aggregate area or not more than 25 square feet (2.322 m<sup>2</sup>), per business, nor more than 20 percent of the area of the window, whichever is less.

**N101.4.2.9 Nonconforming signs.** Despite the limitations imposed by the requirements above, when the Commission of Fine Arts finds that the sign or the conditions surrounding it justify granting a variance from or exception to any of the requirements of Sections N101.4.2.1 through N101.4.2.8 and the Commission finds that granting such a variance or exception will not impair the intent and purpose of this section or of the Old Georgetown Act, the code official is authorized to approve an application to erect a sign not conforming to the said requirements.

**N101.5 Marking of signs.** Every sign for which a permit is required shall be marked with letters not less than 1 inch (25.4 mm) in height, giving the permit number and date of permit issuance.

**N101.5a Signs on Historic Property.** Signs on historic property shall comply with the requirements of 10-C DCMR Chapter 25.

**N101.6 Character of Advertising.** No sign subject to the provisions of Section N101 shall be erected, hung, rehung, placed, replaced, painted, repainted, repaired, or maintained upon any



structure or upon any wall or roof, or upon any premises, unless such sign advertises a bona fide business conducted on the premises, and for which business a Certificate of Occupancy has been issued. The change of sign copy on any sign other than an authorized "Changeable Copy Sign" shall require issuance of a new sign permit.

**Exceptions:**

1. Signs covered by Sections N101.3.5.1 through N101.3.5.3, N101.3.5.5 through N101.3.5.8, billboards as described in Sections N101.7.6 through N101.7.6.7.15, and temporary signs as described in Section N101.8.
2. When buildings are under construction or alteration for a specific use, the code official is authorized to issue a permit for the construction or erection of a sign complying with these regulations, if such building or alteration has progressed to the satisfaction of the code official for its projected use, and application for Certificate of Occupancy has been filed.

**N101.6.1 Area use restriction.** Not more than 50 percent of the area of any sign shall be used to advertise products or commodities actually sold on the premises.

**Exception:** Devices indicating only time, temperature, or both, shall not be required to comply with this restriction.

**N101.6.2 Removal of signs.** Any sign subject to the provisions of Section N101 that was erected, hung, re-hung, placed, replaced, painted, repainted, or maintained and which no longer advertises a bona fide business conducted upon the premises as specified in Section N101.6, is not permitted pursuant to N101.6a, or is not an authorized billboard or poster panel, shall be taken down, removed, or obliterated within five (5) days upon notification by the code official or such longer time as may be designated by the code official, and failure to so comply on the part of the owner, occupant, agent, or person having beneficial use of any building or premises upon which such sign may be found, shall subject the owner to the fines provided for in Section 4 of An Act To regulate the erection, hanging, placing, painting, display and maintenance of outdoor signs and other forms of exterior advertising within the District of Columbia, approved March 3, 1931 (46 Stat. 1486; D.C. Official Code § 1-303.23 (2016 Repl. & 2018 Supp.)), or to civil fines, penalties, and fees pursuant to Titles I-III of the Department of Consumer and Regulatory Affairs Civil Infractions Act of 1985, effective October 5, 1985 (D.C. Law 6-42; D.C. Official Code §§ 2-1801.01 *et seq.* (2016 Repl. & 2018 Supp.)).

**N101.6.3 Street clocks.** No lettering or advertising matter shall be placed on any street clock or part thereof, except that the name of the manufacturer of the clock is permitted to be displayed on the dial in small letters not to exceed one-twentieth of the height of the dial.

**N101.6.4 Signs on vacant property.** Display of any sign, poster, or other advertising

medium on or in any part of a vacant building, store, or premises, visible from the street or public way, other than real estate signs, complying with Section N101.16 and authorized billboards or poster panels, is prohibited.

**Exception:** One sign not more than 6 square feet (0.557 m<sup>2</sup>) in area giving the name, business, and new address of the former occupant is permitted to be displayed for not more than 60 days on the vacated premises.

**N101.6.5 Directional signs.** Directional signs shall not be allowed except as permitted under Section N101.7.6 for billboards or poster panels, under Section N101.6.4 on vacated property, and their temporary display for the purpose of indicating the availability of real estate for sale or lease and the holding of an open house at a particular property.

**Exception:** Signs not more than 6 square feet (.557 m<sup>2</sup>) in area indicating the location of parking facilities for patrons shall be allowed under permit.

**N101.6.6 Special permits.** The code official is authorized to issue a permit to erect and maintain a sign not conforming with this section if the code official finds that such sign or conditions surrounding such sign are unusual in character, of a type infrequently encountered, and that approval of the permit will provide an equitable application of this section basically in keeping with its purpose and intent. The code official in each such special permit is authorized to impose such terms and conditions as he or she may deem necessary. Any sign erected under a special permit shall be removed at or prior to the time specified in the permit for the removal of such sign. If no time is specified, then such sign shall be removed not later than ten (10) days after notice from the code official to do so.

**N101.6.6.1 Temporary decorations for buildings.** The code official is authorized to approve permits for temporary decorations on the fronts of buildings or on legal projections from buildings in the spirit of a holiday period, inauguration, or similar occasion. Temporary decorations are permitted to include greetings, symbols, pictures, and other markings appropriate to the occasion. Any structures, framework, and fastenings shall be subject to the usual requirements. Authority is not granted in this section to approve applications for decorations on, over, along, or across any street or highway, except as provided for in Section N101.6.6.2. Permits for temporary decorations shall be issued for periods not exceeding 40 days.

**N101.6.6.2 Temporary decorations for streets.** Temporary street decorations shall not be installed on, over, along or across any street or highway until a special permit has been issued by the Director of the Department of Transportation. Street decorations are a privilege, not a right, and the Director of the Department of Transportation is authorized to deny the corresponding permit or impose such conditions as may be deemed necessary, in the interest of public

safety or welfare. Street decorations shall comply with the following conditions:

1. Street decorations shall not contain any advertising or any form of explicit or implicit reference to commercial businesses or products.
2. Street decorations shall be substantially related to an event or seasonal festivity of a civic or religious nature, not occurring more frequently than once a year.
3. Street decorations shall be stationary and shall be substantially supported structurally.
4. Street decorations containing electrical wiring or systems shall comply with Chapter 27.

**N101.6a Substitution of Content.** Any non-commercial message may be substituted for the content of any commercial sign allowed under this section.

**N101.7 Types of signs.** The provisions of this section shall apply to types of signs and requirements for all signs subject to the provisions of Section N101.

**N101.7.1 Projecting signs.** Signs projecting from or beyond a building line or building restriction line shall be allowed in Commercial and PDR Districts, as defined in the *Zoning Regulations*, when supported on iron or steel brackets and stayed securely, or affixed in an approved equivalent manner, subject to the limitations imposed by Sections N101.7.1.1 through N101.7.1.3.

**N101.7.1.1 Sign projection restrictions.** No sign shall project more than 42 inches (1067 mm) beyond the building line or building restriction line, on the street frontage of a building. Hooded lights are permitted to be placed on projecting signs solely to illuminate such signs, but the hoods of such lights shall not project more than an additional 6 inches (152 mm). No part of projecting signs shall have less than 8 feet (2438 mm) clearance above the surface of a sidewalk or any other space used by the public, nor less than 15 feet (4572 mm) clearance above the surface of any driveway in public space. No portion of a sign shall extend over public space closer than 18 inches (457 mm) from the curb lane. No sign, including illumination, shall project more than 6 inches (152 mm) beyond the building line, in alleys.

**N101.7.1.2 Double-faced projecting signs.** Double-faced projecting signs on the front of buildings shall not extend above the roof or parapet a distance of more than one-third of the height of the sign nor more than 4 feet (1219 mm). Such signs are permitted to return over the roof or parapet not over 18 inches (457 mm) back of the face of the wall.

**N101.7.1.3 Rigid attachment of signs.** No sign projecting over public space shall be so erected or hung as to swing, sway, or revolve in any manner, except banners or flags. The supports for banners and flags shall also be installed so as to be rigid.

**N101.7.2 Roof signs.** Roof signs shall not be erected above the height limit established by the *Zoning Regulations*. The base of a roof sign shall not be less than 6 inches (152 mm) nor more than 18 inches (457 mm) above the roof parapet wall on which it is erected or affixed. The height of a roof sign shall not exceed half of the width of its base. In no case shall such sign exceed the maximum area fixed by Section N101.10.

**N101.7.2.1 Attachments.** All roof signs shall be securely braced and fastened with lag screw expansion bolts, anchor plates, or by another approved structurally sound method, to prevent accidents in high winds. Roof signs shall not be erected or hung so as to swing, sway, or revolve in any manner. Complete structural plans indicating roof construction, method of attachment, and sign framing shall be provided with all applications for roof sign permits.

**N101.7.2.2 Height limit.** Lettering, advertising, or display of any character, other than religious symbols, is prohibited above the limit of height established by the *Zoning Regulations*, on spires, towers, domes, minarets, pinnacles, penthouses, ventilation shafts, chimneys, smokestacks, water storage tanks, cooling towers, or on any other support media extending above said height limit.

**N101.7.3 Signs supported by projecting construction.** Signs are permitted to be supported by canopies, marquees, porticos, and roofs of show windows constructed so as to safely support the weight of the sign or signs, in addition to the required snow and wind loads. Such signs shall not extend more than 42 inches (1067 mm) beyond the building line, except as provided for in Section N101.7.1.

**N101.7.4 Signs on awnings or similar projections.** One horizontal line of letters, each letter not to exceed 12 inches (305 mm) in height, is permitted to be placed or painted on the vertical faces of valances, or on top of or hung from a canopy, marquee, portico, or awning. Where the line of letters is placed on top or hung from a marquee, canopy, portico, or awning, it shall be constructed in the so-called "skeleton" design, composed of separate letters without background or border. The line of letters shall designate only the street number of the premises and the name of the occupant or building or trade name. Such signs shall also be permitted in Residential Districts and Special Purpose Districts for apartment houses and hotels only. Signs on awnings, marquees, and canopies located on historic property shall comply with the requirements of 10A DCMR, Chapter 25.

**N101.7.5 Banner signs and flags.** No banner, sign or flag used for advertising purposes shall be erected, hung, attached, or affixed to any pole, staff, or other appurtenance, unless a permit for it has been issued, nor shall such banner, sign, or flag extend over public space more than 42 inches (1067 mm), or be hung or maintained less than 14 feet

above a public parking, sidewalk or roadway.

**N101.7.5.1 Barber poles.** Barber poles on public space attached to a building shall not project more than 42 inches (1067 mm) from the building line and provide not less than 8 feet (2438 mm) clearance above the sidewalk or existing ground level.

**N101.7.6 Billboards.** The provisions of this section shall govern billboards in the District of Columbia.

**N101.7.6.1 Authorized list.** Only those billboards which were in existence as of January 1, 1972, that are contained in the “Authorized List of Billboards, Three-sheet Poster Boards, and Wall Signs,” dated November 30, 1931, as amended through December 31, 1971, are authorized to remain in place, subject to the conditions in Sections N101.7.6.1 through N101.7.6.7.15.

**N101.7.6.2 Existing authorized billboards.** Any existing billboard contained in the authorized list referred in Section N101.7.6.1 shall be permitted to be maintained, repaired, altered, or rebuilt under authority of permits issued by the code official. No change in size or location is authorized and the maintenance and repair requirements of Section N101.7.6.5 shall be met.

**N101.7.6.3 Unauthorized billboards.** Billboards which were not included in the authorized list referred in Section N101.7.6.1 are without authority, unless erected in accordance with Sections N101.7.6.6 through N101.7.6.7. All unauthorized billboards shall be removed by the owner. No such billboard shall be replaced in any form or in any location, unless a new permit is issued in accordance with Sections N101.7.6.6 through N101.7.6.7.

**N101.7.6.4 Razed billboards.** Any billboard which is included in the authorized list referred in Section N101.7.6.1 and which is razed, demolished, or obliterated, shall be stricken from the authorized list. No such billboard shall be replaced in any form or in any location, unless a new permit is issued in accordance with Sections N101.7.6.6 through N101.7.6.7.

**N101.7.6.5 Maintenance and repair.** Whenever the code official finds that any billboard on the authorized list referred to in Section N101.7.6.1, or erected under a permit issued in accordance with Sections N101.7.6.6 through N101.7.6.7, is not maintained in good repair and has not deteriorated more than 50 percent of its replacement value, the code official shall notify the owner thereof and order him to repair the billboard within a specified time but not less than 10 calendar days. If the code official finds that the billboard has deteriorated more than 50 percent of its replacement value, or is not repaired within the time specified in the repair notice, the code official shall notify the owner of the billboard and the owner of the real property on which said billboard is located to remove the billboard from

the property within a specified time. All billboards ordered to be removed shall be stricken from the authorized list when the time limit set in the removal notice ends. Failure to comply shall subject said owners, upon conviction or adjudication, to the fines provided for in Section 4 of An Act to regulate the erection, hanging, placing, painting, display and maintenance of outdoor signs and other forms of exterior advertising within the District of Columbia, approved March 3, 1931 (46 Stat. 1486; D.C. Official Code § 1-303.23), or to civil fines, penalties, and fees pursuant to Titles I-III of the Department of Consumer and Regulatory Affairs Civil Infractions Act of 1985, effective October 5, 1985 (D.C. Law 6-42; D.C. Official Code §§ 2-1801.01 *et seq.*).

**N101.7.6.6 Permit required.** No billboards shall be erected, placed, maintained or relocated within the District of Columbia unless an application for permit is approved by the code official.

1. **Permit applications.** Permit applications shall be made upon forms provided by the code official. Permit applications shall be accompanied by four (4) sets of drawings showing details of construction, foundations, lighting, location of the billboard in relation to property lines, and relation to any other billboards located within 500 feet (152 400 mm) of the billboard for which the application is submitted. A separate electrical permit is required for billboards containing any electrical features.
2. **Permit fee.** The permit application must be accompanied by a fee pursuant to Section 108.
3. **Zoning compliance.** Billboard permit applications shall comply with the *Zoning Regulations*. However, where a billboard is to be located in an area, which, in the judgment of the Zoning Administrator is not permitted, the Zoning Administrator shall notify the applicant in writing that the application for permit is denied for failure to conform to the *Zoning Regulations*, indicating the applicable provisions of the *Zoning Regulations*. The Zoning Administrator's decision may be appealed to the Board of Zoning Adjustment as prescribed by its rules.
4. **Shipstead-Luce Act and Old Georgetown Act areas.** Where a billboard is to be located in an area covered either by the Shipstead-Luce Act or the Old Georgetown Act, the application and supporting material shall be transmitted to the Commission of Fine Arts for review under Sections 6-611.01 and 6-1202 of the D.C. Official Code (2018 Repl.).
5. **Permit denial.** If the code official denies a billboard permit, the basis for the denial shall be stated in writing, including references to the

statutory or regulatory provisions that would be violated if the permit were granted. The code official shall notify the applicant in writing with the reasons for denial of the permit.

**N101.7.6.7 Design standards.** Billboard permit applications shall comply with items 1 through 15 below, before a permit shall be issued:

1. The billboard shall not contain any moving parts, except where such moving parts are used to convey public service information such as time, temperature, date, weather, or similar information.
2. The billboard shall not contain flashing, intermittent, moving, or neon lights; the billboard shall not be lighted so as to permit beams of light to be directed at any portion of a public right-of-way, which beams of light are of such intensity or brilliance as to cause glare or impair the vision of any driver, or otherwise interfere with the driver's operation of a motor vehicle; the billboard shall not obstruct or undermine the traffic information systems of signs and lights.
3. The billboard shall not be located on lots of less than 50 feet (15240 mm) of street frontage, nor shall billboard length be more than half the street frontage of the lot where it is proposed to be erected.
4. The billboard shall not be located within 200 feet (60960 mm) of an existing billboard.
5. When located along an Interstate Highway or a controlled Access Primary Roadway within the Federal Aid Primary Urban Extension System as designated by the D.C. Department of Transportation, the billboard shall not be located less than 500 feet (152400 mm) from an existing billboard.
6. The billboard shall not be located on lots within 200 feet (60960 mm) of any Residential District, as defined by the *Zoning Regulations*.
7. The billboard shall not be located within 200 feet (60960 mm) of any park or building owned or under the control of the government of the District of Columbia or of the Federal Government.
8. The billboard shall not be located within 300 feet (91440 mm) of any Historic Landmark or in or within 300 feet (91440 mm) of any Historic District as listed in the District of Columbia Inventory of Historic Sites.
9. The billboard shall not be visible from the nearest right-of-way line of

any Interstate Highway or Federal Aid Primary Urban Extension System route, as designated by the D.C. Department of Transportation, or on any surface or elevated right-of-way of the Washington Metropolitan Area Transit Authority system, except as authorized under item 10 of this section.

10. Where permitted by the *Zoning Regulations*, billboards shall be permitted that do not comply with item 9 of this section, provided such billboards are located more than 200 feet (60960 mm) from any of the right-of-ways mentioned therein.
11. The billboards shall be set back from each property line of the lot where it is proposed to be erected, a distance of at least one (1) foot (305 mm) for each foot (305 mm) of overall billboard height.
12. The billboard shall not have a net advertising area in excess of 300 square feet (27.9 m<sup>2</sup>) for each sign face. For the purpose of this section, net area shall be considered exclusive of any border, trim, ornamental base, apron supports or other structural members.
13. The billboard shall be designed and installed so as to maintain a minimum clearance of 8 feet (2438 mm) from the ground, as measured from the adjacent grade.
14. The billboard shall not exceed 25 feet (7620 mm) in overall height as measured from grade at the center line of the billboard to the level of the highest point of the billboard.
15. The billboard shall conform to Section N101.11.

**N101.7.7 Signs on side walls.** Where no sign or signs exist on the side wall of any building or structure, no permit shall be issued for the erection, hanging or painting of a sign or signs on such side wall, except as provided in Sections N101.7.7.1 and N101.7.7.2.

**N101.7.7.1 Corner buildings and alleys entrances.** The code official shall be authorized to issue permits to erect, hang, or paint a sign or signs on those side walls of a corner building which abut a public street, or on those side walls of buildings which have a public entrance opening for business purposes upon an alley, when such signs comply with the provisions of this section.

**N101.7.7.2 Walls facing parking lots.** A building with adjoining parking lots used in connection with such building shall be permitted to have side wall signs facing over such parking lots toward a street or alley fronting on such lots.



**N101.7.8 Signs on public space.** No structure or standard used as a sign, bulletin, or advertisement of any sort shall be built, placed, erected, hung, maintained, or left in or upon any street, avenue, alley, highway, footway, sidewalk, parking or other public space in the District of Columbia, unless specifically approved by the code official, including the use of directional signs as described in Section N101.6.5, in accordance with provisions of this section.

**N101.7.9 Transported signs or banners.** No advertising sign or banner shall be carried or transported on or over any public space. The provisions of this section shall not apply to signs displayed on vehicles and advertising the bona-fide business of the owner. This section shall not be construed to apply to banners or signs carried by members of any labor organization or similar body, whether employers or employees, publicizing the existence of or facts about any labor dispute or to any other sign bearing non-commercial statements of fact, belief, or personal or political opinion.

**N101.7.10 Commercial advertising on WMATA vehicles.** Despite the provisions of Section N101.7.9, or any other law, the sale and use of commercial revenue advertising space on the rear and side exteriors, or entire exterior surfaces of Metrobus public transit vehicles under the control and operation of the Washington Metropolitan Area Transit Authority (WMATA) shall be permitted for such vehicles operating on public space within the District of Columbia, subject to the conditions of Sections N101.7.10.1 through N101.7.10.2.

**N101.7.10.1 Observance of the law.** No advertisement shall be accepted by WMATA which violates this code or any other District of Columbia or federal law.

**N101.7.10.2 Public service announcements.** The rear and side exterior advertising space on at least 10 percent of the total number of Metrobus vehicles available for public transit operations shall be reserved for free public service announcements and advertisements regarding community, art, cultural, educational, and similar events.

**N101.7.11 Revolving signs.** Revolving signs shall be permitted in Commercial and PDR Districts as defined in the *Zoning Regulations*, when located entirely upon the land of the owner and not projecting beyond the building line, subject to the conditions of Sections N101.7.11.1 through N101.7.11.7. As used in this section, “revolving sign” includes a sign that displays 3-D, moving, animated, or periodically-changing images or text.

**N101.7.11.1 Location restriction.** Revolving signs shall not be permitted on the roofs of buildings or structures.

**N101.7.11.2 Application requirement.** Complete details of erection and operation of revolving signs shall be submitted with the sign permit application.

**N101.7.11.3 Color and electrical features.** The color and electrical features of revolving signs shall be approved by the Department of Transportation before issuance of a revolving sign permit.

**N101.7.11.4 Revolving speed.** Revolving signs shall not revolve faster than 5 revolutions per minute.

**N101.7.11.5 Dimensions.** The area of revolving signs shall not exceed 40 square feet (3.72 m<sup>2</sup>) per face, and the maximum dimension shall not exceed 3 feet (914 mm).

**N101.7.11.6 Clearance and height.** Revolving signs shall have not less than 8 feet (2438 mm) clearance above the adjacent ground level, and the total height of the sign above grade shall not exceed 20 feet (6096 mm).

**N101.7.11.7 Illumination.** Exposed lights or tubing shall be prohibited on revolving signs, and illumination shall be from indirect or internal sources.

**N101.7.11.8 Vehicular Traffic Safety.** No revolving sign may be installed or maintained if the Department of Transportation has determined that the sign location, size, or height above grade is objectionable with regard to vehicular traffic safety.

**N101.7.12 Commercial Advertising on Taxicabs.** Despite the provisions of Section N101.7.9, or any other law, the sale and use of commercial revenue advertising space on the exterior rooftops of taxicabs shall be permitted, subject to the conditions of Sections N101.7.12.1 through N101.7.12.4.

**N101.7.12.1 Advertising dimensions.** Exterior rooftop advertising on taxicabs shall not exceed a size eighteen (18) inches in width, seventeen (17) inches in height or fifty-six (56) inches in length.

**N101.7.12.2 Illuminated signs.** Exterior rooftop advertising signs on taxicabs may be equipped with fluorescent illumination. However, flashing, intermittent, moving, or neon lights or parts are prohibited.

**N101.7.12.3 Signs violating law.** No advertisement shall be permitted that violates any District or federal law, including, but not limited to, Sections 28-3901 through 28-3908 of the D.C. Official Code.

**N101.7.12.4 Public service announcements.** Those taxicabs carrying exterior rooftop advertising pursuant to this section shall devote 10 percent of their yearly rooftop advertising to free public service announcements and advertisements regarding health, safety community, art, cultural, educational, or similar subjects or events.

**N101.8 Temporary signs during construction.** The code official is authorized to issue permits for the erection, painting, or affixing of signs on premises where building operations are being conducted, giving the name and address of the engineers, architects, contractors, financing institutions, and identifying the project or purpose of the building. Such signs shall comply with all requirements of this section, and any sign so erected, painted, or affixed shall be removed upon completion of the building operations, or at any time before completion of building operations, when ordered by the code official in the interest of public safety, health and welfare.

**N101.8.1 Signs in public space.** Permits shall be issued for temporary construction signs, as described in Section N101.8 to be erected on temporary barricades, covered walkways, construction offices or public space between the building line and such structures, subject to the conditions of Section N101.8.

**N101.8.2 Dimensions.** The total area of signs erected on public space pursuant to Sections N101.8 through N101.8.2 shall be limited to 2 square feet (0.186 m<sup>2</sup>) for each foot of street frontage of the lot, with a maximum sign area of 40 square feet (3.72 m<sup>2</sup>) for residentially zoned property, and 200 square feet (18.58 m<sup>2</sup>) for commercially zoned property. An additional 5 square feet (0.465 m<sup>2</sup>) of sign area shall be permitted on barricades to identify each adjoining premises or business.

**N101.9 Residential or Special Purpose District limitations.** This section shall govern signs subject to the provisions of Section N101 posted in residential or special purpose districts.

**N101.9.1 General Residential District limitation.** No sign or signs shall be permitted in any Residential District, as fixed by the *Zoning Regulations* unless a permit is issued by the code official in accordance with the provisions of this section. The exemptions from the permit requirement stated in Section N101.3.5 shall not apply to signs in Residential Districts. Signs posted in Residential Districts that bear non-commercial statements of fact, belief, or personal or political opinion are not subject to the provisions of this section and shall not require a permit unless the sign is posted on historic property or is subject to review by the Commission of Fine Arts and a permit is required pursuant to Section N101.3a or N101.3b.

**Exemption.** A permit shall not be required for a nameplate not exceeding 1 square foot (0.093 m<sup>2</sup>) in area, to advertise a home occupation, and bearing only the name and occupation of the occupant of the building.

**N101.9.2 Zoning restrictions.** Nothing within this section shall be construed to grant any greater area nor any greater illumination than limited by specific order of the Board of Zoning Adjustment or Zoning Commission. If such a specific order prohibits any signs or illumination, such specific order shall take precedence over the provisions of this section.

**N101.9.3 Location restrictions.** Residential district signs subject to the provisions of

Section N101 shall be located entirely on private property and shall be located on the portions of the building or premises occupied by the use for which the signs are authorized.

**N101.9.4 Illumination.** Residential District signs shall be allowed to be illuminated by steady white lighting only. No fluctuating, pulsating, or moving lights or lighting designed to change appearance in any manner shall be permitted in any Residential District. Where illumination of signs located in any Residential District is by gas tubes, these tubes shall not be visible but shall be allowed to be so arranged as to provide indirect light.

**N101.9.5 Authorized signs.** The code official is authorized to issue a permit for signs complying with any of Sections N101.9.5.1 through N101.9.5.7.

**N101.9.5.1 Temporary automobile parking lots.** On temporary automobile parking lots approved by the code official for such use, the total area of signs shall not exceed 20 square feet (1.86 m<sup>2</sup>) facing each street upon which the lot has a vehicular entrance, in addition to separate signs authorized under Section N101.9.5.7.

**N101.9.5.2 Nonconforming uses.** Signs advertising a nonconforming use as defined in the *Zoning Regulations*, shall be limited to a total area not to exceed, for each use, the limits permitted by Section N101.10 or 40 square feet (3.72 m<sup>2</sup>), whichever is less. Separate signs authorized under Section N101.9.5.7 shall be counted towards the limits of this section.

**N101.9.5.3 Church bulletins.** Church bulletins shall not exceed 20 square feet (1.86 m<sup>2</sup>) in area for each church. When approved by the code official, church bulletins shall be allowed to be placed on public parking upon recommendation of the Public Space Committee.

**N101.9.5.4 Non-profit organization.** Signs for each school, college, hotel, philanthropic institution, non-profit organization, hospital, residential care facility or church, shall be limited to a total area not to exceed 40 square feet (3.73 m<sup>2</sup>).

- 1. Non-profit organization nameplates.** When approved by the code official, a nameplate or nameplates, each such plate not more than 6 square feet (0.56 m<sup>2</sup>) in area, shall be allowed to be placed on the public parking at entrance driveways, upon recommendation of the Public Space Committee. The area of such nameplates shall not be counted towards the limits on total sign area specified in Section N101.9.5.4.
- 2. Sign supports.** Signs pursuant to Section N101.9.5.4 shall be allowed to be supported on posts or pilasters where permits have been secured for posts or pilasters, but shall not be so placed as to extend over any walkway or roadway

unless there is at least 8 feet (2438 mm) clearance above such walkway or 15 feet (4572 mm) clearance above such roadway.

**N101.9.5.5 Apartment house signs.** For apartment houses, signs shall be limited to the name and house number of the building. Such signs shall only be permitted when facing the street or streets upon which entrances to the building are located. Such signs shall not exceed for each building frontage, the limits set forth in Table N101.9.5.5. Signs placed on a marquee, canopy, or awning, as permitted under Section N101.7.4, shall not be counted towards the area limitation given in Table N101.9.5.5. For purposes of this section, a group building erected under a covenant shall be considered as a single building.

**TABLE N101.9.5.5  
APARTMENT HOUSE SIGNS**

<b>STREET FRONTAGE (feet)<sup>a</sup></b>	<b>MAXIMUM ALLOWABLE SIZE OF SIGN ON STREET FRONTAGE (square feet)<sup>b</sup></b>
Up to 45	4
45 to 50	5
50 to 55	6
55 to 60	7
60 to 65	8
65 to 70	9
70 to 75	10
75 to 80	11
80 to 85	12
85 to 90	13
90 to 95	14
95 to 100	15
100 to 105	16
105 to 110	17
110 to 115	18
115 to 120	19
120 and above	20

Note a. 1 foot = 304.8 mm

Note b. 1 square foot = 0.093 square meters

**N101.9.5.6 Office buildings, commercial or industrial uses.** For buildings or premises approved by the Board of Zoning Adjustment or Zoning Commission for office buildings and commercial or industrial uses, the total area of signs, for each such building or premises, shall not exceed the limit prescribed in Section N101.10, or 40 square feet, (3.73 m<sup>2</sup>), or such other limitation as may have been

imposed by the Board of Zoning Adjustment or Zoning Commission, whichever is less. Such signs shall be attached flat against the wall of the building, unless they conform to Section N101.9.5.6.1.

**N101.9.5.6.1 Signs beyond the wall.** Signs pursuant to Section N101.9.5.6 shall be permitted on canopies, marquees, porticos, and awnings located entirely on private property, where placed or painted in the manner and with the limitations described in Section N101.7.4. Signs so placed shall be counted towards the maximum allowable area of signs.

**N101.9.5.7 Parking rate signs.** Where Section 612 of 24 DCMR (Public Space and Safety) requires that a schedule of auto parking charge rates be posted, a separate sign setting forth such schedule, not more than 20 square feet (1.86 m<sup>2</sup>) in area, shall be allowed in addition to the areas otherwise permitted in Sections N101.9.5.1 and N101.9.5.2.

**N101.9.6 Signs in Special Purpose Districts.** For buildings or premises located in a Special Purpose District, as defined in the *Zoning Regulations*, the total area of signs subject to the provisions of Section N101 shall not exceed the limits set forth in Table N101.9.6, nor those imposed by any specific order of the Board of Zoning Adjustment or Zoning Commission.

**TABLE N101.9.6  
SIGNS IN SPECIAL PURPOSE DISTRICTS**

<b>STREET FRONTAGE (feet)<sup>a</sup></b>	<b>MAXIMUM ALLOWABLE SIZE OF SIGN ON STREET FRONTAGE (square feet)<sup>b</sup></b>
Up to 40	40 ft <sup>2</sup>
40 to 100	1 ft <sup>2</sup> per foot of frontage
Over 100	100 ft <sup>2</sup> plus 0.5 ft <sup>2</sup> per foot of frontage over 100

Note a. 1 foot = 304.8 mm

Note b. 1 square foot = 0.093 square meters

**N101.10 Maximum size of signs.** In any district other than Residential or Special Purpose Districts, the total area of sign or signs subject to the provisions of Section N101 and attached to, displayed from, or erected upon any building, lot, or parcel of land, shall not exceed the limits prescribed in Sections N101.10.1 through N101.10.7.

**N101.10.1 One story buildings.** Two square feet (0.19 m<sup>2</sup>) for each foot of width of front of building occupied by the business or profession to be advertised, such signs or

signs to be placed on the front under consideration within the limits of the portion of the front in which the business advertised is located. Roof signs shall not exceed 100 square feet (9.29 m<sup>2</sup>) facing any one street frontage.

**N101.10.2 First floor stores or businesses in multi-story buildings.** The provisions of Section N101.10.1 shall apply, except that such signs shall be kept within a height of 20 feet (6096 mm) above the sidewalk.

**N101.10.3 Upper stories of multi-story buildings.** The total area of all signs above the 20-foot height specified in Section N101.10.2 shall not exceed the limits set forth in Table N101.10.3, for each street frontage.

**TABLE N101.10.3  
SIGNS ABOVE THE FIRST STORY**

<b>AREA OF WALL ABOVE 20 FEET ABOVE THE SIDEWALK, ON STREET FRONTAGE (square feet)<sup>a</sup></b>	<b>MAXIMUM ALLOWABLE AREA OF SIGNS ABOVE 20 FEET ABOVE SIDEWALK ON STREET FRONTAGE</b>
Up to 1600	40 ft <sup>2</sup>
1600 to 4000	1/40 of area of wall above 20 ft height
Over 4000	100 ft <sup>2</sup> roof signs, or 1/40 of area of wall above 20 ft height for signs below roof

Note a. 1 square foot = 0.093 square meters

**N101.10.4 Single occupancy buildings.** Where an entire building over one story in height is occupied by one business, store or occupant, the total area of all signs on each street frontage shall not exceed the limits set forth in Table N101.10.4.

**TABLE N101.10.4  
SIGNS ON SINGLE-OCCUPANT MULTI-STORY BUILDINGS**

<b>AREA OF WALL ON STREET FRONTAGE (square feet)<sup>a</sup></b>	<b>MAXIMUM ALLOWABLE AREA OF SIGNS ON STREET FRONTAGE</b>
Up to 4000	100 ft <sup>2</sup>
Over 4000	1/40 of area of wall, of which not more than 100 ft <sup>2</sup> above the roof

Note a. 1 square foot = 0.093 square meters

**N101.10.5 Unimproved lots or lots with a small office.** Where a business is conducted on an unimproved lot or a lot with a small office, 2 square feet (0.19 m<sup>2</sup>) of sign area for each foot of street frontage shall be allowed, but not more than 150 square feet (13.95 m<sup>2</sup>) per frontage under consideration. The area of the signs of such buildings shall not exceed that permitted under Section N101.10.1.

**N101.10.6 Parking rate signs.** Where Section 612 of DCMR 24, "Public Space and Safety" requires that a schedule of auto parking charge rated be posted, a sign setting forth such schedule, not more than 20 square feet (1.86 m<sup>2</sup>) in area shall be allowed in addition to the areas otherwise permitted in Sections N101.10.1 through N101.10.5.

**N101.10.7 Exemptions.** Signs exempted from permit pursuant to Sections N101.3.5 through N101.3.5.8 and signs not subject to the provisions of Section N101 shall not be counted towards the total sign area permitted under Sections N101.10.1 through N101.10.5.

**N101.11 Structural and materials requirements.** All signs subject to the provisions of Section N101 and their supports, including signs exempted from permit, shall comply with all structural and materials requirements of this section and other applicable sections of this code.

**N101.11.1 Wind load.** Signs shall be designed and constructed to withstand wind pressure as provided for in Chapter 16.

**N101.11.2 Seismic load.** Signs designed to withstand wind pressures shall be considered capable of withstanding earthquake loads, except as provided for in Chapter 16.

**N101.11.3 Working stresses.** The allowable working stresses shall conform with the requirements of Chapter 16. The working stresses of wire rope and its fastenings shall not exceed 25 percent of the ultimate strength of the rope or fasteners.

**Exceptions:**

1. The allowable working stresses for steel and wood shall be in accordance with the provisions of Chapter 22 and Chapter 23.
2. The working strength of chains, cables, guys or steel rods shall not exceed one-fifth of the ultimate strength of such chains, cables, guys or steel.

**N101.11.4 Attachment.** Signs attached to all structures shall be safely and securely fastened by means of metal anchors, bolts or approved expansion screws of sufficient size and anchorage to safely support the loads applied. Structure to which signs are attached shall be designed to support the loads applied. Signs shall not be attached to or supported by unbraced parapet walls.

**N101.11.5 Lateral bracing assumptions.** For design of lateral bracing in the direction



of the length of the sign, the wind shall be assumed at an angle of 45 degrees with the front or back of the sign, and the bracing designed for the force on the projected area perpendicular to the wind.

**N101.11.6 Ground supports.** Ground supports for signs shall comply with Sections N101.11.6.1 through N101.11.6.2.

**N101.11.6.1 Wood materials.** Where wood is embedded in the soil, the wood shall be pressure treated with an approved preservative.

**N101.11.6.2 Metal materials.** Metal materials shall be protected from corrosion.

**N101.11.7 Combustible materials.** Plastic materials shall burn at a rate no faster than 2.5 inches per minute (64 mm/min) when tested in accordance with ASTM D 635.

**N101.11.8 Incombustible materials.** Signs as specified in Sections N101.11.8.1 through N101.11.8.5 shall be of incombustible material except that sign cappings, decorations, lettering, and moldings may be of combustible materials.

**N101.11.8.1 Wall signs.** Wall signs exceeding 40 square feet (3.72 m<sup>2</sup>) in area, flat against, or supported not more than 15 inches (381 mm) away from the wall.

**N101.11.8.2 Projecting signs.** Projecting signs exceeding 2.5 square feet (0.23 m<sup>2</sup>) in area.

**N101.11.8.3 Ground-supported signs.** Ground-supported signs over 15 feet (4572 mm) in height or located 6 feet (1828 mm) or less from any building.

**N101.11.8.4 Roof signs.** Roof signs, irrespective of height or area.

**N101.11.8.5 Electrical signs.** Signs using electricity.

**N101.11.9 Use of glass.** Glass in signs shall be double-strength plain glass, plate glass, or wired glass. Glass shall be designed per Table N101.11.9, except that no panel of more than 10 square feet (0.93 m<sup>2</sup>) of glass other than wired glass shall be used in signs projecting over public space.

**TABLE N101.11.9  
SIZE, THICKNESS AND TYPE OF GLASS PANELS IN SIGNS**

MAXIMUM SIZE OF EXPOSED PANEL (square feet)		MINIMUM THICKNESS OF GLASS	TYPE OF GLASS
Any dimension (inches)	Area (square inches)	(inches)	

30	500	1/8	Plain, plate or wired
45	700	3/16	Plain, plate or wired
144	3,600	1/4	Plain, plate or wired
>144	>3,600	1/4	Wired glass

For SI: 1 inch = 25.4 mm, 1 square inch = 645 mm<sup>2</sup>

**N101.12 Alteration or relocation of signs.** No sign erected before the adoption of these regulations shall be altered structurally or relocated, unless it is brought into compliance with the requirements of all applicable regulations for new signs.

**N101.13 Dangerous signs.** When any sign, including signs bearing non-commercial statements of fact, belief, or personal or political opinion posted on private property, now or hereafter erected, hung, attached, or maintained becomes structurally unsafe or otherwise dangerous to the safety of any building or premises, or to the public, the code official shall order the same to be taken down, removed, or made safe, and such order shall be complied with by the owner, occupant, agent, or person having the beneficial use of any building or premises upon which said dangerous sign may be erected, hung, attached, or maintained. Any such person failing to comply with the orders issued pursuant to this section shall, upon conviction or adjudication, be subject to the fines provided for in the Act of March 3, 1931 (46 Stat. 1486, as amended; D.C. Official Code Section 1-303.23 (2016 Repl. & 2018 Supp.)), or to civil fines, penalties, and fees pursuant to Titles I-III of the Department of Consumer and Regulatory Affairs, Civil Infractions Act of 1985 (D.C. Law 6-42, Section 457).

**N101.14 Obstructive signs.** No sign, including signs bearing non-commercial statements of fact, belief, or personal or political opinion posted on private property, shall be so erected, hung, or attached as to obstruct any window, door, fire escape, balcony, platform, stairway, ladder, stack, vent pipe, or egress from any building.

**N101.14.1 Removal of obstructive signs.** Signs in violation of Section N101.14 shall be removed or relocated to conform with this code.

**N101.15 Display of license or permit.** The provisions of this section shall govern licenses, permits and penalties for sign work.

**N101.15.1 Display of license.** Any person, persons, firm, or corporation engaged in the business of painting, repainting, placing, replacing, hanging, erecting, or maintaining signs within the meaning of this section shall have at his, her, their, or its principal place of business within the District of Columbia the license issued by the Department, available for inspection by the code official or by any member of the Metropolitan Police Department, at all appropriate times.

**N101.15.2 Display of permit.** A permit for the erection, repair, painting, repainting, or as otherwise provided in this section, of a sign shall be kept on the premises where such sign is being erected repaired, painted, repainted, or as otherwise provided in this section, and shall be displayed by the permittee when ordered to do so by the code official or by

any member of the Metropolitan Police Department, at all appropriate times.

**N101.15.3 Penalties.** Any person failing to comply with these regulations shall, upon conviction or adjudication, be subject to the fines provided for in the Act of March 3, 1931 (46 Stat. 1486, as amended; D.C. Official Code Section 1-303.23 (2016 Repl. & 2018 Supp.)), or to civil fines, penalties, and fees pursuant to Titles I-III of the Department of Consumer and Regulatory Affairs Civil Infractions Act of 1985 (D.C. Law 6-42, Section 457).

**N101.16 Real estate signs.** The provisions of this section shall govern real estate signs.

**N101.16.1 Public space restrictions.** No sign or advertisement relating to the sale, rent, or lease of land or premises shall be located on the sidewalk or parking of any street, avenue, or road in the District of Columbia.

**N101.16.2 Number, location and size of sign.** One (1) painted or printed sign or advertisement for the sale, rent, or lease of land or premises shall be allowed with the written consent of the owner or the owner's agent to be placed, by any one of not more than three (3) real estate agents, on any lot, piece, or parcel of land abutting on a street, avenue, or road in the District of Columbia, or attached to the exterior of any building fronting on them, provided permits are secured for such sign in accordance with Section N101.16.4. The area of any such sign shall not exceed 40 square feet (3.716 m<sup>2</sup>) if located within a Residential district, or 60 square feet (5.58 m<sup>2</sup>) if located within an unsubdivided outlying section of the District of Columbia. This section shall not apply to the temporary placement of directional signs relating to the sale or lease of real estate which indicate the holding of an open house, or a sign attached to the one painted or printed sign allowed by Section N101.3.5.6 which indicates that the premises have been sold, leased, or placed under contract.

**N101.16.3 Additional restrictions.** Real estate signs shall be located on the premises advertised. Directional signs shall not be permitted.

**N101.16.4 Permit for real estate signs.** Under the provisions of the Act of March 4, 1913 (37 Stat. 974), a permit shall be issued to erect, hang, place, paint, or display any sign advertising the sale, rent or lease of real estate, or which in any manner pertains to land or buildings, unless exempted by Section N101.3.5.6. No permit shall be required for the temporary placement of directional signs which indicate the holding of an open house at a particular property.

**N101.16.5 Penalties.** The code official is authorized to require the removal of any sign or advertisement in violation of this section and to institute proceedings against persons violating this section, and upon, conviction or adjudication, such persons shall be subject to the fines provided for in D.C. Official Code § 1-303.23 (2016 Repl. & 2018 Supp.), or to civil fines, penalties, and fees pursuant to Titles I-III of the Department of Consumer and Regulatory Affairs Civil Infractions Act of 1985 (D.C. Official Code §§ 2-1801 *et*

*seq.* (2016 Repl. & 2018 Supp.)).

**N101.17 Rules for Special Signs.** The code official is authorized to issue a permit for a “Special Sign,” as defined in Section N101.17.1. Special Signs shall be subject to the rules of this section and not to the rules in this chapter pertaining to billboards, poster panels, wall signs, and other specific types of signs. The rules of this section shall apply only to Special Signs.

**N101.17.1 Definitions.** As used in this section, the following definitions apply:

**Special Sign:** A sign which meets the standards listed in Section N101.17.5, that is erected, hung, placed, posted, painted, displayed or maintained on an outdoor or exterior wall or surface of a building pursuant to a Special Sign Permit issued by the Director of the Department. A Special Sign shall only include signs that are erected, hung, placed, painted, displayed or maintained on an outdoor or exterior wall or surface that is not self-standing, except as provided in this section. A Special Sign shall be one of the thirty-two special signs approved by the Director pursuant to the Rules for Special Signs adopted September 22, 2000 (47 DCR 7695 – 7700).

**Exception:** The twelve (12) self-standing special signs approvals, existing as of January 1, 2004, shall be allowed to remain and/or be transferred within the area specified in Section N101.17.7(b); provided that transfers of existing self-standing signs to a new self-standing location are subject to the following additional conditions: (i) that transferred self-standing signs are permitted only as temporary signs for a two (2) year time period beginning on the latter of the dates of issuance of the transfer permit or the date of issuance of the associated building permit for the special sign structure; and (ii) that the location to which the self-standing sign is transferred is a future construction site to be developed in the foreseeable future, as demonstrated by development plans, marketing materials, or ongoing administrative processes to develop the site. Sign support structures that are either attached to an adjacent building wall or within twelve (12) inches of an adjacent building wall (to ensure that the wall is not damaged) are not considered “self-standing” for the purposes of the special sign regulations.

**Call to Action:** An explicit, specific or blatant message to consumers from the sponsor that asks consumers to take action by purchasing, using, utilizing or considering the use of a sponsor’s product and/or service, including without limitation providing price or value information (*e.g.*, “affordable” or “5% interest rate available”) and inducements to act (*e.g.*, “one month’s free service when you buy”).

**Logo:** The symbol, emblem, typeface, or other visual device used by the sponsor to identify itself and to distinguish itself from others in the marketplace.

**Permit Holder:** The individual or entity who or which holds a Special Sign Permit validly issued and in good standing in accordance with the requirements of this section and with all other applicable terms and conditions of Chapter 31, and who or which makes such Special Sign available for sponsorship or community service as provided herein.

**Sponsor:** The entity that contracts with the Permit Holder for the use of a Special Sign to display the Sponsor's artwork that meets the visual and text standards of Section 3115.4.2.5.

**N101.17.2 Special Sign Permit.** No Special Sign may be erected, hung, placed, posted, painted, displayed, or maintained in the District of Columbia without the owner of such Special Sign first obtaining a Special Sign Permit from the Department in accordance with Section N101.17.3 and approval of the artwork in accordance with Section N101.17.5. A Special Sign Permit authorizes the sign's location and particular artwork.

**N101.17.3 Special Sign Permit Application.** An application for a Special Sign Permit shall be submitted by the owner to the Director of the Department, or his designee, on a form provided by the Department, and shall include the following:

1. Identification of: (1) the applicant; (2) the proposed location of the Special Sign, by the street address of the building or premises and the face direction of the wall or surface (*e.g.*, "northern-facing"); (3) the proposed linear dimensions of the Special Sign; and (4) a list of all existing Special Signs, identified by the address of the premises, located within a radius of one thousand feet (1000 ft) of the center of the proposed Special Sign;
2. An affidavit signed by the applicant or his duly authorized representative, certifying that the applicant is in compliance with the Clean Hands Before Receiving a License or Permit Act of 1996 ("Clean Hands Act"), effective May 11, 1996 (D.C. Law 11-118; D.C. Official Code §§ 47-2861 *et seq.* (2015 Repl. & 2018 Supp.)).
3. A permit fee in the amount of one dollar (\$1.00) per square foot of the Special Sign. The permit fee may be paid by check made payable to the order of the "D.C. Treasurer." The permit fee may be refunded to the applicant if the permit is not issued, in accordance with the provisions of Chapter 1 for the refund of unused permit fees.

**N101.17.3.1 Applicant Qualifications.** The applicant who or which submits an application for a Special Permit shall be licensed to do business in the District of Columbia as a business engaged in outdoor advertising, shall be a business in good standing at the time the application is submitted and for the duration of the permit, as evidenced in the Department's records. The applicant shall not owe more than one hundred dollars (\$100) in taxes or delinquent fines to the District of Columbia at the time the application is submitted, as evidenced in the records of the District of Columbia Office of Tax and Revenue, and shall be in compliance with the Clean Hands Act.

**N101.17.4 Review, Approval and Denial of Permit Applications.** The Director of the Department, or his or her designee, shall review and approve or deny a Special Sign Permit application within twenty (20) days of its submission. Special Sign Permits shall be issued in the name of the applicant and shall pertain solely to the Special Sign location identified on the permit, subject to the transferability provisions of Section N101.17.7.

**N101.17.4.1 Denial of Application.** If the Director denies a Special Sign Permit, the denial shall be in writing to the applicant and shall state the statutory or regulatory basis for the denial. The applicant shall have ten (10) business days from receipt of the denial to correct any defect in the application.

**N101.17.5 Approval of Special Sign Artwork.** Prior to the erection, hanging, placement, posting, painting, or displaying of any Special Sign artwork, the applicant shall obtain approval of such Special Sign artwork from the Department. The applicant shall submit the Special Sign artwork for approval with the original permit application or obtain approval for the Special Sign artwork subsequent to the issuance of the Special Sign Permit. Special Sign artwork shall be submitted to the Director of the Department or his or her designee, who shall review and act on the Special Sign artwork submission within ten (10) days of the submission. No Special Sign artwork shall be accepted by the Department which violates the D.C. Official Code or any other District of Columbia law or municipal regulation, or federal law. No Special Sign artwork shall be approved by the Department unless:

1. Identification of the Sponsor of the Special Sign, when provided, is limited to the bottom center, bottom right or bottom left corner of the Special Sign artwork, and shall be limited to the words “Sponsored by [Name and/or Logo of Sponsor]”. This Sponsor identification shall be no higher than one-tenth (1/10) of the maximum vertical dimension of the face of the sign, and no wider than one-third (1/3) of the maximum horizontal width of the face of the sign.
2. The copy of the Special Sign shall be predominantly pictorial and non-verbal, with textual matter on no more than 25% of the display area of the sign. The space occupied by any sponsor identification shall not be counted against the 25% limitation. Any textual matter or words contained in the pictures of products on the signs, such as the labeling on soft drink cans, etc., shall be considered pictorial and shall not count in the calculation of the percentage of textual matter.
3. Any words included in the body of the Special Sign artwork shall not directly or indirectly identify the Sponsor or any of the Sponsor’s recognizable campaign slogans, or serve as a direct “Call to Action” on behalf of the

Sponsor.

4. The Department of Transportation determines that the sign location, size, and height above grade is not objectionable with regard to vehicular traffic safety.
5. The Department determines that the sign location is compatible with any existing park or building under the control of either the District of Columbia or the Federal government, pursuant to applicable laws and regulations.
6. The distance between horizontal projection of the center of the new proposed sign and the horizontal projection of the center of any other existing Special Sign within a one thousand feet (1000 ft) radius is at least five (5) times the sum of the diagonals of the two signs. This provision shall not affect existing Special Signs but shall apply to all new Special Signs and to the proposed relocation of any existing Special Sign.
7. Subject to the limitations placed on the permitted transfer of self-standing signs in Section N101.17.1, the height of special signs installed as self-standing signs shall not exceed thirty (30) feet and shall provide eight (8) feet of clearance from the ground, as measured from the adjacent grade.

**N101.17.5.1 Submission of Color Copies.** Color copies of the proposed Special Sign artwork shall be submitted to the Department for approval, in duplicate. The color copies shall be legible. Once Special Sign artwork is approved, the two (2) copies shall be stamped “approved” by the Department; one copy shall be placed in the applicant’s permit file with the Department and be made available for inspection by the Department, for as long as the sign shall remain on display, and one copy shall be returned to the applicant reflecting the approval of the Department.

**N101.17.6 Changing Special Sign Copy.** A Special Sign permit holder may change the Special Sign artwork at the permit location by submitting the new artwork for approval in accordance with the provisions of Section N101.17.5. A “change copy” fee in the amount of five hundred dollars (\$500) must be paid before each new Special Sign artwork can be approved and changed. The \$500 change copy fee in this section is refundable if the request to change the Special Sign artwork by the permit holder is not approved by the Director. Changing the copy of a permitted Special Sign shall not entail an increase of any of the linear dimensions of the sign.

**N101.17.7 Transferability of Special Sign Locations.** A Special Sign Permit shall be transferable to a new location only under the following conditions:

1. Except for transfers from locations presently lying outside the area defined in Paragraph (b) of this section, the transfer is for cause, which only means that:
  - (1) the lease for the location of the Special Sign is cancelled, terminated, or

otherwise invalid; (2) the Special Sign is partially or totally obstructed; or (3) the location of the Special Sign is or would be no longer feasible because of construction or development.

2. The new location is within the Central Business District (C-4), as defined by Title 11 of the District of Columbia Municipal Regulations; the commercial or industrial portions of the New York Avenue corridor, areas zoned industrial (M, C-M), as defined in Chapter 8 of Title 11 of the District of Columbia Municipal Regulations (11 DCMR §§ 800 *et seq.*); facilities within the jurisdiction of the District of Columbia Sports Commission as of November 1, 2001; or the following areas within the Central Employment Area which are bounded as follows:
  1. Beginning at the corner of F Street, N.W. and 17th Street, N.W., west along F Street, N.W. to 20th Street, N.W., north along 20th Street, N.W. to Pennsylvania Avenue, N.W., west along Pennsylvania Avenue, N.W. to 21st Street, N.W., north along 21st Street, N.W. to M Street, N.W., east along M Street, N.W. to 20th Street, N.W., north along 20th Street, N.W. to N Street, N.W., east along N Street, N.W. to 19th Street, N.W., south along 19th Street, N.W. to G Street, N.W., east along G Street, N.W. to 17th Street, N.W., south along 17th Street, N.W. to F Street, N.W.;
  2. Beginning at the corner of Rhode Island Avenue, N.W. and M Street, N.W., northeast along Rhode Island Avenue, N.W. to Massachusetts Avenue, N.W., east along Massachusetts Avenue, N.W. to 15th Street, N.W., south along 15th Street, N.W. to M Street, N.W., west along M Street, N.W. to 16th Street, N.W., south along the east side of 16th Street, N.W. to Eye Street, N.W., north along the west side of 16th Street, N.W. to M Street, N.W., west along M Street, N.W. to Rhode Island Avenue, N.W.;
  3. Beginning at the intersection of Massachusetts Avenue, N.W. and 14th Street, N.W., east along Massachusetts Avenue, N.W. to 9th Street, N.W., north along 9th Street, N.W. to N Street, N.W., east along N Street, N.W. to 7th Street, N.W., south along 7th Street, N.W. to K Street, N.W., east along K Street, N.W. to 3rd Street, N.W., south along 3rd Street, N.W. to Massachusetts Avenue, N.W., west along Massachusetts Avenue, N.W. to Eye Street, N.W., west along Eye Street, N.W. to 9th Street, N.W., south along 9th Street, N.W. to H Street, N.W., west along H Street, N.W. to 11th Street, N.W., north along H Street, N.W. to Eye Street, N.W., west along Eye Street, N.W. to 12th Street, N.W., north along 12th Street, N.W. to L Street, N.W., west along L Street, N.W. to 14th Street, N.W., north along 14th Street, N.W. to Massachusetts



Avenue, N.W.;

4. Beginning at the intersection of Massachusetts Avenue, N.W. and H Street, N.W., east along H Street, N.W. to the closed alley (formerly Smith Court) in the mid-block between 1st Street, N.W. and North Capitol Street, south along that closed alley line to G Street, N.W., east along G Street, N.W., to North Capitol Street, south along North Capitol Street, N.W. to Massachusetts Avenue, N.W., northwest on Massachusetts Avenue, N.W. to H Street, N.W.;
  5. Beginning at the intersection of Florida Avenue, N.E. and North Capitol Street, southeast along Florida Avenue, N.E. to 4th Street, N.E., south along 4th Street, N.E. to M Street, N.E., west along M Street, N.E. to 3rd Street, N.E., south along 3rd Street, N.E. to K Street, N.E., west along K Street, N.E. to 1st Street, N.E., south along 1st Street, N.E. to G Place, N.E., west along G Place, N.E. to North Capitol Street, north along North Capitol Street to Florida Avenue, N.E.;
  6. Beginning at the corner of M Street, S.E. and South Capitol Street, east along M Street, S.E., to 1st Street, S.E., south along 1st Street, S.E., to Potomac Avenue, S.E., west along Potomac Avenue, S.E., to South Capitol Street, north along South Capitol Street to M Street, S.E.; and
  7. Beginning at the intersection of Maryland Avenue, S.W. and Maine Avenue, S.W., east along Maryland Avenue, S.W. to 9th Street, S.W., south along 9th Street, S.W. to Interstate 395, west along Interstate 395 to Maine Avenue, S.W.
3. The Special Sign in its new location is approved by the Department in accordance with all other applicable provisions of Section N101.17.
  4. The permit holder pays a “change location” fee in the amount of \$500. The \$500 change location fee shall be refundable if the transfer of the Special Sign permit to a new location is not approved. If the relocation of the Special Sign is made at the request of the Department, a change location fee shall not be required.
  5. If the Special Sign is painted or drawn onto an existing structure, the method of removal shall be that the existing structure where the Special Sign has been placed shall be made neutral prior to the relocation.
  6. If a current Special Sign permit for a location that is not in the zone of

transferability, as defined in Paragraph (b) of this section, is transferred to another location under this section, the Department shall ensure that the current Special Sign has been removed prior to the relocation and no subsequent Special Sign shall be permitted to be erected in the former location or area outside the zone of transferability.

7. No Special Sign shall be installed so as to extend above the lowest portion of the roofline of an existing building's dimensions.

**N101.17.8 Installation of Special Signs.** The installation of a Special Sign shall be done in a workmanlike manner and in accordance with the standards of the industry. Special Signs shall be subject to the structural provisions of Section N101.11. Special signs shall not be installed upon building walls so as to cover any existing windows. A Special Sign shall only be installed upon a building and no part of either it or its supporting structure may protrude above the wall upon which it is installed. The topmost point of a Special Sign or of its supporting structure shall not be higher than the allowable height for a new building at the premises, under the *Zoning Regulations*.

**N101.17.9 Illumination of Special Signs.** Special Signs within five hundred feet (500 ft) of a residential zone, as established in the *Zoning Regulations*, shall not be illuminated. Other Special Signs may be indirectly illuminated by projecting artificial light on the surface of the sign, but shall not be internally illuminated nor be constructed of or incorporate neon, or any other type of gas or vapor lights. Special Signs shall not contain movable parts, or highly reflective or fluorescent materials, nor shall they contain 3-D, moving, animated, or periodically-changing images or text.

**N101.17.10 Limitations on Special Sign Permits.** The Department shall not issue any new permit, whether as an initial permit, for changes to artwork pursuant to Section N101.17.5, or for transfer to a new location pursuant to Section N101.17.7, for any Special Sign to be displayed upon buildings or land located in any of the following areas:

1. In or within one hundred feet (100 ft) of a Residential District, as defined in the *Zoning Regulations*, or within one hundred feet (100 ft) of a school or church with a valid certificate of occupancy for such use, or within one hundred feet (100 ft) of a federal or District of Columbia park or monument.
2. Between one hundred and two hundred feet (100 ft - 200 ft) of a Residential District, as defined in the *Zoning Regulations*, unless the sign faces away from the residential district and is placed at an angle of forty-five degrees (45°) or less with the closest residential zoning district boundary line.
3. In or within sixty feet (60 ft) of any Historic District or Historic Landmark or site listed on the most current edition of the "District of Columbia Inventory of Historic Sites" as amended from time to time, unless the Special Sign is located outside a Residential District, on a side-wall or back-wall of the

building or site and historic preservation approval is granted if necessary. Special signs in any Historic District or on a Historic Landmark or site shall be removed within six months of its erection, hanging, placement or display.

4. In or within one hundred feet (100 ft) of premises within the area controlled by the Shipstead-Luce Act (D.C. Official Code § 6-1201.01 (2018 Repl.).
5. In or within one hundred feet (100 ft) of premises within the area controlled by the Old Georgetown Act (D.C. Official Code §§ 6-1201 *et seq.* (2018 Repl.).
6. In a waterfront district (W) and pursuant to specific prohibitions as may be contained in the *Zoning Regulations*, as amended from time to time.

**N101.17.11 Enforcement of Regulations and Removal of Special Signs.** Any unauthorized Special Sign (including a Special Sign without a permit, or a permitted Special Sign with unauthorized artwork) shall be taken down, removed, or obliterated within ten (10) days after receipt of written notification of violation from the Department. The code official is authorized to bring enforcement actions on behalf of the Department, which may include the authorization to use the police or other governmental authority to order removal of, or to remove, the unauthorized Special Sign and the imposition of civil fines of no more than three dollars (\$3) per square foot of sign, per day that the unauthorized Special Sign fails to be taken down, removed or obliterated. Both the owner of the premises upon which the Special Sign is displayed and the permit holder are responsible for taking down, removing or obliterating the sign upon notification by the Department to do so, and both may be held responsible for any penalties or fines imposed for the violation. Additional enforcement measures may be taken pursuant to, and consistent with, the provisions of Section 113, “Violations and Infractions.”

**N101.17.12 Moratorium on Issuance of Special Signs.** Other than for changes in artwork pursuant to Section N101.17.5, or for transfers of location pursuant to Section N101.17.7, no new Special Sign Permits shall be issued after November 9, 2000.

**N101.18 Rules for Gallery Place Project Graphics.** The code official is authorized to issue a permit for Gallery Place Project Graphics, as defined in Section N101.18.1. Gallery Place Project Graphics shall be subject to the rules of this section and not to the rules in this chapter pertaining to billboards, poster panels, wall signs, Special Signs, and other specific types of signs, except those specific types of signs indicated below. Gallery Place Project Graphics shall not be subject to Section N101.10 or other similar provisions of this chapter that limit the maximum size or height of signs, other than the limitations stated or incorporated into this section. All other provisions of this chapter shall apply, including, but not limited to, Sections N101.3.4 (permits for electrical signs), N101.7.1 (projecting signs), N101.7.2 (roof signs), N101.7.3 (signs supported by projecting construction), N101.7.4 (signs on awnings or similar projections), N101.7.8 (signs on public space), N101.11 (structural and materials requirements), N101.13 (dangerous signs), and N101.14 (obstructive signs).

**N101.18.1 Definitions.** As used in this section, the following definitions apply:

**GALLERY PLACE PROJECT:** (a) The project described in D.C. Official Code § 47-2005(30)(B), except that the lots comprising the project have been combined and are now known as Lot 50 in Square 454; (b) the private alley located between the project and the property known as the Verizon Center, Square 455, Lot 47, and (c) the northern facade of the Verizon Center.

**GALLERY PLACE PROJECT GRAPHICS:** The outdoor graphics and visuals for the Gallery Place Project and the private alley located between the Gallery Place Project and the property known as the Verizon Center, including, but not limited to, banners, digital screens, digital video monitors, theater marquees, fixed and animated signs for commercial establishments located within the project, projectors for projecting static and moving images onto the Gallery Place Project, interactive kiosks, and images projected onto the facade of the Gallery Place Project.

**N101.18.2 Additional Requirements and Restrictions.** In addition to all other applicable provisions of this chapter not exempted by this Section N101.18, Gallery Place Project Graphics and those graphics and visuals located in the public space immediately adjacent to the Gallery Place Project shall be designed, located, erected, hung, placed, posted, painted, displayed, and maintained in compliance with the specifications, drawings, limitations, and requirements set forth in Illustrations 1 through 6 (“Illustrations”), which are incorporated by reference into this section and are available in the office of the code official.

**N101.18.2.1 Flexibility on Character of Advertisement.** Notwithstanding Section N101.6, Gallery Place Project Graphics located in those areas identified in the Illustrations as the “Corner Heroic Sign Area” or the “Additional Signage Area” may advertise businesses not located on the premises, including the goods and services sold at such business, provided that the businesses so advertised are located within the Gallery Place Project.

**N101.18.2.2 Displays of Video, Flashing, or Animation.** Only that portion of a graphic or visual which is permitted by Section N101.6.1 to advertise products or commodities may display video, flashing, or animation.

**N101.18.2.3 Intensity or brilliance of signs.** No Gallery Place Project Graphic shall have such intensity or brilliance as to cause glare or impair the vision of any driver, otherwise interfere with the driver’s operation of a motor vehicle, or adversely impact an owner’s enjoyment of residential property located within the Gallery Place Project.

**N101.18.2.4 Projection at certain locations.** Notwithstanding Section N101.7.1.1, the following specific rules apply to projecting Gallery Place Project

Graphics:

**N101.18.2.4.1** No Gallery Place Project Graphic located in any area shown as crosshatched in the Illustrations shall project more than 8 inches (203.2 mm) beyond the facade of the structure.

**N101.18.2.4.2** Gallery Place Project Graphics located in the “Storefront Signage Areas” depicted on the Illustrations may project no more than 48 inches (1219.20 mm) beyond the building line or building restriction line, on the street frontage of a building.

**N101.18.2.5 Revolving Signs.** Notwithstanding Section N101.7.11, revolving signs shall be permitted in the private alley located between the project and the property known as the Verizon Center, Square 455, Lot 47, subject to the conditions of Sections N101.7.11.1 through N101.7.11.7.

**N101.18.2a Gallery Place Project Graphics Displays in Private Alley.** A single, stationary Gallery Place Project Graphic may be erected and maintained in the private alley located between the Gallery Place Project and the property known as the Verizon Center; provided that it complies with the following specific requirements, in addition to the provisions in Sections N101.18.2 (Additional Requirements and Restrictions) and N101.18.2.3 (Intensity or Brilliance of Signs):

**N101.18.2a.1** The Gallery Place Project Graphic in the private alley shall consist of one (1) stationary stanchion to support two (2) digital displays, each measuring no more than two hundred and eighty-five square feet (285 sq. ft.) and neither of which shall have any audio or sound, other than *de minimis* sounds caused by general operation. The lowest portion of the digital displays shall have at least nine feet and seven inches (9 ft. 7 in.) of clearance from the sidewalk, and the highest point of the digital displays shall not exceed a height of twenty-nine feet and ten inches (29 ft. 10 in.) as measured from the sidewalk. The width of the digital displays shall not exceed fourteen feet (14 ft.). No portion of the Gallery Place Project Graphic may project more than forty-two inches (42 in.) beyond the building restriction line. The maximum distance between the faces of the portions of the two (2) digital displays that are located in public space shall not exceed forty-two inches (42 in.). There shall be ten feet (10 ft.) of clearance in every direction around the stanchion in order to allow for unobstructed pedestrian movement. The sign and stanchion of the Gallery Place Project Graphic shall be innovative and sculptural with regard to its overall shape and structural design.

**N101.18.2a.2** In addition to other reviews authorized by this section, after installation of the displays, the brilliance, illumination, and use of full-motion video, if any, shall be subject to review by the District Department of Transportation to determine whether the Gallery Place Project Graphic in the

private alley creates a risk for vehicular traffic safety.

**N101.18.2a.3** Any commercial advertising messages on the Gallery Place Project Graphic digital displays in the private alley shall be for businesses, goods, or services located within the Gallery Place Project.

**N101.18.2a.4** Each Gallery Place Project Graphic digital display in the private alley shall operate only between the hours of 6:00 a.m. and midnight or no more than thirty (30) minutes after the end of an event at the Verizon Center, whichever is later, and shall show a minimum of six (6) minutes per hour of public service content.

**N101.18.2a.5** The permittee shall act promptly to make any necessary changes to the displays to ensure compliance with federal law or the Federal-District Agreement to control outdoor advertising on federal-aid routes, in the event there is a representation by the federal government that the Gallery Place Project Graphics digital displays are not in compliance with such law or agreement.

**N101.18.2a.6** The Gallery Place Project Graphic in the private alley shall be subject to the permit requirements of Sections N101.18.4 through N101.18.8; provided, that the permit fee for the Gallery Place Project Graphic digital displays shall be three dollars (\$3) per square foot of each of the digital displays; provided further, that the reviews for the initial permit by the District Department of Transportation and the Office of Planning under Section N101.18.5 (Permit Application Referrals) shall be conducted within fourteen (14) days of the referral date; and provided further, that the initial permit shall be valid for three (3) years from date of issuance and shall be renewable annually thereafter. Each application for renewal shall be submitted on or before the anniversary of the permit's original issuance and shall be subject to review for compliance with Sections N101.18.4 (Gallery Place Project Graphics Permit Application), N101.18.5 (Permit Applications Referrals), N101.18.6 (Effect of Adverse Report), N101.18.7 (Review, Approval, and Denial of Permit Applications), and other applicable laws or regulations.

**N101.18.3 Gallery Place Project Graphics Permit.** No Gallery Place Project Graphics may be erected, hung, placed, posted, painted, displayed, or maintained without the owner of such Gallery Place Project Graphic first obtaining a Gallery Place Project Graphics Permit from the Department in accordance with Section N101.18.4. A Gallery Place Project Graphics Permit authorizes the location, size, and design of the graphic or visual.

**N101.18.4 Gallery Place Project Graphics Permit Application.** An application for a Gallery Place Project Graphics Permit shall be submitted by the owner to the Director of the Department, or his or her designee, on a form provided by the Department, and shall include the following:

1. Identification of:
  - a. The applicant;
  - b. The proposed location of the Gallery Place Project Graphics by the street address of the building or premises and the face direction of the wall or surface (*e.g.*, northern-facing);
  - c. The proposed linear dimensions of the Gallery Place Project Graphics; and
  - d. Such other information as the Director may require.
2. An affidavit signed by the applicant or his or her duly authorized representative, certifying that the applicant is in compliance with Subchapter II of Chapter 28 of Title 47 of the District of Columbia Official Code.
3. A permit fee in the amount of one dollar (\$1.00) per square foot of the Gallery Place Project Graphics. The permit fee may be paid by check made payable to the order of the "D.C. Treasurer." The permit fee may be refunded to the applicant if the permit is not issued, in accordance with the provisions of Chapter 1 for the refund of unused permit fees.

**N101.18.5 Permit Applications Referrals.** The Director of the Department, or his or her designee, shall refer all permit applications to the District Department of Transportation and the Office of Planning. The agencies shall have sixty (60) days from the referral date to submit a written report to the Director of the Department, except that the Director may allow for an extension of this period of up to thirty (30) days for good cause.

**N101.18.6 Effect of Adverse Report.** No permit shall be granted if, within the time period provided in Section N101.18.5:

1. The Director of the Department of Transportation reports in writing that the location, size, or height above grade of the visual or graphic is objectionable with regard to vehicular traffic safety; or
2. The Director of the Office of Planning reports in writing that the proposed graphic or visual:
  - a. Does not comply with the specifications, drawings, limitations and requirements of the Illustrations; or
  - b. Would adversely impact the character and integrity of the Gallery Place Project.

**N101.18.7 Review, Approval, and Denial of Permit Applications.** The Director of the Department, or his or her designee, shall review and approve or deny a Gallery Place Project Graphics Permit application within twenty (20) days of after the expiration of the time period provided in Section N101.18.5. Gallery Place Project Graphics Permits shall be issued in the name of the applicant and shall pertain solely to the Gallery Place Project Graphics location identified on the permit.

**N101.18.7.1 Denial of Application.** If the Director denies a Gallery Place Project Graphics Permit, the denial shall be in writing to the applicant and shall state the statutory or regulatory basis for the denial. The applicant shall have ten (10) business days from receipt of the denial to correct any defect in the application.

**N101.18.8 Applicability of Other Laws and Regulations Unaffected.** Other than the exempted provisions of this chapter, the Gallery Place Project shall continue to be subject to all applicable rules and regulations, including, but not limited to, Chapter 24 of Title 10-B (Chinatown Design Review Procedures).

**N101.18.9 Enforcement of Regulations and Removal of Gallery Place Project Graphics.** Any unauthorized Gallery Place Project Graphic (including Gallery Place Project Graphics without a permit) shall be taken down or removed within ten (10) days after receipt of written notification of violation from the Department. Following the expiration of this time period, the code official is authorized, through personnel of the Department or the Metropolitan Police Department, to remove or take down the unauthorized Gallery Place Project Graphic and to impose civil fines of no more than three dollars (\$3) per square foot of sign, per day that the unauthorized Gallery Place Project Graphic fails to be taken down or removed. Both the owner of the premises upon which the Gallery Place Project Graphic is displayed and the permit holder are responsible for taking down or removing the graphic or visual upon notification by the Department to do so, and both may be held responsible for any penalties or fines imposed for the violation. Additional enforcement measures may be taken pursuant to, and consistent with, the provisions of Section 113, "Violations and Infractions."

**N101.18.10 Maintenance and repair.** Whenever the code official finds that any Gallery Place Project Graphic is not maintained in good repair and has not deteriorated more than 50 percent of its replacement value, the code official shall notify the owner thereof and order him to repair the Gallery Place Project Graphic within a specified time, but not less than 10 calendar days. If the code official finds that the Gallery Place Project Graphic has deteriorated more than 50 percent of its replacement value, or is not repaired within the time specified in the repair notice, the code official shall notify the owner of the Gallery Place Project Graphic and the owner of the real property on which said Gallery Place Project Graphic is located to remove the Gallery Place Project Graphic from the property within a specified time. Failure to comply shall subject said owners, upon conviction or adjudication, to the fines provided for in Section 4 of An Act to regulate the erection, hanging, placing, painting, display, and maintenance of outdoor signs and other



forms of exterior advertising within the District of Columbia, approved March 31, 1931 (46 Stat. 1486; D.C. Official Code § 1-303.23 (2016 Repl. & 2018 Supp.)), or to civil fines, penalties, and fees pursuant to Titles I through III of the Department of Consumer and Regulatory Affairs Civil Infractions Act of 1985, effective October 5, 1985 (D.C. Law 6-42; D.C. Official Code §§ 2-1801.01 *et seq.* (2016 Repl. & 2018 Supp.)). The code official may extend the time periods stated in this section upon the owner's written showing of good cause.

**N101.18.11 Rulemaking Authority.** Notwithstanding Section 10 of the Construction Codes Approval and Amendments Act of 1986, effective March 21, 1987 (D.C. Law 6-216; D.C. Official Code § 6-1409 (2018 Repl.)), the Director may amend the provisions of this section and the specifications, drawings, limitations, and requirements of the Illustrations by rulemaking pursuant to Section 6 of the District of Columbia Administrative Procedure Act, approved October 21, 1968 (82 Stat. 1206; D.C. Official Code § 2-505 (2016 Repl. & 2018 Supp.)), without submission of the proposed rules to the Council for its prior review and approval.

**N101.19 Rules for Verizon Center Graphics.** The *code official* is authorized to issue a permit for each of up to nine (9) "Verizon Center Graphics" as defined in Section N101.19.1. The Verizon Center Graphics shall be subject to the provisions of Sections N101.19 to N101.19.16 and the following provisions, as applicable: Sections N101.3.4 (Permits for electrical signs), N101.7.1 (Projecting signs), N101.7.2 (Roof signs), N101.7.3 (Signs supported by projecting construction), N101.7.4 (Signs on awnings or similar projections), N101.7.8.1 (Signs on public space), N101.11 (Structural and materials requirements), N101.13 (Dangerous signs), and N101.14 (Obstructive signs) except as applied to windows. The Verizon Center Graphics shall not be subject to any other provision of this chapter or any provision of Titles 10 or 12 pertaining to the permitting, approval, erection, placing, painting, display, or maintenance of billboards, poster panels, wall signs, special signs, and any other types of outdoor signs, including, without limitation, Section N101.10 (Maximum size of street signs) or any other provision of this chapter that limits the maximum size or height of signs, other than the limitations stated or incorporated into this section. Nothing in this section shall prevent the operation of Sections N101.3.5 (Exemptions from permit) or N101.6.6.1 (Temporary decorations for buildings) with respect to the Verizon Center.

**N101.19.1 Definitions.** As used in Sections N101.19 to N101.19.16, the following definitions apply:

**"Department"** means the Department of Consumer and Regulatory Affairs.

**"Director"** means the Director of the Department or his or her designee.

**"Verizon Center"** means the property and structure currently known as the Verizon Center, located at Square 455, Lot 47, including, without limitation, the Gallery Place Metro entrance on the corner of 7th and F Streets, N.W.

**"Verizon Center Graphics"** means outdoor signs, visuals, digital displays, and static

canvas displays placed on the Verizon Center, which were not existing on the Verizon Center as of June 11, 2012, consisting of:

1. Two (2) separate digital displays on the western side of Verizon Center, each measuring no more than 1,200 square feet, which would replace two (2) static canvas displays on the western side of Verizon Center as they existed on June 11, 2012;
2. One (1) digital display that forms a right angle around the southwest corner of the Verizon Center with each display panel of the digital display forming a right angle measuring no more than twenty-four (24) feet in height and forty-three (43) feet in width with the top of each panel of the digital display starting at the top of the glass windows on the Verizon Center as they existed on June 11, 2012;
3. Two (2) separate digital displays, each measuring no more than three (3) feet in height and eighteen (18) feet in width, mounted on the exterior of the top of the western and southern entrances to the Gallery Place Metro station at the corner of 7 and F Streets, N.W.;
  - a. Up to two (2) digital displays or static canvas displays in the interior space above and around the escalators in the Metro station identified in Paragraph 3 of this section.
  - b. One (1) static canvas display that forms a right angle around the southeast corner of the Verizon Center with each panel forming a right angle measuring no more than twenty-four (24) feet in height and forty-three (43) feet in width with the top of each such panel starting at the top of the glass windows on the Verizon Center as they existed on June 11, 2012; and
  - c. Up to two (2) separate static canvas displays on the eastern side of the Verizon Center, each measuring no more than 1,200 square feet.

**N101.19.2 Intensity or Brilliance of Graphics.** None of the Verizon Center Graphics shall have such intensity or brilliance as to create an unreasonable risk for vehicular traffic safety as determined by the Director of the District Department of Transportation pursuant to Section N101.19.8.

**N101.19.3 No Sound.** None of the Verizon Center Graphics shall have an audio or sound other than any *de minimis* sounds caused by general operation.

**N101.19.4 Digital Displays.** No digital display shall be placed on the exterior of the Verizon Center that is parallel to any residential building existing as of June 11, 2012.

**N101.19.5 Verizon Center Graphics Permit.** No Verizon Center Graphics may be erected, installed, hung, placed, posted, painted, displayed, or maintained without the owner of Verizon Center or the owner's designee first obtaining a Verizon Center Graphics permit from the Department in accordance with this chapter. A Verizon Center Graphics Permit authorizes the location, size, and structural design of the Verizon Center Graphics and shall be valid for three (3) years with no limitation on the number of renewals of the permit. Each renewal of the Verizon Center Graphics permit shall require a review under Section N101.19.10 if substantive changes to the permit application merit such review and payment under Section N101.19.6.

**N101.19.6 Verizon Center Graphics Permit Application.** An application for a Verizon Center Graphics Permit shall be submitted by the owner, or the owner's designee, of the Verizon Center to the Director and shall include the following:

1. Identification of:
  - a. The applicant with contact information including the applicant's telephone number, e-mail address, and mailing address;
  - b. The proposed type and location of the Verizon Center Graphics and the face direction of the wall or surface;
  - c. The proposed linear dimensions of the Verizon Center Graphics and its projection from the Verizon Center façade;
  - d. The proposed structural design of the Verizon Center Graphics;
  - e. The proposed intensity or brilliance of the Verizon Center Graphics;
  - f. The potentially affected Advisory Neighborhood Commissions; and
  - g. Any use on the digital displays constituting Verizon Center Graphics that the applicant may provide for public service announcements and advertisements regarding community, art, cultural, educational and similar events, including public services notices that the District of Columbia government may want to post.
2. An affidavit signed by the applicant, or his or her duly authorized representative, certifying that the applicant is in compliance with Subchapter II of Chapter 28 of Title 47 of the District of Columbia Official Code, and has consulted with or attempted in good faith to consult with the potentially affected Advisory Neighborhood Commissions about the permit application.
3. A permit fee in the amount of three dollars (\$3.00) per square foot of the Verizon Center Graphics; provided, that this permit fee may be amended by

rulemaking or act consistent with permit fees for similar signs. The permit fee may be paid by check made payable to the order of the "D.C. Treasurer."

4. Five (5) copies of the application and all illustrations; and
5. Any other information required by the Director to assist in reviewing the permit application.

**N101.19.7 Permit Application Referrals.** The Director shall refer all Verizon Center Graphics permit applications to the District Department of Transportation and the Office of Planning within ten (10) days of receipt of the permit application by the Department. The District Department of Transportation and the Office of Planning shall have seventy (70) days from the date the Department receives the permit application to submit a written report to the Director, except that the Director may allow for an extension of this period of up to thirty (30) days for good cause.

**N101.19.8 Effect of Adverse Report.** No Verizon Center Graphics permit shall be approved by the Department if:

1. The Director of the Department of Transportation reports in writing with a detailed statement of reasons that the location, size, height above grade, brilliance, or illumination of the Verizon Center Graphics would create an unreasonable risk for vehicular traffic safety;
2. The proposed Verizon Center Graphics would violate applicable federal or District of Columbia laws or regulations; or
3. The Director of the Office of Planning reports in writing with a detailed statement of reasons that the proposed Verizon Center Graphics would adversely impact the character and integrity of the Verizon Center as a sports and entertainment arena or the character and integrity of the surrounding neighborhood as a whole for residential, business, and recreation uses.

**N101.19.9 Advisory Neighborhood Commission Notification.** The Director shall notify in writing potentially affected Advisory Neighborhood Commissions of the submission of an application for Verizon Center Graphics within ten (10) days of receipt of such application and invite the submission of any written comments within forty-five (45) days of the date of such notice.

**N101.19.10 Review, Approval, or Denial of Verizon Center Graphics Permit Applications.** The Director shall review and either approve or deny a Verizon Center Graphics permit application within twenty-one (21) days after the expiration of the time period provided in Section N101.19.7. The approval or denial of the permit application shall be based on the following:

1. Whether the permit application meets the requirements set forth in this chapter; and
2. Whether an adverse report has been issued by either the District Department of Transportation or the Office of Planning pursuant to Section N101.19.8.

A Verizon Center Graphics permit shall be issued in the name of the applicant and shall pertain solely to the specific Verizon Center Graphic and specific location identified in the permit.

**N101.19.11 Denial of Application.** If the Director denies a Verizon Center Graphics permit application, the denial shall be issued in writing to the applicant and shall explain in detail the basis for the denial. The applicant shall have thirty (30) days from receipt of the denial to:

1. Correct any defect in the application identified by the Director and submit a corrected Verizon Center Graphics application to the Department; or
2. Seek review of the permit denial at the Office of Administrative Hearings.

If the applicant timely submits a corrected Verizon Center Graphics application to the Department, the Director, within five (5) days of receipt of the permit application, shall refer the permit application to the District Department of Transportation and the Office of Planning and each agency shall provide a report required under Section N101.19.7 within fourteen (14) days. The Director shall review and either approve or deny the corrected permit application within thirty (30) days of receipt of the corrected permit application. If the Director denies the corrected permit application, the applicant shall have thirty (30) days from receipt of the denial to file a notice with the Office of Administrative Hearings for adjudication.

**N101.19.12 Static Canvas Display Changes.** As part of a Verizon Center Graphics permit application, the owner of the Verizon Center or the owner's designee may apply to the Director for a change in the number, location, and size of the static canvas displays as defined in the definition of Verizon Center Graphics in Section 3107.19.1, but shall not do so for digital displays. The Director shall grant such application if:

1. The total number of permits for Verizon Center Graphics does not exceed nine (9);
2. The display size of any one (1) static canvas display does not exceed 1,200 square feet;

3. The Verizon Center Graphics are deemed to be in compliance with applicable federal or District of Columbia laws or regulations; and
4. All other requirements applicable to the Verizon Center Graphics set forth in this Appendix N are met.

**N101.19.13 Enforcement of Regulations and Removal of Verizon Center Graphics.**

Any unauthorized Verizon Center Graphics, including Verizon Center Graphics without a permit or Verizon Center Graphics that are not in full compliance with provisions of the District of Columbia Official Code, District of Columbia Municipal Regulations, or federal law, including D.C. Official Code §§ 1-303.21 *et seq.* and this chapter, that become effective within one (1) year of the issuance of the permit authorizing the Verizon Center Graphics permitted under this chapter, shall be taken down or removed within fourteen (14) days after receipt of written notification of violation from the Mayor directing that the Verizon Center Graphics be removed or taken down. Further, the Mayor shall impose civil fines of no more than \$5 per square foot of sign, per day, if the unauthorized Verizon Center Graphics are not taken down or removed after the specified 14-day period. The permit holder, at its sole cost and expense, shall be responsible for taking down or removing unauthorized Verizon Center Graphics upon notification by the Mayor to do so and shall be solely and exclusively responsible for any expense incurred by the District of Columbia if the Mayor removes the unauthorized Verizon Center Graphics as described herein. The permit holder shall also be held solely and exclusively responsible for any penalties or fines imposed by this violation. Any changes made to sign and advertising requirements under District of Columbia law after the issuance of a Verizon Center Graphics permit shall not apply to the Verizon Center Graphics for the life of the permit or three (3) years from the issuance of the permit, whichever is shorter.

**N101.19.14 Maintenance and Repair.** Whenever the code official finds that any of the Verizon Center Graphics are not maintained in good repair and have not deteriorated more than 50 percent of their replacement value, the code official shall notify the Verizon Center owner and permit holder and order the repair of the Verizon Center Graphics within a specified time, but not less than ten (10) days. If the code official finds that any of the Verizon Center Graphics are not maintained in good repair and have deteriorated more than 50 percent of their replacement value, or are not repaired within the time specified in the repair notice, the code official shall order the Verizon Center owner and permit holder to remove such Verizon Center Graphics within a specified period of time, but not less than five (5) days. Failure to comply with such order shall subject the Verizon Center owner and the permit holder, upon adjudication, to civil fines, penalties, and fees pursuant to Titles I through III of the Department of Consumer and Regulatory Affairs Civil Infractions Act of 1985, effective October 5, 1985 (D.C. Law 6-42; D.C. Official Code §§ 2-1801.01 *et seq.* (2016 Repl. & 2018 Supp.)). The code official may extend the time periods stated in this section upon written showing of good cause by the Verizon Center owner and permit holder.

**N101.19.15 Existing Verizon Center Signs.** Any outdoor graphics, signs, visuals, digital

displays, and static canvas displays existing on the Verizon Center as of June 11, 2012 shall be deemed to be approved under District of Columbia law and a permit shall be issued by the Department for each sign after the applicable permit fee is paid by the owner of the Verizon Center.

**N101.19.16 Rulemaking Authority.** Notwithstanding Section 10 of the Construction Codes Approval and Amendments Act of 1986, effective March 21, 1987 (D.C. Law 6-216; D.C. Official Code § 6-1409 (2018 Repl.)), the Director of the Department may amend the provisions of Sections N101.19 through N101.19.16 by rulemaking pursuant to Section 6 of the District of Columbia Administrative Procedure Act, approved October 21, 1968 (82 Stat. 1206; D.C. Official Code § 2-505 (2016 Repl. & 2018 Supp.)), upon review and active approval by the Council.

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov), no later than thirty (30) days after publication of this Notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-B DCMR RESIDENTIAL CODE SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia adopts the 2015 edition of the *International Residential Code* (IRC), as amended by this Supplement.

**IRC CHAPTERS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

CHAPTER 1	SCOPE AND ADMINISTRATION
CHAPTER 2	DEFINITIONS
CHAPTER 3	BUILDING PLANNING
CHAPTER 9	ROOF ASSEMBLIES
CHAPTER 11	<u>[RE]</u> ENERGY EFFICIENCY
CHAPTER 12	MECHANICAL ADMINISTRATION
CHAPTER 15	EXHAUST SYSTEMS
CHAPTER 16	DUCT SYSTEMS
CHAPTER 24	FUEL GAS
CHAPTER 25	PLUMBING ADMINISTRATION
CHAPTER 26	GENERAL PLUMBING REQUIREMENTS
CHAPTER 29	WATER SUPPLY AND DISTRIBUTION
CHAPTER 30	SANITARY DRAINAGE
CHAPTER 34	GENERAL REQUIREMENTS
APPENDIX E	MANUFACTURED HOUSING USED AS DWELLINGS
APPENDIX F	PASSIVE RADON GAS CONTROLS
APPENDIX H	PATIO COVERS
APPENDIX K	SOUND TRANSMISSION
APPENDIX M	HOME DAY CARE- <u>R-3 OCCUPANCY</u>

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<sup>1</sup> The *District of Columbia Residential Code* (2017), referred to as the “*Residential Code*,” consists of the 2015 edition of the *International Residential Code* (*International Residential Code*), published by the International Code Council (ICC), as amended by the *Residential Code Supplement of 2017* (12-B DCMR). The *International Residential Code* is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be obtained at <https://codes.iccsafe.org/public/document/IRC2015>.



*Strike Chapter 1 of the International Residential Code in its entirety and insert a new Chapter 1 in the Residential Code in its place to read as follows:*

**CHAPTER 1           SCOPE AND ADMINISTRATION**

**R101   GENERAL**

**R101           GENERAL**

**R101.1 Scope and Intent.** The scope and intent of the *Residential Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**R101.2 Administration and Enforcement.** Administration and enforcement of the *Residential Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**CHAPTER 2            DEFINITIONS****R202    DEFINITIONS****R202            DEFINITIONS**

*Insert the following new definitions into Section R202 of the Residential Code to read as follows:*

**REUSE.** The application of used building materials on a project. Reuse shall not include incineration, nor use of materials as alternative daily cover at a disposal facility. Reused materials are used without re-manufacture or industrial processing. Lead paint removal by approved means shall not constitute industrial processing.

**RECYCLING.** The separation, collection, and processing of used construction materials resulting in their diversion from the waste stream for use in the manufacture of products or as raw materials other than fuel. Recycling shall not include incineration, nor use of materials as alternative daily cover at a disposal facility.

*Strike the definition of Third Party Certified in Section R202 of the International Residential Code in its entirety and insert a new definition of Third Party Certified into the Residential Code in its place to read as follows:*

**THIRD PARTY CERTIFIED.** Product or material for which a certification was obtained by the manufacturer indicating that the function and performance characteristics of such product or material have been determined by testing and ongoing surveillance by an approved third-party certification agency. Assertion of certification shall be in the form of identification in accordance with the requirements of the third-party certification agency.

*Strike the definition of Third Party Tested in Section R202 of the International Residential Code in its entirety and insert a new definition of Third Party Tested into the Residential Code in its place to read as follows:*

**THIRD PARTY TESTED.** Product, material or system that has successfully undergone a procedure by which an approved testing laboratory provides documentation that such a product, material or system conforms to specified requirements.

**CHAPTER 3 BUILDING PLANNING**

- R301 DESIGN CRITERIA**
- R303 LIGHT, VENTILATION AND HEATING**
- R310 EMERGENCY ESCAPE AND RESCUE OPENINGS**
- R313 AUTOMATIC FIRE SPRINKLER SYSTEMS**
- R319 SITE ADDRESS**
- R324 SOLAR ENERGY SYSTEMS**
- R327 MATERIAL REUSE**

**R301 DESIGN CRITERIA**

*Strike Table R301.2(1), Climatic and Geographic Design Criteria, in the International Residential Code in its entirety and insert new Table R301.2(1) in the Residential Code in its place 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 HAZARDS <sup>g</sup>	AIR FREEZING INDEX <sup>i</sup>	MEAN ANNUAL TEMP <sup>j</sup>
	Speed <sup>d</sup> (mph)	Topographic effects <sup>k</sup>		Weathering <sup>a</sup>	Frost line depth <sup>b</sup>	Termite <sup>c</sup>					
30	115	Not Applicable (NA)	A	Severe	30	M-H	17	YES	(a) November 15, 1985. (b) November 15, 1985; September 27, 2010. (c) All current FIRMs dated 09/27/2010; Panel numbers 110001IND0A, 1100010002C, 1100010003C, 1100010004C, 1100010006C, 1100010008C, 1100010011C, 1100010012C, 1100010014C, 1100010016C, 1100010018C, 1100010019C, 1100010036C, 1100010037C, 1100010038C, 1100010039C, 1100010041C, 1100010043C, 1100010056C, 1100010057C, 1100010058C, 1100010059C, 1100010066C, 1100010067C, 1100010076C, 1100010077C and 1100010078C.	500	55

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (*i.e.*, “negligible,” “moderate” or “severe”) for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below

finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. The outdoor design dry-bulb temperature shall be selected from the columns of 97<sup>1</sup>/<sub>2</sub>-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.

h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent ) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32 °F)" at [www.ncdc.noaa.gov/fpsf.html](http://www.ncdc.noaa.gov/fpsf.html).

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32 °F)" at [www.ncdc.noaa.gov/fpsf.html](http://www.ncdc.noaa.gov/fpsf.html).

k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

### **303 LIGHT, VENTILATION AND HEATING**

*Strike Section R303.1 of the International Residential Code in its entirety and insert new Section R303.1 in the Residential Code in its place to read as follows:*

**R303.1 Habitable spaces.** All habitable spaces shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural *ventilation* shall be through windows, skylights, doors, louvers or other *approved* openings to the outdoor air. Such openings shall be provided with *ready access* or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.

**Exceptions:**

1. The glazed areas need not be openable where the opening is not required by Section R310 and a whole-house mechanical *ventilation* system is installed in accordance with Section M1507, subject to Section R303.4.
2. Except for living rooms and bedrooms, the glazed areas need not be installed in rooms where Exception 1 above is satisfied and artificial light is provided capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level. For purposes of Section R303, bedroom shall mean a room or space located on any level of a building and designed or intended as a space in which people sleep.
3. Use of sunroom and patio covers, as defined in Section R202, shall be permitted for natural *ventilation* if more than 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening.

*Strike Section R303.3 of the International Residential Code in its entirety and insert a new Section R303.3 into the Residential Code in its place to read as follows:*

**R303.3 Bathrooms.** Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet (0.3 m<sup>2</sup>), one half of which must be openable, and a local exhaust system. The minimum local exhaust rates shall be determined in accordance with Section M1507. Exhaust air from the space shall be exhausted directly to the outdoors.

**Exception:** The glazed areas shall not be required where artificial light are provided.

*Strike Section R303.4 of the International Residential Code in its entirety and insert a new Section R303.4 in the Residential Code in its place to read as follows:*

**R303.4 Mechanical ventilation.** Each new *dwelling unit* shall be ventilated by mechanical means provided with whole-house mechanical ventilation in accordance with Section M1507.3, and shall have at least one opening to the outdoors for natural ventilation. The minimum openable area to the outdoors shall be 4 percent of the floor area of the *habitable spaces*. ~~of not less than 4 percent of the floor area of the habitable spaces in the *dwelling unit*.~~

Where an existing *dwelling unit* is undergoing an *alteration* and is required to comply with an air leakage rate pursuant to be built to an air infiltration rate of five air changes per hour or less

~~according to Table R402.4.1.2 of the *D.C. Energy Conservation Code*, the *dwelling unit* shall be provided with whole house mechanical ventilation in accordance with Section M1507.3.~~

~~Where the air infiltration rate of an existing *dwelling unit* is five air changes per hour or less when tested with a blower door at a pressure of 0.2 inch w.g. (50 Pa) in accordance with ASTM E 779 or ASTM E 1827, the *dwelling unit* shall be provided with whole house mechanical ventilation in accordance with Section M1507.3.~~

Where an existing *dwelling unit* is undergoing a Level 3 alteration and its air infiltration rate is less than five air changes per hour when tested with a blower door at a pressure of 0.2 inch water column (50 Pa) in accordance with Section R402.4.1.2 of the *Energy Conservation Code-Residential Provisions*, the *dwelling unit* shall be ventilated by mechanical means in accordance with Section 403 of the *Mechanical Code*.

Where an existing *dwelling unit* is undergoing a Level 3 alteration affecting 80 percent or more of the aggregate area of the unit, the *dwelling unit* shall be ventilated in accordance with item 1 of Section 401.2 of the *Mechanical Code*.

### **R310            EMERGENCY ESCAPE AND RESCUE OPENINGS**

*Strike Section R310.1 of the International Residential Code in its entirety and insert new Section R310.1 to the Residential Code in its place to read as follows:*

**R310.1 Emergency escape and rescue opening required.** *Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.*

#### **Exceptions:**

1. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58 m<sup>2</sup>).
2. Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:
  - a. The area shall be of a size to accommodate at least 5 square feet (0.46 m<sup>2</sup>) for each person.
  - b. The area shall be located on the same lot at least 25 feet (7620 mm) away from the building requiring egress.
  - c. The area shall be permanently maintained and identified as a safe dispersal area.

- d. The area shall be provided with a safe and unobstructed path of travel from the building.

*Insert a new Section 313 into the Residential Code to read as follows:*

**313 AUTOMATIC FIRE SPRINKLER SYSTEMS**

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

**R313.1.1 Design and installation.** Automatic residential fire sprinkler systems for *townhouses* shall be designed and installed in accordance with Section P2904 or NFPA 13D.

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

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

*Strike Section R319, Site Address, in the International Residential Code in its entirety and insert new Section R319 in the Residential Code to read as follows:*

**R319 SITE ADDRESS**

**R319.1 Address Numbers.** *Premises* shall comply with the provisions set forth in Section 118, 12-A DCMR, governing street numbering and addresses.

**324 SOLAR ENERGY SYSTEMS**

*Insert new Section R324.7 in the Residential Code to read as follows:*

**R324.7 Roof access and pathways.**

Roof access, pathways and setback requirements shall be provided in accordance with Sections R324.7.1 through R324.7.2. Access and minimum spacing shall be required to provide emergency access to the roof, to provide pathways to specific areas of the roof, provide for smoke ventilation opportunity areas, and to provide emergency egress from the roof.

**Exceptions:**

- 1. Detached, nonhabitable structures, including but not limited to detached garages, parking shade structures, carports, solar trellises and similar structures, shall not be required to provide roof access.

2. Roof access, pathways and setbacks need not be provided where the code official has determined that rooftop operations will not be employed.
3. These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (17-percent slope) or less.

#### **R.324.7.1 Pathways.**

Not fewer than two roof pathways extending from the lowest edge to the ridge and not less than 36 inches (914 mm) wide, shall be provided on all buildings with solar system installations. Not fewer than one pathway shall be provided on a street or driveway side of the roof. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas with minimal obstructions such as vent pipes, conduit, or mechanical equipment.

#### **R324.7.2 Setback at ridge.**

For photovoltaic arrays occupying not more than 66 percent of the plan view total roof area, not less than an 18-inch (457 mm) clear setback is required on both sides of a horizontal ridge, or a 36"-inch (914 mm) clear setback on one side. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, not less than a 36-inch (914 mm) clear setback is required on both sides of a horizontal ridge.

**R324.7.2.1 Setbacks and pathways on buildings with sprinklers.** Where an automatic sprinkler system is installed within the dwelling in accordance with NFPA 13D or Section P2904, setbacks and pathways shall not be required.

**R324.7.2.2 Emergency escape and rescue opening.** Panels and modules installed on dwellings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway not less than 36 inches (914mm) wide shall be provided to the emergency escape and rescue opening.

*Insert a new Section R327 into the Residential Code to read as follows:*

### **R327 MATERIAL REUSE**

**R327.1 Material Reuse.** A new construction, *addition*, *raze*, or Level 3 *alteration* project (“the project”) shall comply with Sections R327.1.1, R327.1.2 and R327.1.3. For purposes of Section R327, nonhazardous waste shall not include lead-painted materials.

**Exception:** Projects where not less than 50 percent of nonhazardous construction waste is diverted from disposal by recycling or salvage of construction materials and waste, by weight or volume. Construction and waste materials shall not include land-clearing debris such as trees, stumps, rocks and vegetation. The *Department* is authorized to require the *owner*, contractor or an *approved agency* to provide verification of the project’s compliance.



**R327.1.1 Requirements.** *Reuse* a minimum of 5 percent of total nonhazardous building materials by weight, volume or value (based on the materials cost). *Reuse* includes:

1. The application of used building materials, sourced from other projects, vendors, or combination thereof, on the project.
2. Transfer of building materials salvaged on site to an *approved* building material reuse facility.
3. The use of building materials salvaged on site in construction elsewhere on the project site (as shown on plans) or transferred to a different project.
4. Selling or donating building materials salvaged on site for reuse.
5. Other *approved* methods.

**R327.1.2 Verification.** Documentation shall be made available to the *code official* at final inspection upon request in the form of weight tickets, tax donation letters, bills of sale, photographs, and/or other *approved* methods.

**R327.1.3 Lead-Painted Materials.** Painted materials removed from buildings, or portions thereof, constructed prior to 1978 shall not be eligible for *reuse* or *recycling* unless tested and verified to be free of lead paint, or tested and tagged in a lasting manner to assure proper handling of lead hazards for all materials transferred off-site. Such tags must indicate possible lead exposure risk and that mandated handling methods must be followed. Tags shall remain in place until materials are sold or processed in compliance with regulations governing lead-based paint promulgated, or as may be promulgated, by DOEE or the federal Environmental Protection Agency, including, but not limited to 40 CFR § 745.85 (7-1-12 edition), and in conformance with all pertinent lead abatement requirements in D.C. Official Code §§ 8-231.01 *et seq.* (2013 Repl. & 2018 Supp.) and all pertinent implementing regulations, including Chapter 33 of Title 20 DCMR.

**CHAPTER 9            ROOF ASSEMBLIES****R905    REQUIREMENTS FOR ROOF COVERINGS****R905            REQUIREMENTS FOR ROOF COVERINGS**

*Insert a new Section R905.1.3 into the Residential Code to read as follows:*

**R905.1.3 Cool Roof Requirements.** Roof coverings for roof slopes less than or equal to two units vertical in 12 units horizontal (17 percent slope or less) shall comply with Section R402.6 of the *Energy Conservation Code - Residential Provisions*.

*Strike Chapter 11 of the International Residential Code in its entirety and insert a new Chapter 11 in the Residential Code in its place to read as follows:*

**CHAPTER 11[RE] ENERGY EFFICIENCY**

**N1101 GENERAL**

**N1101 GENERAL**

**N1101.1 General.** Buildings regulated by this code shall comply with the *Energy Conservation Code-Residential Provisions*.

**CHAPTER 12           MECHANICAL ADMINISTRATION****M1201 GENERAL****M1201           GENERAL**

*Strike Section M1201.2 of the International Residential Code in its entirety and insert a new Section M1201.2 into the Residential Code in its place to read as follows:*

**M1201.2 Administrative requirements.** The provisions of Chapter 1 of the *Building Code*, Title 12-A DCMR shall establish the general administrative requirements applicable to mechanical systems and inspection requirements of the *Residential Code*. The administrative provisions of Chapter 1 of the *Building Code*, Title 12-A DCMR, shall also apply to the mechanical requirements of Chapters 13 through 24.

**CHAPTER 15 EXHAUST SYSTEMS****M1502 CLOTHES DRYER EXHAUST****M1503 RANGE HOODS****M1502 CLOTHES DRYER EXHAUST**

*Strike Section M1502.4.2 of the International Residential Code in its entirety and insert a new Section M1502.4.2 into the Residential Code in its place to read as follows:*

**M1502.4.2 Duct installation.** Exhaust ducts shall be supported at intervals not to exceed 4 feet (1219 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 more than 1/8 inch (3.2 mm) into the inside of the duct.

**M1503 RANGE HOODS**

*Strike Section M1503.1 of the International Residential Code in its entirety and insert a new Section M1503.1 into the Residential Code in its place to read as follows:*

**M1503.1 General.** Range hoods or down-draft exhaust systems shall be required above ranges and cooktops. Range hoods and down-draft exhaust systems shall discharge to the outdoors through a duct. The duct serving the hood shall have a smooth interior surface, shall be air tight, shall be equipped with a back-draft damper and shall be independent of all other exhaust systems. Ducts serving range hoods or down-draft exhaust systems shall not terminate in an attic or crawl space or areas inside the building.

**Exception:** Where a minimum 100 cfm intermittent kitchen exhaust mechanical system is otherwise provided in accordance with Section M1507.4, *listed* and *labeled* ductless range hoods installed in accordance with the manufacturer's instructions shall not be required to discharge to the outdoors.

## CHAPTER 16        DUCT SYSTEMS

## M1601 DUCT CONSTRUCTION

## M1601        DUCT CONSTRUCTION

*Strike Section M1601.1.1 in the International Residential Code in its entirety and insert a new Section M1601.1.1 in its place in the Residential Code to read as follows:*

**M1601.1.1 Above-ground duct systems.** Above-ground *duct systems* shall conform to the following:

1. *Equipment* connected to *duct systems* shall be designed to limit discharge air temperature to not greater than 250°F (121°C).
2. Factory-made ducts shall be listed and labeled in accordance with UL 181 and installed in accordance with the manufacturer's instructions.
3. Fibrous glass duct construction shall conform to the SMACNA *Fibrous Glass Duct Construction Standards* or NAIMA *Fibrous Glass Duct Construction Standards*.
4. Field-fabricated and shop-fabricated metal and flexible duct constructions shall conform to the SMACNA *HVAC Duct Construction Standards—Metal and Flexible* except as allowed by Table M1601.1.1. Galvanized steel shall conform to ASTM A 653.
5. [RESERVED]
6. *Duct systems* shall be constructed of materials having a flame spread index of not greater than 200.

**CHAPTER 24      FUEL GAS****G2401 GENERAL****G2401      GENERAL**

*Strike Section G2401.1 of the International Residential Code in its entirety and insert a new Section G2401.1 into the Residential Code in its place to read as follows:*

**G2401.1 General.** Administration, enforcement and scope of Part VI – Fuel Gas of the *Residential Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

*Strike Chapter 25 of the International Residential Code in its entirety and insert a new Chapter 25 into the Residential Code in its place to read as follows:*

**CHAPTER 25        PLUMBING ADMINISTRATION**

**P2501 GENERAL**

**P2501        GENERAL**

**P2501.1 General.** The provisions of Chapter 1 of the *Building Code*, Title 12-A DCMR shall establish the general administrative requirements applicable to plumbing systems and inspection requirements of the *Residential Code*. The administrative provisions of Chapter 1 of the *Building Code*, Title 12-A DCMR, shall also apply to the plumbing requirements of Chapters 25 through 32.



**CHAPTER 26            GENERAL PLUMBING REQUIREMENTS****P2603 STRUCTURAL AND PIPING PROTECTION****P2603            STRUCTURAL AND PIPING PROTECTION**

*Strike Sections P2603.5 and P2603.5.1 in the International Residential Code in their entirety and insert new Sections P2603.5 and P2603.5.1 in the Residential Code in their place to read as follows:*

**P2603.5 Freezing.** A water, soil or waste pipe shall not be installed outside of a building, in exterior walls, in *attics* or crawl spaces, or in any other place subjected to freezing temperature unless adequate provision is made to protect it from freezing by insulation or heat or both. Water service pipe shall be installed not less than 36 ~~42~~ inches (~~305~~ 915 mm) deep.

**P2603.5.1 Sewer depth.** *Building sewers* that connect to private sewage disposal systems shall be a not less than 30 inches (762 mm) below finished grade at the point of septic tank connection. *Building sewers* shall be not less than 30 inches (762 mm) below grade.

**CHAPTER 29 WATER SUPPLY AND DISTRIBUTION****P2902 PROTECTION OF POTABLE WATER SUPPLY****P2903 WATER-SUPPLY SYSTEM****P2909 DRINKING WATER TREATMENT UNITS****P2902 PROTECTION OF POTABLE WATER SUPPLY**

*Strike Section P2902.5.4 of the International Residential Code in its entirety and insert new Section P2902.5.4 in the Residential Code in its place to read as follows:*

**P2902.5.4 Connections to automatic fire sprinkler systems.** The potable water supply to automatic fire sprinkler systems shall be protected against backflow by one of the following methods:

1. If the sprinkler system contains no chemical additives, by a double check backflow prevention assembly conforming to ASSE 1015, or by a double check detector fire protection backflow prevention assembly conforming to ASSE 1048.
2. If the sprinkler system contains chemical additives, by a reduced pressure principle fire protection backflow preventer conforming to ASSE 1013, or by a reduced pressure detector fire protection backflow prevention assembly conforming to ASSE 1047.

**Exception:** Where systems are installed as a portion of the water distribution system in accordance with the requirements of this code and are not provided with a fire department connection, backflow protection for the water supply system shall not be required.

*Strike Section P2902.5.4.1 of the International Residential Code in its entirety and insert new Section P2902.5.4.1 in the Residential Code in its place to read as follows:*

**P2902.5.4.1 Additives or nonpotable source.** Where systems under continuous pressure contain chemical additives or antifreeze, or where systems are connected to a nonpotable secondary water supply, the potable water supply shall be protected against backflow by a reduced pressure principle backflow prevention assembly or a reduced pressure principle fire protection backflow prevention assembly. Where chemical additives or antifreeze are added to only a portion of an automatic fire sprinkler system, the reduced pressure principle backflow prevention assembly or the reduced pressure principle fire protection backflow prevention assembly may be located so as to isolate that portion of the system. Where systems are not under continuous pressure, the potable water supply shall be protected against backflow by an air gap or an atmospheric vacuum breaker conforming to ASSE 1001 or CSA B64.1.1.

**P2903 WATER-SUPPLY SYSTEM**

*Strike Table P2903.2 of the International Residential Code in its entirety and insert new Table P2903.2 in the Residential Code in its place 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>MAXIMUM FLOW RATE OR QUANTITY</b>
Lavatory faucet and bar sink faucet	1.5 gpm at 60 psi and WaterSense labeled
Shower head <sup>a</sup>	2.0 gpm at 80 psi and WaterSense labeled
Sink faucet, kitchen	2.2 gpm at 60 psi
Water closet, tank type <sup>c</sup>	1.28 gallons per flushing cycle and WaterSense labeled
Water closet, flushometer type	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 is also a shower head.
- b. Consumption tolerances shall be determined from referenced 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.

**P2909 DRINKING WATER TREATMENT UNITS**

*Strike Section P2909.1 of the International Residential Code in its entirety and insert new Section P2909.1 in the Residential Code in its place to read as follows:*

**P2909.1 Design.** Drinking water treatment units shall meet the requirements of NSF 42, NSF 44, NSF 53, NSF 62 or CSA B483.1.

**CHAPTER 30            SANITARY DRAINAGE****P3005 DRAINAGE SYSTEM  
P3008 BACKWATER VALVES****P3005            DRAINAGE SYSTEM**

*Strike Section P3005.2 of the International Residential Code, but retain Subsections P3005.2.1 through P3005.2.11. Insert a new Section P3005.2 into the Residential Code to read as follows:*

**P3005.2 Drainage pipe cleanouts.** Drainage pipe cleanouts shall comply with Sections P3005.2.1 through P3005.2.12.

**Exception:** These provisions shall not apply to pressurized *building drains* and *building sewers* that convey the discharge of automatic pumping equipment to a gravity drainage system.

*Insert a new Section P3005.2.12 into the Residential Code to read as follows:*

**P3005.2.12 Cleanout at property line.** A cleanout must be placed at the property line, or as close as possible to the property line, if the building wall is constructed on or beyond the property line.

**P3008            BACKWATER VALVES**

*Strike Section P3008.1 of the International Residential Code in its entirety and insert a new Section P3008.1 into the Residential Code in its place to read as follows:*

**P3008.1 General.** Where plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the *public sewer*, such fixtures: (a) shall be protected by a backwater valve installed in the *building drain*, branch of the *building drain*, or horizontal *branch* serving such fixtures; or (b) shall discharge to a sump complying with Section P3007.3 and served by a sewage pump or ejector complying with Section P3007.4. Plumbing fixtures installed on a floor with a finished floor elevation above the elevation of the manhole cover of the next upstream manhole in the *public sewer* shall not discharge through a backwater valve or a sump. This section shall not apply to replacement in kind of compliant plumbing fixtures.

**Exception:** Where the *code official* deems it appropriate for the protection of existing multi-level one- and two-family dwellings in flood prone areas, the retrofitting of backwater valves to be installed in the *building drain* or in a horizontal *branch* serving fixtures on a floor with a finished elevation above the adjacent manhole in the *public sewer* shall be allowed, thereby allowing such fixtures to discharge through the backwater valve.

*Strike Section P3008.5 of the International Residential Code in its entirety and insert a new Section P3008.5 into the Residential Code in its place to read as follows:*

**P3008.5 Location.** Backwater valves shall be installed so that access is provided to the working parts for service and repair. Valve access covers shall be watertight.

**CHAPTER 34          GENERAL REQUIREMENTS****E3403 INSPECTION AND APPROVAL****E3403          INSPECTION AND APPROVAL**

*Strike Section E3403.2 of the International Residential Code in its entirety and insert a new Section E3403.2 into the Residential Code in its place to read as follows:*

**E3403.2 Inspection required.** New electrical work and parts of existing systems affected by new work or alteration shall be inspected by the *code official* in accordance with the general administrative and inspection requirements of Chapter 1 of the *Building Code*, Title 12-A DCMR, to ensure compliance with the requirements of Chapters 34 through 43.

*Appendix E, Manufactured Housing Used As Dwellings, of the International Residential Code is adopted in the District of Columbia as Appendix E of the Residential Code with the following amendments.*

**APPENDIX E            MANUFACTURED HOUSING USED AS DWELLINGS**

**AE101 SCOPE**

**AE302 APPLICATION FOR PERMIT**

**AE303 PERMITS ISSUANCE**

**AE304 FEES**

**AE101            SCOPE**

*Insert a new Section AE101.2 into Appendix E of the Residential Code to read as follows:*

**AE101.2 Administration and enforcement.** Administration and enforcement of Appendix E shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR, which is hereby incorporated by reference.

**AE 302            APPLICATION FOR PERMIT**

*Strike Section AE302 of the Residential Code in its entirety without substitution.*

**AE303            PERMITS ISSUANCE**

*Strike Section AE303 of the Residential Code in its entirety without substitution.*

**AE 304            FEES**

*Strike Section AE304 of the Residential Code in its entirety without substitution.*

*Appendix F, Passive Radon Gas Controls, of the International Residential Code is adopted in the District of Columbia as Appendix F of the Residential Code with the following amendments.*

APPENDIX F PASSIVE RADON GAS CONTROLS

AF101 SCOPE
AF103 PASSIVE RADON-RESISTANT SYSTEM REQUIREMENTS

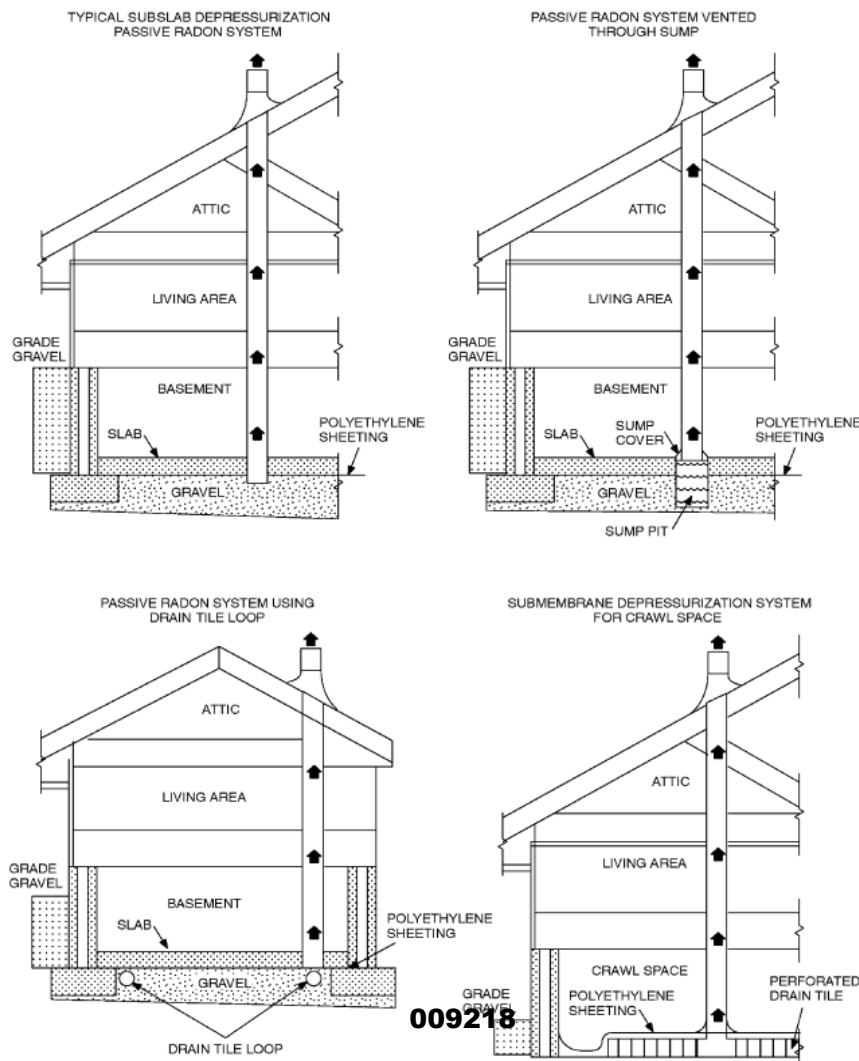
AF101 SCOPE

Strike Section AF101.1 of the International Residential Code in its entirety and insert new Section AF101.1 in the Residential Code in its place to read as follows:

AF101.1 General. Radon-resistant construction built in accordance with Section AF103 is required for new construction. These requirements are intended to provide a passive means of resisting radon gas entry and prepare the dwelling for post-construction radon mitigation, if necessary (see Figure AF102). Additions and Level 3 alterations should test their homes for radon and make radon testing results available upon request by the code official at permitting. If the testing results show 4 or more picocuries per liter (pCi/L) of radon, a radon system compliant with AF103 shall be installed for the work area.

Exception: Additions less than 100 square feet.

FIGURE AF102 RADON-RESISTANT CONSTRUCTION DETAILS FOR FOUR





**FOUNDATION TYPES****AF103 PASSIVE RADON-RESISTANT SYSTEM REQUIREMENTS**

*Strike Section AF103.3.2 of the International Residential Code in its entirety and insert new Section AF103.3.2 in the Residential Code in its place to read as follows:*

**AF103.3.2 “T” fitting and vent pipe.** A 3 or 4-inch “T” fitting shall be inserted beneath the soil-gas-retarder and be connected to a vent pipe. The vent pipe shall extend through the *conditioned space* of the *dwelling* and terminate not less than 12 inches (305 mm) above the roof in a location not less than 10 feet (3048 mm) away from any window or other opening into the *conditioned spaces* of the building that is less than 2 feet (610 mm) below the exhaust point. Install at least one vertical pipe every 4,000 square feet (186 to 371 square meters) of footprint area.

*Strike Section AF 103.4.3 of the International Residential Code in its entirety and insert new Section AF103.4.3 in the Residential Code in its place to read as follows:*

**AF103.4.3 “T” fitting and vent pipe.** Before a slab is cast or other floor system is installed, a 3- or 4-inch “T” fitting shall be inserted below the slab or other floor system and the soil-gas-retarder. The “T” fitting shall be connected to a 3- or 4-inch vent pipe. The vent pipe shall extend through the *conditioned space* of the *dwelling* and terminate not less than 12 inches (305 mm) above the roof in a location not less than 10 feet (3048 mm) away from any window or other opening into the *conditioned spaces* of the building that is less than 2 feet (610 mm) below the exhaust point. Install at least one vertical pipe every 4,000 square feet (186 to 371 square meters) of slab area.

*Strike Section AF103.10 of the International Residential Code in its entirety and insert new Section AF103.10 in the Residential Code in its place to read as follows:*

**AF103.10 Power source and access for future radon fan.** To provide for future installation of an in-line radon fan, an electrical circuit terminated in an *approved* box shall be installed on the top floor of the building or the attic, whichever is taller, during construction in the anticipated location of the radon fans. The location shall be an accessible clear space 24 inches (610 mm) in diameter by 3 feet (914 mm) in height adjacent to the vent pipe.

**APPENDIX H      PATIO COVERS**

*Appendix H, Patio Covers, of the International Residential Code is adopted in its entirety in the District of Columbia as Appendix H of the Residential Code.*

**APPENDIX K        SOUND TRANSMISSION**

*Appendix K, Sound Transmission, of the International Residential Code is adopted in its entirety in the District of Columbia as Appendix K of the Residential Code.*

**APPENDIX M HOME DAY CARE – R-3 OCCUPANCY**

<b>AM101</b>	<b>GENERAL</b>
<b>AM102</b>	<b>DEFINITIONS</b>
<b>AM103</b>	<b>MEANS OF EGRESS</b>
<b>AM104</b>	<b>SMOKE DETECTION</b>
<b>AM105</b>	<b>CARBON MONOXIDE DETECTION</b>
<b>AM106</b>	<b>OCCUPANT LOAD</b>
<b>AM107</b>	<b>FIRE EXTINGUISHERS</b>
<b>AM108</b>	<b>FIRE SAFETY AND EVACUATION PLANS</b>
<b>AM109</b>	<b>INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS</b>

*Appendix M of the International Residential Code is adopted in the District of Columbia as Appendix M of the Residential Code with the following amendments:*

**AM101 GENERAL**

**AM101.1 General.** This appendix shall apply to home day care facilities: (a) operated in *dwelling units* within existing detached one and two-family *dwelling*s and townhouses within the scope of the *Residential Code* and within R-3 dwellings, and (b) occupied by persons of any age who receive custodial care for less than twenty-four (24) hours by individuals other than parents or guardians or relatives by blood, marriage, or adoption, and in a place other than the home of the person cared for. Appendix M does not apply to the following:

1. Day care facilities that are classified as Group E or Group I-4 under the Building Code.
2. Adult day care where any of the clients are incapable of self-preservation, unless such persons are cared for in rooms located on a level of exit discharge serving such rooms and each room has an exit door directly to the exterior.
3. A child day care facility within a dwelling unit that is located in a multi-family building classified as an R-2 occupancy.

**AM101.2 Number of occupants.** For purposes of this Appendix, the number of occupants of a *dwelling unit* used for home day care shall include care receivers, caregivers, residents and guests. Where a provision of this Appendix expressly refers to a number of children, children residing in the dwelling shall be included in the calculation total.

**AM101.3 Other requirements.** The requirements of this Appendix M shall not abrogate, or be deemed to abrogate, any other applicable legal requirements imposed on owners and operators of home day care facilities, including but not limited to the *Zoning Regulations*, Title 11 DCMR; the Child Development Facilities Regulation Act of 1998, effective April 13, 1999 (D.C. Law 12-215, D.C. Official Code §§ 7-2031 *et seq.*) and regulations promulgated thereunder, including Chapter 3, Title 29 DCMR, and Title III of the Americans with Disabilities Act of 1990, 42 USC § 12181-12189 (Lexis 2017).

**AM101.4 Sprinkler requirements.** Home day care facilities located in a *dwelling unit* are required to be protected by an *automatic sprinkler system* in accordance with Section R313, except in the following circumstances:

1. The facilities were lawfully in existence on the date of adoption of this Appendix M; and
2. The facilities otherwise meet the requirements of Appendix M.

## **AM102 DEFINITIONS**

**AM102.1 General.** For the purpose of this Appendix M, the terms used shall be defined as follows:

**EXIT.** That portion of a *means of egress* system between the *exit access* and the exit discharge or public way. *Exit* components include exterior exit doors at the *level of exit discharge*, interior *exit* stairways, interior *exit* ramps, *exit* passageways, exterior *exit* stairways and exterior *exit* ramps and horizontal exits.

**EXIT ACCESS.** That portion of a *means of egress* system that leads from any occupied point in a *building* or *structure* to an *exit*.

**EXIT DISCHARGE, LEVEL OF.** The story at the point at which the *exit* terminates and the *exit* discharge begins.

**MEANS OF EGRESS.** A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to the exterior at grade. A *means of egress* consists of three separate and distinct parts: the *exit access*, the *exit* and the *exit* discharge.

## **AM103 MEANS OF EGRESS**

**AM103.1 Means of egress.** The *means of egress* from each level of the one and two family *dwelling unit* used as a home day care occupancy shall comply with this section.

**AM103.1.1 Below grade level.** Below grade levels shall be provided with two means of egress, one of which shall consist of an *exit* door that provides direct access to the exterior.

**Exception:** One and two family *dwelling units* used as a home day care occupancy where the occupancy is equipped throughout with an automatic sprinkler system in accordance with Section R313 shall provide an *exit* door that provides direct access to the exterior.

**AM103.1.2 At grade level nine occupants or less.** At grade levels with an occupant load of nine or less shall be provided with an *exit* door that provides direct access to the exterior and a means of escape in compliance with Section R310.

**Exception:** One and two family *dwelling units* used as a home day care occupancy equipped with an automatic sprinkler system in accordance with Section R313 need only provide an *exit* door that provides direct access to the exterior.

**AM103.1.3 At grade level more than nine occupants.** At grade levels with an occupant load of more than nine shall be provided with two *means of egress* one of which shall be an *exit* door that provides direct access to the exterior.

**AM103.1.4 Second story nine occupants or less.** The second story with an occupant load of nine or less shall be provided with a means of *exit access* and a means of escape in compliance with Section R310.

**AM103.1.5 Second story more than nine occupants.** The second story with an occupant load of more than nine shall be provided with two *means of egress* one of which shall be an *exit* door that provides direct access to the exterior.

**Exception:** One and two family *dwelling units* used as a home day care occupancy equipped with an automatic sprinkler system in accordance Section R313 need only provide a means of *exit access* and a means of escape in compliance with Section R310.

**AM103.1.6 Dwellings with three or more stories.** Home day care shall not be provided above the second story in *dwellings* with three or more stories.

**Exception:** The third story is allowed to be used for home day care where the *dwelling* is equipped throughout with an *automatic sprinkler system* in accordance with either Section R313 of the *Residential Code* or Section 903.2.8 of the *Fire Code*, as applicable, and where the third story is provided with a means of *exit access* and a means of escape in compliance with Section R310 of the *Residential Code*.

**AM103.2 Yards.** If the *yard* is to be used as part of the home day care operation it shall be fenced in accordance with AM103.2.

**AM103.2.1 Type of fence and hardware.** The fence shall be of durable materials and be at least 6 feet (1529 mm) tall, completely enclosing the area used for the day care operations. Each opening shall be a gate or door equipped with a self-closing and self-latching device to be installed at a minimum of 5 feet (1528 mm) above the ground.

**Exception:** The door of any *dwelling* which forms part of the enclosure need not be equipped with self-closing and self-latching devices.

**AM103.2.2 Construction of fence.** Openings in the fence, wall or enclosure required by this section shall have intermediate rails or an ornamental pattern that do not allow a sphere 4 inches (102 mm) in diameter to pass through. In addition, the following criteria must be met:

1. The maximum vertical clearance between grade and the bottom of the fence, wall or enclosure shall be 2 inches (51 mm).
2. Solid walls or enclosures that do not have openings, such as masonry or stone walls, shall not contain indentations or protrusions, except for tooled masonry joints.
3. Maximum mesh size for chain link fences shall be 1 ¼ inches (32 mm) square, unless the fence has slats at the top or bottom which reduce the opening to no more than 1 ¾ inches (44 mm). The wire shall not be less than 9 gauge [0.148 inch (3.8 mm)].

**AM103.2.3. Decks.** Decks that are more than 12 inches (305 mm) above *grade* shall have a guard in compliance with Section R312.

**AM103.3 Type of lock and latches for *exits*.** Regardless of the occupant load served, *exit* doors shall be capable of being opened from the inside without the use of a key or any special knowledge or effort. When the occupant load is ten or less, a night latch, dead bolt or security chain may be used, provided such devices are capable of being opened from the inside without the use of a key or tool, and mounted at a height not to exceed 48 inches (1219 mm) above the finished floor.

**AM103.4 Landings.** Landings for stairways and doors shall comply with Section R311, except that landings shall be required for the exterior side of a sliding door when a home day care is being operated in the *dwelling* in a Group R-3 occupancy.

#### **AM104 SMOKE DETECTION**

**AM104.1 General.** Smoke alarms shall be installed in all *dwellings* used for home day care. Smoke alarms shall be installed in accordance with Section R313. In addition to the locations required by Section R313 smoke alarms shall be installed in all areas used for napping.

#### **AM105 CARBON MONOXIDE DETECTION**

**AM105.1 General.** Carbon monoxide alarms shall be installed in all *dwellings* used for home day care equipped with a fuel burning appliance or an attached garage. Carbon monoxide alarms shall be installed in accordance with Section R315.

#### **AM106 OCCUPANT LOAD**

**AM106.1 Maximum number of occupants.** The maximum number of occupants allowed in a home day care facility shall be determined by the square footage of those portions of the *dwelling unit* legally used for home day care activities. The occupant load factor shall be 35 square feet net per occupant, provided that, regardless of square footage, the maximum number of clients served in home day care shall not exceed 12 persons.

**AM106.2 Infants.** The minimum staff-to-client ratio for children age two or younger (referred to herein as “infants”) shall be 1:2, provided that the number of infants shall not, under any circumstances, exceed six. Where children of various ages are present in a home day care facility, including the caregiver’s children, the following table shall apply:

**TABLE AM 106.3 FAMILY HOME PROVIDER ADULT/CHILD RATIO**

Age of children <sup>1</sup>	Adult /Child Ratio	Maximum Group size
1 infant and between 1 and 11 children over 2 years of age	1:6	12
2 infants and between 1 and 4 children over 2 years of age	1:6	6
3 infants and between 1 and 6 children over 2 years of age	1:3 (but at least 2 caregivers)	9
4 infants and between 1 and 8 children over 2 years of age	1:3 (but at least 2 caregivers)	12
5 infants and between 1 and 4 children over 2 years of age	3 caregivers	9
6 infants and between 1 and 3 children over 2 years of age	3 caregivers	9

<sup>1</sup> A child who is non-ambulatory will be treated the same as an infant for purposes of the adult/child ratio,

**AM106.4 Adults.** The minimum staff- to- client ratio for adults in *dwelling*s used for home day care operations shall be as follows:

1. One care giver for every two adult occupants *incapable of self-preservation* shall be maintained at all times in *dwelling*s not protected with automatic sprinklers in accordance with Section R313;
2. One care giver for every six adult occupants *incapable of self-preservation* shall be maintained at all times in *dwelling*s protected with automatic sprinklers in accordance with Section R313; and
3. One care giver for every six adult occupants capable of self-preservation shall be maintained at all times in *dwelling*s used for home day care operations.



**AM107 FIRE EXTINGUISHERS**

**AM107.1 General.** Multi-purpose fire extinguishers of a type approved for use in residences must be maintained in good working condition and installed in the kitchen and outside the furnace room of the *dwelling*. The caregivers must know how to use the fire extinguishers installed in a home day care. Fire extinguishers with gauges must show a full charge. Fire extinguishers with seals must have unbroken seals.

**AM108 FIRE SAFETY AND EVACUATION PLANS**

**AM108.1 Submission of plan.** Prior to operation, the home day care provider must submit a written fire safety and evacuation plan to the *code official*, using a form furnished by the *code official* or an approved equivalent form. The plan, as approved by the *code official*, must be posted in a conspicuous place in the home day care or filed in a place in the home day care which is available for review by employees and by the parents or guardians of the persons in care. The approved emergency evacuation plan must contain the elements listed in Section AM108.2 at a minimum.

**AM108.2 Contents.** The fire safety and evacuation plan shall include the following:

1. How children and adults will be made aware of an emergency;
2. Primary and secondary evacuation routes;
3. Floor plans identifying the location of the evacuation routes and other *means of egress*, and the location of portable fire extinguishers;
4. Methods of evacuation, including the meeting place where children and adults will meet after evacuating the home, and how attendance will be taken to determine if all occupants have been successfully evacuated or have been accounted for;
5. The procedure for notification of authorities and the parents/guardians of the persons in care;
6. Procedures and recordkeeping for emergency evacuation drills and employee training that complies with AM108.3; and
7. Such other information as the *code official* shall require.

**AM108.3 Emergency evacuation drills; employee training and response procedures.** Emergency evacuation drills shall be conducted at least monthly. Drills should be conducted in exactly the same manner as an actual emergency (except for notifying emergency personnel). The home day care provider shall keep a written record of monthly evacuation drills in a form approved by the *code official*. The record must include total egress time from the time the alarm sounds until everyone reaches the meeting place. The record must also list the number of children in care and

adults present, and the *exit* that was used. Employees shall be trained in the fire emergency procedures described in the fire safety and emergency evacuation plan as part of new employee orientation.

**AM108.4 Matters not provided for.** Home day care providers shall comply with any additional requirements that are deemed essential for the safety of the occupants of the day care home by the *code official* and identified in writing by the *code official*.

## **AM109 INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS**

**AM109.1 General.** The selected interior finishes, decorative materials and furnishings for home day care facilities shall comply with Chapter 8 of the *Fire Code*.

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov). Comments on this Notice of Second Proposed Rulemaking must be received no later than thirty (30) days after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-C DCMR ELECTRICAL CODE SUPPLEMENT OF 2017<sup>1</sup>

The District of Columbia adopts the 2014 edition of the *National Electrical Code* (NEC), as amended by this Supplement.

**NEC ARTICLES AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

- ARTICLE 90 INTRODUCTION
- ARTICLE 210 BRANCH CIRCUITS
- ~~ARTICLE 406 RECEPTACLES, CORD CONNECTORS, AND ATTACHMENT PLUGS~~
- ARTICLE 408 SWITCHBOARDS, SWITCHGEAR, AND PANELBOARDS

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<sup>1</sup> The *District of Columbia Electrical Code* (2017), referred to as the “*Electrical Code*,” consists of the 2014 edition of the *National Electrical Code* (*National Electrical Code*), published by the National Fire Protection Association (NFPA), as amended by the *Electrical Code Supplement of 2017* (12-C DCMR). The *National Electrical Code* is copyrighted by the NFPA and therefore is not republished here. However, a copy of the text may be obtained from the NFPA.

**ARTICLE 90 INTRODUCTION**

*Strike Section 90.1(A) in Article 90 of the National Electrical Code in its entirety and insert a new Section 90.1(A) into the Electrical Code in its place to read as follows:*

**90.1(A) General.** Administration and enforcement of the *Electrical Code* shall be governed by Chapter 1 of the *Building Code*, 12-A DCMR.

*Strike Sections 90.1(C), 90.2, 90.4 and 90.6 of the National Electrical Code in their entirety without substitution.*

**ARTICLE 210        BRANCH CIRCUITS**

*Strike Section 210.64 in Article 210 of the National Electrical Code in its entirety and insert a new Section 210.64 into the Electrical Code in its place to read as follows:*

**210.64 Electrical Service Areas.** At least one 125-volt, single-phase, 20-ampere-rated GFCI receptacle outlet shall be installed within 7.5m (25 ft) of the electrical service equipment.

**Exception:** The receptacle outlet shall not be required to be installed in one- and two-family dwellings.

~~ARTICLE 406 — RECEPTACLES, CORD CONNECTORS, AND ATTACHMENT PLUGS~~

*Strike Section 406.12 in Article 406 of the National Electrical Code in its entirety and insert a new Section 406.12 into the Electrical Code in its place to read as follows:*

~~**406.12 Tamper-Resistant Receptacles.** Tamper-resistant receptacles shall be installed as specified in 406.12(A) through (D):~~

- ~~(A) Dwelling Units.~~ In all areas specified in 210.52, all nonlocking type 125-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles.
- ~~(B) Guest Rooms and Guest Suites of Hotels and Motels.~~ All nonlocking type 125-volt, 15- and 20-ampere receptacles located in guest rooms and guest suites of hotels and motels shall be listed tamper-resistant receptacles.
- ~~(C) Child Care Facilities.~~ In all child care facilities, all nonlocking type 125-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles.
- ~~(D) Public Locations.~~ All nonlocking type 125-volt, 15- and 20-ampere receptacles in the public locations specified below shall be listed tamper-resistant receptacles:
  - ~~1. Malls~~
  - ~~2. Courts~~
  - ~~3. Sidewalks~~
  - ~~4. Playgrounds~~

~~**Exception to (A), (B), (C) and (D):** Receptacles in the following locations shall not be required to be tamper-resistant:~~

- ~~(1) Receptacles located more than 1.7 m (5 ½ft) above the floor.~~
- ~~(2) Receptacles that are part of a luminaire or appliance.~~
- ~~(3) 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 cord and plug-connected in accordance with Section 400.7(A)(6), (A)(7), or (A)(8).~~
- ~~(4) Nongrounding receptacles used for replacements as permitted in Section 406.4(D)(2)(a).~~

*Strike the title of Section 408, Article 408 of the National Electrical Code and insert a new title for Section 408 into the Electrical Code in its place to read as follows:*

**ARTICLE 408 SWITCHBOARDS, SWITCHGEAR, AND PANELBOARDS**

*Insert a new Section 408.23 in Article 408 of the Electrical Code to read as follows:*

**408.23 Switchboards and Switchgears of 1000 Amperes or Larger.** It shall be the responsibility of the owner of a switchboard, switchgear or both having a capacity of 1000 amperes or larger, or the owner's responsible agent, to engage a qualified licensed master electrician at least once every three (3) years if not sooner, to perform prescribed preventive maintenance. Preventive maintenance shall consist of, but not be limited to:

1. Check exterior of equipment for damage.
2. Check that all power and control cable entrances are sealed against rodents and vermin.
3. Perform equipment infrared scanning.
4. Vacuum entire interior of switchboard and/or switchgear.
5. Clean bus and contacts with suitable non-conductive solvents.
6. Lubricate all moving and racking mechanisms.
7. Check all conductors for abrasions and deterioration; recommend replacement if found to be in poor condition.
8. Torque bus and conductor connections to manufacturers' recommended specifications.
9. Check calibration of overcurrent trip units and protective devices.
10. Test the resistance of the insulation of the board to manufacturers' specifications before re-energizing.
11. Replace worn, damaged or deteriorating components.

A copy of current inspection and service reports shall be available for public inspection on site.

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov). Comments on this Notice of Second Proposed Rulemaking must be received no later than thirty (30) days after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-D DCMR FUEL GAS CODE SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia adopts the 2015 edition of the *International Fuel Gas Code* (IFGC), as amended by this Supplement.

**IFGC CHAPTERS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

CHAPTER 1	SCOPE AND ADMINISTRATION
CHAPTER 2	DEFINITIONS
CHAPTER 3	<u>GENERAL REGULATIONS</u>
CHAPTER 5	CHIMNEYS AND VENTS
CHAPTER 8	<u>REFERENCED STANDARDS</u>

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<sup>1</sup> The *District of Columbia Fuel Gas Code (2017)*, referred to as the “*Fuel Gas Code*,” consists of the 2015 edition of the *International Fuel Gas Code (International Fuel Gas Code)*, published by the International Code Council (ICC), as amended by the *Fuel Gas Code Supplement of 2017 (12-D DCMR)*. The *International Fuel Gas Code* is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be obtained at: <https://codes.iccsafe.org/public/document/toc/547/>.



*Strike Chapter 1 of the 2015 International Fuel Gas Code in its entirety and insert a new Chapter 1 into the Fuel Gas Code in its place to read as follows:*

**CHAPTER 1           SCOPE AND ADMINISTRATION**

**101    GENERAL**

**101            GENERAL**

**101.1. Scope and Intent.** Scope and intent of the *Fuel Gas Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**101.2 Administration and Enforcement.** Administration and enforcement of the *Fuel Gas Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**CHAPTER 2            DEFINITIONS****202    GENERAL DEFINITIONS****202            GENERAL DEFINITIONS**

*Strike the definition of “Third Party Certified” in Section 202 of the International Fuel Gas Code in its entirety and insert a new definition of “Third Party Certified into the Fuel Gas Code in its place, to read as follows:*

**THIRD PARTY CERTIFIED.** Product or material for which a Certification was obtained by the manufacturer indicating that the function and performance characteristics of such product or material have been determined by testing and ongoing surveillance by an approved third-party certification agency. Assertion of certification is in the form of identification in accordance with the requirements of the third-party certification agency.

*Strike the definition of “Third Party Tested” in Section 202 of the International Fuel Gas Code in its entirety and insert a new definition of “Third Party Tested” into the Fuel Gas Code in its place, to read as follows:*

**THIRD PARTY TESTED.** Product, material or system that has successfully undergone a Procedure by which an *approved* testing laboratory provides documentation that such product, material or system conforms to specified requirements.

**CHAPTER 3            GENERAL REGULATIONS****310    ELECTRICAL BONDING****310            ELECTRICAL BONDING**

*Strike Sections 310.1 through 310.1.1.5 of the International Fuel Gas Code in their entirety and insert new Sections 310.1 through 310.3 in the Fuel Gas Code in their place to read as follows.*

**310.1 Pipe and tubing other than CSST.** Each above-ground portion of a gas *pip*ing system other than corrugated stainless steel tubing (CSST) that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path. Gas *pip*ing other than CSST shall be considered to be bonded where it is connected to an appliance that is connected to the *equipment* grounding conductor of the circuit that supplies that *appliance*.

**310.2 CSST.** This section applies to corrugated stainless steel tubing (CSST) that is not listed with an arc-resistant jacket or coating system in accordance with ANSI LC 1/CSA 6.26. CSST gas *pip*ing systems and piping systems containing one or more segments of CSST shall be electrically continuous and bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system.

**310.2.1 Point of connection.** The bonding jumper shall connect to a metallic pipe, pipe fitting or CSST fitting.

**310.2.2 Size and material of jumper.** The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent.

**310.2.3 Bonding jumper length.** The length of the bonding jumper between the connection to a gas piping system and the connection to a grounding electrode system shall not exceed 75 feet (22 860 mm). Any additional grounding electrodes installed to meet this requirement shall be bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system.

**310.2.4 Bonding connections.** Bonding connections shall be in accordance with NFPA 70.

**310.2.5 Connection devices.** Devices used for making the bonding connections shall be listed for the application in accordance with UL 467.

**310.3 Arc-resistant CSST.** This section applies to corrugated stainless steel tubing (CSST) that is listed with an arc-resistant jacket or coating system in accordance with ANSI LC 1/CSA 6.26. The CSST shall be electrically continuous and bonded to an effective ground fault current path. Where any CSST component of a piping system does not have an arc-resistant jacket or coating system, the bonding requirements of Section 310.2 shall apply. Arc-resistant jacketed CSST shall be considered to be bonded where it is connected to an appliance that is connected to the appliance grounding conductor of the circuit that supplies that appliance.

## CHAPTER 5 CHIMNEYS AND VENTS

## 505 DIRECT-VENT, INTEGRAL VENT, MECHANICAL VENT AND VENTILATION/EXHAUST HOOD VENTING

## 505 DIRECT-VENT, INTEGRAL VENT, MECHANICAL VENT AND VENTILATION/EXHAUST HOOD VENTING

*Insert a new Section 505.1.2 into the Fuel Gas to read as follows:*

**505.1.2 Reuse of commercial cooking fuel gas appliances.** Where commercial cooking appliances equipped with standing pilot burner are reused, the installation of such appliances shall comply with one of the following arrangements:

1. Installation shall meet the requirements of Section 505.1.1; or
2. Where a solenoid valve is installed in the gas piping as part of the interlock system to prevent appliance operation when the exhaust hood system is not operating, a bypass line shall be installed to continuously supply the pilots when the exhaust fan is not operating. The bypass line shall be sized so as to prevent the operation of the smallest cooking burner of the appliance. The installation shall be interconnected so that actuation of the hood automatic fire suppression system shall shut down all gas supply to the appliance including to the pilot burner bypass.

**CHAPTER 8 REFERENCED STANDARDS**

**ANSI**

American National Standards Institute  
25 West 43rd Street  
4th Floor  
New York, NY 10036

*Strike Standard Reference Number LC1/CSA 6.26-13 under subheading ANSI in Chapter 8 of the International Fuel Gas Code in its entirety and insert new Standard Reference Number LC 1/CSA 6.26-2018 in its place in the Fuel Gas Code to read as follows:*

<b><u>Standard reference number</u></b>	<b><u>Title</u></b>	<b><u>Referenced in code section number</u></b>
<u>LC 1/CSA 6.26-2018</u>	<u>Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing (CSST)</u>	<u>310.2, 310.3, 403.5.4</u>

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov). Comments on this Notice of Second Proposed Rulemaking must be received no later than thirty (30) days after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-E DCMR MECHANICAL CODE SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia adopts the 2015 edition of the *International Mechanical Code* (IMC), as amended by this Supplement.

**IMC CHAPTERS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

CHAPTER 1	SCOPE AND ADMINISTRATION
CHAPTER 2	DEFINITIONS
CHAPTER 3	GENERAL REGULATIONS
CHAPTER 4	VENTILATION
CHAPTER 5	EXHAUST SYSTEMS
CHAPTER 6	DUCT SYSTEMS
CHAPTER 8	CHIMNEYS AND VENTS
CHAPTER 9	SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT
CHAPTER 10	BOILERS, WATER HEATERS AND PRESSURE VESSELS
CHAPTER 11	REFRIGERATION
CHAPTER 15	REFERENCED STANDARDS

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<sup>1</sup> The *District of Columbia Mechanical Code (2017)*, referred to as the “*Mechanical Code*,” consists of the 2015 edition of the *International Mechanical Code (International Mechanical Code)*, published by the International Code Council (ICC), as amended by the *Mechanical Code Supplement of 2017 (12-E DCMR)*. The *International Mechanical Code* is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be obtained at: <https://codes.iccsafe.org/public/document/toc/549>.

*Strike Chapter 1 of the International Mechanical Code in its entirety and insert a new Chapter 1 into the Mechanical Code in its place to read as follows:*

## **CHAPTER 1 SCOPE AND ADMINISTRATION**

### **101 GENERAL**

#### **101 GENERAL**

**101.1 Scope and intent.** Scope and intent of the *Mechanical Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**101.2 Administration and enforcement.** Administration and enforcement of the *Mechanical Code* shall be governed by Chapter 1 of the *Building Code* in Title 12-A DCMR.

**CHAPTER 2 DEFINITIONS****202 GENERAL DEFINITIONS****202 GENERAL DEFINITIONS**

*Strike the definition of Third Party Certified from the International Mechanical Code in its entirety and insert a new definition of Third Party Certified into the Mechanical Code in its place to read as follows:*

**THIRD PARTY CERTIFIED.** Product or material for which a certification was obtained by the manufacturer indicating that the function and performance characteristics of such a product or material have been determined by testing and ongoing surveillance by an approved third-party certification agency. Assertion of certification is in the form of identification in accordance with the requirements of the third-party certification agency.

*Strike the definition of Third Party Tested from the International Mechanical Code in its entirety and insert a new definition of Third Party Tested into the Mechanical Code in its place to read as follows:*

**THIRD PARTY TESTED.** Product, material or system that has undergone successfully a procedure by which an approved testing laboratory provides documentation that such a product, material or system conforms to specified requirements.

*Strike the definition of Smoke-developed Index from the International Mechanical Code in its entirety and insert a new definition of Smoke-developed Index into the Mechanical Code in its place to read as follows:*

**SMOKE-DEVELOPED INDEX.** A comparative measure, expressed as a dimensionless number, derived from measurements of smoke obscuration versus time for a material tested in accordance with ASTM E 84 or UL 723.

*Insert new definitions into Section 202 of the Mechanical Code to read as follows:*

**ASME CODE.** The Boiler and Pressure Vessel Code (ASME BPVC) published by the American Society of Mechanical Engineers as referenced in Chapter 15, Referenced Standards.

**BOILER, HEATING.** A steam or vapor *boiler* operating at pressures not exceeding 15 psig (103 kPa), or a hot water *boiler* operating at pressures not exceeding 160 psig (1103 kPa) and temperatures not exceeding 250 °F (121 °C).

**BOILER, HOT WATER HEATING.** A *boiler* in which no steam is generated, from which hot water is circulated for heating purposes and then returned to the *boiler*, and which is operated at a pressure not exceeding 160 psig (1103 kPa) and a temperature not exceeding 250 °F (121 °C) at or near the boiler outlet.



**BOILER, HOT WATER SUPPLY.** A *boiler* completely filled with water that furnishes hot water to be used externally to itself at pressures not exceeding 160 psig (1103 kPa) and a temperature not exceeding 250 °F (121 °C) at or near the boiler outlet.

**BOILER, MINIATURE.** A *power* or high-temperature water *boiler* which does not exceed the following limits: 16 inches (406 mm) inside diameter of shell; 20 square feet (1.86 m<sup>2</sup>) of heating surface (not applicable to electric boilers); 5 cubic feet (0.142 m<sup>3</sup>) of gross volume exclusive of casing and insulation; and 100 psig (690 kPa) maximum allowable working pressure.

**BOILER, PORTABLE.** A *boiler* that is primarily intended for temporary location, where its construction and usage permits it to be readily moved from one location to another.

**BOILER, POWER.** A *boiler* in which steam or other vapor is generated at a pressure of more than 15 psig (103 kPa).

**BOILER, UNFIRED STEAM.** An unfired *pressure vessel* or system of unfired *pressure vessels* intended for operation at a pressure in excess of 15 psig (103 kPa) steam for the purpose of producing and controlling an output of thermal energy.

**CERTIFICATE OF COMPETENCY.** A certificate issued by the *code official* to a person who meets the qualifications for an *insurance company inspector* set forth in the *Mechanical Code*.

**CERTIFICATE OF INSPECTION (For Chapter 10).** A certificate issued for operation of a *boiler* or *pressure vessel* as required in the *Mechanical Code*.

**EXISTING BOILER OR PRESSURE VESSEL INSTALLATION.** A *boiler* or *pressure vessel* constructed, installed, placed in operation, or contracted for on or before the effective date of the Construction Codes.

**EXTERNAL INSPECTION.** An inspection made when a *boiler* or *pressure vessel* is in operation.

**INSURANCE COMPANY INSPECTOR.** A person employed or retained by a District of Columbia-licensed insurance company who holds a valid *certificate of competency*.

**INTERNAL INSPECTION.** An inspection that can reasonably be conducted on the internal and external surfaces of a *boiler* or *pressure vessel* while it is shut down and the manhole plates, handhole plates, or other inspection opening closures are removed.

**NATIONAL BOARD.** The National Board of Boiler and Pressure Vessel Inspectors.

**NEW BOILER OR PRESSURE VESSEL INSTALLATION.** A *boiler* or *pressure vessel* constructed, installed, placed in operation or contracted for after the effective date of the Construction Codes.

**NONSTANDARD BOILER OR PRESSURE VESSEL.** A boiler or *pressure vessel* that does not bear the ASME Code symbol stamp, the API-ASME Code symbol stamp or the stamp of any jurisdiction that has adopted a standard of construction deemed by the code official to be equivalent to the *Mechanical Code*.

**OWNER OR USER** (For Chapter 10). Any person, including firms or corporations, legally responsible for the safe installation, operation and maintenance of any *boiler* or *pressure vessel* within the District of Columbia.

**POTABLE HOT WATER HEATER.** A heater supplying potable water for commercial purposes in which the pressure does not exceed 160 psig (1103 kPa) and the temperature does not exceed 210 °F (99 °C).

**STANDARD BOILER OR PRESSURE VESSEL.** A *boiler* or *pressure vessel* which bears the *ASME Code* symbol stamp, the API-ASME Code symbol stamp, both the ASME and the National Board stamps, or the stamp of another jurisdiction that has adopted a standard of construction deemed by the code official to be equivalent to the *Mechanical Code*.

**CHAPTER 3 GENERAL REGULATIONS**

- 301 GENERAL**
- 304 INSTALLATION**
- 305 PIPING SUPPORT**

**301 GENERAL**

*Strike Section 301.4 of the International Mechanical Code in its entirety and insert a new Section 301.4 into the Mechanical Code in its place to read as follows:*

**301.4 Plastic pipe, fittings and components.** Plastic pipe, fittings and components shall be *third-party certified* as conforming to NSF/ANSI 14.

**304 INSTALLATION**

*Strike Section 304.11 of the International Mechanical Code, but keep the Exception therein, and insert a new Section 304.11 into the Mechanical Code in its place to read as follows:*

**304.11 Guards.** Guards shall be provided where various components that require service and roof hatch openings are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall extend not less than 30 inches (762 mm) beyond each end of components that require service and not less than 30 inches (762 mm) beyond each end of the roof hatch opening. The top of the guard shall be located not less than 42 inches (1067 mm) above the elevated surface adjacent to the guard. The guard shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere and shall comply with the loading requirements for guards specified in the *International Building Code*.

**305 PIPING SUPPORT**

*Strike the two rows in Table 305.4, Piping Support Spacing, of the International Mechanical Code pertaining to PE-RT and insert two new rows into Table 305.4 in the Mechanical Code in its place to read as follows:*

**TABLE 305.4  
PIPING SUPPORT SPACING<sup>a</sup>**

<b>PIPING MATERIAL</b>	<b>MAXIMUM HORIZONTAL SPACING (feet)</b>	<b>MAXIMUM VERTICAL SPACING (feet)</b>
<i>(no change to rows above PE-RT material)</i>		
PE-RT 1-inch and smaller	2 2/3 (32 inches)	10 <sup>c</sup>
PE-RT 1¼ -inch and larger	4	10 <sup>c</sup>
<i>(no change to rows below PE-RT material)</i>		

*(No change to table footnotes.)*

**CHAPTER 4 VENTILATION****401 GENERAL****401 GENERAL**

*Strike Section 401.2 of the International Mechanical Code in its entirety and insert new Section 401.2 in its place in the Mechanical Code to read as follows:*

**401.2 Ventilation required.** Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403.

1. Each new *dwelling unit* shall be ventilated by mechanical means in accordance with Section 403 and shall have at least one opening to the outdoors for natural ventilation. The minimum openable area to the outdoors shall be of not less than 4 four percent (4%) of the floor area of the habitable spaces of the dwelling unit.
2. Where an existing dwelling unit is undergoing a Level 3 alteration ~~the~~ and its air infiltration rate ~~of an existing dwelling unit~~ is less than five (5) air changes per hour ~~or less~~ when tested with a blower door at a pressure of 0.2 inch water column ~~w.e.~~ (50 Pa) in accordance with Section R402.4.1.2 of the Energy Conservation Code ASTM E 779 or ASTM E 1827, the *dwelling unit* shall be ventilated by mechanical means in accordance with Section 403.
3. Where an existing *dwelling unit* is undergoing a Level 3 *alteration* affecting 80 eighty percent (~~80%~~) or more of the aggregate work area of the unit, the *dwelling unit* ~~shall be built to an air infiltration rate of five (5) air changes per hour or less according to Table R402.4.1.2 of the Energy Conservation Code, and the dwelling unit shall be ventilated by mechanical means in accordance with item 1 of Section 403~~ 401.2.
4. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

*Strike Section 401.4 of the International Mechanical Code in its entirety and insert a new Section 401.4 into the Mechanical Code in its place to read as follows:*

**401.4 Intake opening location.** Air intake openings shall comply with all of the following:

1. Intake openings shall be located a minimum of 10 feet (3048 mm) from lot lines or buildings on the same lot. On narrow lots where a 10-foot distance from lot lines cannot be achieved, the code official is authorized to approve a shorter distance.
2. Mechanical and gravity *outdoor air* intake openings shall be located not less than 10 feet (3048 mm) horizontally from any hazardous or noxious contaminant source, such as vents, streets, alleys, parking lots and loading docks, except as

specified in item 3 or Section 501.3.1. *Outdoor air* intake openings shall be permitted to be located less than 10 feet (3048 mm) horizontally from areas with vehicular access, such as streets, alleys, parking lots and loading docks, provided that the openings are located not less than 25 feet (7620 mm) vertically above ~~such locations~~ the surface of those areas. Where openings front on a street or public way, the distance shall be measured from the closest edge of the roadway portion of the street or public way.

3. Intake openings shall be located not less than 3 feet (914 mm) below contaminant sources where such sources are located within 10 feet (3048 mm) of the opening.
4. Intake openings on structures in flood hazard areas shall be at or above the elevation required by Section 1612 of the *International Building Code* for utilities and attendant equipment.
5. The bottom of *outdoor air* intake openings shall be not less than 2 feet (610 mm) above the adjacent grade or adjacent roof, or above the bottom of areaways.

## CHAPTER 5 EXHAUST SYSTEMS

- 501 GENERAL
- 502 REQUIRED SYSTEMS
- 505 DOMESTIC KITCHEN EXHAUST EQUIPMENT
- 506 COMMERCIAL KITCHEN HOOD VENTILATION SYSTEM DUCTS AND EXHAUST EQUIPMENT
- 508 COMMERCIAL KITCHEN MAKEUP AIR
- 510 HAZARDOUS EXHAUST SYSTEMS
- 515 LABORATORY VENTILATING SYSTEMS

## 501 GENERAL

Strike Section 501.3.1 of the International Mechanical Code in its entirety and insert new Section 501.3.1 in the Mechanical Code in its place to read as follows:

**501.3.1 Location of exhaust outlets.** The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from lot lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; and 10 feet (3048 mm) above adjoining grade.
2. For other product-conveying outlets: 10 feet (3048 mm) from the lot lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; and 10 feet (3048 mm) above adjoining grade.
3. For all environmental air exhaust: 3 feet (914 mm) from a lot line that adjoins the public way or 10 feet (3048 mm) above the sidewalk or finished grade of the public way; 3 feet (914 mm) from all other lot lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U; and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious.
4. Exhaust outlets serving structures in flood hazard areas shall be installed at or above the elevation required by Section 1612 of the Building Code for utilities and attendant equipment.
5. For specific systems see the following sections:
  - 5.1. Clothes dryer exhaust, Section 504.4.
  - 5.2. Kitchen hoods and other kitchen exhaust equipment, Sections 506.3.13, 506.4 and 506.5.
  - 5.3. Dust stock and refuse conveying systems, Section 511.2.
  - 5.4. Subslab soil exhaust systems, Section 512.4.
  - 5.5. Smoke control systems, Section 513.10.3.

5.6. Refrigerant discharge, Section 1105.7.

5.7. Machinery room discharge, Section 1105.6.1.

*Insert a new Section 501.3.1.1 in the Mechanical Code to read as follows:*

**501.3.1.1 Garage exhaust termination.** Exhaust air from garage exhaust systems or outlets shall not be directed onto walkways. The termination point of parking garage mechanical exhaust systems shall comply with the requirements for *environmental air* exhaust in Section 501.3.1, item 3.

## **502 REQUIRED SYSTEMS**

*Strike Section 502.20 of the International Mechanical Code in its entirety and insert a new Section 502.20 into the Mechanical Code in its place to read as follows:*

**502.20 Manicure and pedicure stations.** Manicure and pedicure stations shall be provided with an exhaust system in accordance with Table 403.3.1.1, Note h. Manicure tables and pedicure stations not provided with factory-installed exhaust inlets shall be provided with exhaust inlets located not more than 18 inches (457 mm) from the point of chemical application.

## **505 DOMESTIC KITCHEN EXHAUST EQUIPMENT**

*Strike Section 505.3 of the International Mechanical Code and insert a new Section 505.3 into the Mechanical Code in its place to read as follows:*

**505.3 Common exhaust systems for domestic kitchens located in multistory structures.** Where a common multistory duct system is designed and installed to convey exhaust from multiple domestic kitchen exhaust systems, the construction of the system shall be in accordance with all of the following:

*(no change to items 1 through 11)*

12. The common multistory duct system shall serve only domestic kitchen exhaust systems and shall be independent of other types of exhaust systems.

## **506 COMMERCIAL KITCHEN HOOD VENTILATION SYSTEM DUCTS AND EXHAUST EQUIPMENT**

*Strike Section 506.3.13.3 of the International Mechanical Code in its entirety and insert a new Section 506.3.13.3 into the Mechanical Code in its place to read as follows:*

**506.3.13.3 Termination location.** Exhaust outlets shall be located not less than 10 feet (3048 mm) horizontally from parts of the same or contiguous buildings, adjacent buildings and adjacent property lines and shall be located not less than 15 feet (4572 mm) above the adjoining grade level. Exhaust outlets shall be located not less than 20 feet (6096 mm) horizontally from or not less than 5 feet (1524 mm) above doors, operable windows and air intake openings into any

building.

**Exceptions:**

1. Exhaust outlets shall terminate not less than 5 feet (1524 mm) horizontally from parts of the same or contiguous building, an adjacent building, and adjacent property line where air from the exhaust outlet discharges away from such locations.
2. On narrow lots where a distance of 20 feet (6096 mm) from doors, operable windows and air intake openings into any building cannot be achieved, the *code official* is authorized to approve a smaller distance.

When an approved odor and grease removal system is installed, termination is permitted in accordance with the requirements of Section 501.3.1(2).

**508 COMMERCIAL KITCHEN MAKEUP AIR**

*Strike Section 508.1.1 of the International Mechanical Code in its entirety and insert a new Section 508.1.1 into the Mechanical Code in its place to read as follows:*

**508.1.1 Makeup air temperature.** Where the temperature of the *makeup air* is more than 15°F (8°C) lower than the design temperature of the air in the conditioned space to which the *makeup air* is being supplied, provisions shall be made to heat the makeup air so that the temperature differential shall not exceed 15°F (8°C).

**Exception:** No additional provisions are necessary where the added heating load of the *makeup air* does not exceed the available excess capacity of the HVAC system that serves the same area.

**510 HAZARDOUS EXHAUST SYSTEMS**

*Strike Section 510.5 of the International Mechanical Code in its entirety and insert a new Section 510.5 into the Mechanical Code in its place to read as follows:*

**510.5 Incompatible materials and common shafts.** Incompatible materials, as defined in the International Fire Code, shall not be exhausted through the same hazardous exhaust system. Hazardous exhaust systems shall not share common shafts with other duct systems, except where such systems are hazardous exhaust systems originating in the same fire area.

**Exception:** The provisions of this section shall not apply to laboratory exhaust systems where all of the following conditions apply:

*(no change to conditions 1 through 5)*

6. Where the project includes radioisotope hoods, the approved permit documents contain a statement, sealed and signed by the *registered design professional*, specifying whether and which filtration or adsorption provisions are required, and the radioisotope hoods are



equipped with filtration, carbon beds or both to the extent required by the *registered design professional*.

*(no change to conditions 7 through 8.2)*

*Insert a new Section 515 into the Mechanical Code to read as follows:*

**515                    LABORATORY VENTILATING SYSTEMS**

**515.1 Laboratory hoods.** Laboratory hoods and laboratory ventilating systems shall be designed and installed in accordance with NFPA 45.

**CHAPTER 6            DUCT SYSTEMS****607    DUCT AND TRANSFER OPENINGS****607            DUCT AND TRANSFER OPENINGS**

*Strike Sections 607.5.4 and 607.5.4.1 of the International Mechanical Code in its entirety and insert new Sections 607.5.4, 607.5.4.1, 607.5.4.2 and 607.5.4.3 in the Mechanical Code in their place to read as follows:*

**607.5.4 Corridors/smoke barriers.** *Corridor dampers, ceiling radiation dampers and smoke dampers in corridors and smoke barriers shall be provided as required in Sections 607.5.4.1 and 607.5.4.2. Smoke dampers and smoke damper actuation methods shall comply with Section 607.5.4.3.*

**607.5.4.1 Corridors.** Duct and air transfer openings that penetrate *corridors* shall be protected with dampers as follows:

1. A *corridor damper* shall be provided where corridor ceilings, constructed as required for the corridor walls as permitted in Section 708.4, Exception 3 of the *Building Code*, are penetrated.
2. A *ceiling radiation damper* shall be provided where the ceiling membrane of a fire-resistance-rated floor-ceiling or roof-ceiling assembly, constructed as permitted in Section 708.4, Exception 2 of the *Building Code*, is penetrated.
3. A listed *smoke damper* designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a *corridor* enclosure required to have smoke and draft control doors in accordance with Section 716.5.3 of the *Building Code*.

**Exceptions:**

1. *Corridor dampers, ceiling radiation dampers and smoke dampers* are not required in corridor penetrations where: (a) the building is equipped throughout with an *approved* smoke control system in accordance with Section 513 and (b) *smoke dampers* are not necessary for the operation and control of the system.
2. *Corridor dampers, ceiling radiation dampers and smoke dampers* are not required in corridor penetrations where: (a) the duct is constructed of steel not less than 0.019 inch (0.48 mm) in thickness and (b) there are no openings serving the corridor.
3. *Smoke dampers* are not required in ducted *corridor* penetrations where:
  - a. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 of the *Building Code*;

- b. The *duct* is constructed of steel not less than 0.019 inches (0.48 mm) in thickness;
- c. The ducted system supplies *outdoor air* only to the corridor and to *air-handling units* that serve spaces adjoining the *corridor* through ducted connections; and
- d. The *outdoor air* supply fan is designed to provide a continuous airflow.

**607.5.4.2 Smoke barriers.** A *listed* smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a *smoke barrier*. *Smoke dampers* and *smoke damper* actuation methods shall comply with Section 607.5.4.3.

**Exceptions:**

1. *Smoke dampers* are not required where the openings in ducts are limited to a single *smoke compartment* and the ducts are constructed of steel.
2. *Smoke dampers* are not required in *smoke barriers* required by Section 407.5 of the *Building Code* for Group I-2, Condition 2, where the HVAC system is fully ducted in accordance with Section 603 and where the building is equipped throughout with (a) an automatic sprinkler system in accordance with Section 903.3.1.1 of the *Building Code* and with (b) quick-response sprinklers in accordance with Section 903.3.2 of the *Building Code*.

**607.5.4.3 Smoke damper actuation.** Smoke dampers shall close as required by Section 607.3.3.2.

*Strike Section 607.5.5 of the International Mechanical Code in its entirety and insert new Section 607.5.5 to the Mechanical Code in its place to read as follows:*

**607.5.5 Shaft enclosures.** Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with listed fire and smoke dampers installed in accordance with their listing.

**Exceptions:**

1. Fire and smoke dampers are not required at penetrations of exhaust shafts where steel exhaust subducts extend at least 22 inches (559 mm) vertically in exhaust shafts provided there is a continuous airflow upward to the outside and the fan is provided with backup standby power.
2. Fire dampers are not required where penetrations are tested in accordance with ASTM E 119 or UL 263 as part of the fire-resistance-rated assembly.
3. Fire and smoke dampers are not required where ducts are used as part of an approved smoke control system in accordance with Section 909 of the *Building Code*.

4. Fire and smoke dampers are not required where the penetrations are in dedicated parking garage exhaust or supply shafts that are separated from other building shafts by not less than two (2)-hour fire-resistance-rated construction.
5. Smoke dampers are not required at penetrations of shafts where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 of the *Building Code*.
6. Fire dampers and combination fire/smoke dampers are not required in kitchens and clothes dryer exhaust systems installed in accordance with this code.

## CHAPTER 8 CHIMNEYS AND VENTS

## 801 GENERAL

## 801 GENERAL

*Strike Section 801.18 of the International Mechanical Code and insert a new Section 801.18 into the Mechanical Code to read as follows:*

**801.18 Existing chimneys and vents.** Where an *appliance* is permanently disconnected from an existing *chimney* or vent, or where an *appliance* is connected to an existing *chimney* or vent during the process of a new installation, the *chimney* or vent shall comply with Sections 801.18.1 through 801.18.4. Where a new or replacement *vented appliance* is *approved* for use in connection with an existing chimney not currently in use, compliance with Section 801.18.5 is required.

*[No change to Sections 801.18.1 through 801.18.4 of the International Mechanical Code]*

*Insert a new Section 801.18.5 into the Mechanical Code to read as follows:*

**801.18.5 Integrity inspection.** Before a new or replacement *vented appliance* is *approved* for use in connection with an existing chimney not currently in use, the chimney shall be relined or shall be inspected for integrity by the permit holder in the presence of the code official, using a scented smoke test or other *approved* method. In lieu of observing the test, the *code official* is authorized to accept a certification of integrity of the chimney, issued by the D.C.-licensed contractor who conducted the inspection or test.

**CHAPTER 9            SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT**

**917    COOKING APPLIANCES**

**922    KEROSENE AND OIL-FIRED STOVES**

**917                    COOKING APPLIANCES**

*Strike Section 917.1 of the International Mechanical Code in its entirety and insert a new Section 917.1 into the Mechanical Code in its place to read as follows:*

**917.1 Cooking appliances.** Cooking *appliances* that are designed for permanent installation, including ranges, ovens, stoves, broilers, grilles, fryers, griddles and barbecues, shall be *listed, labeled* and installed in accordance with the manufacturer's installation instructions. Commercial electric cooking *appliances* shall be *listed* and *labeled* in accordance with UL 197. Household electric ranges shall be *listed* and *labeled* in accordance with UL 858. Microwave cooking *appliances* shall be *listed* and *labeled* in accordance with UL 923. Oil-burning stoves shall be listed and labeled in accordance with UL 896. Solid-fuel-fired ovens shall be *listed* and *labeled* in accordance with UL 2162.

**922                    KEROSENE AND OIL-FIRED STOVES**

*Strike Section 922.1 of the International Mechanical Code in its entirety and insert a new Section 922.1 into the Mechanical Code in its place to read as follows:*

**922.1 General.** Kerosene and oil-fired stoves shall not be used or installed in any *premises*.

**CHAPTER 10            BOILERS, WATER HEATERS AND PRESSURE VESSELS**

- 1001    GENERAL**
- 1003    REQUIREMENTS FOR BOILERS AND PRESSURE VESSELS**
- 1004    PERMITS FOR CONSTRUCTION AND INSTALLATION OF BOILERS AND UNFIRED PRESSURE VESSELS; PERMIT, INSPECTION AND MISCELLANEOUS FEES**
- 1005    REQUIREMENTS FOR POWER BOILERS**
- 1007    INSTALLATION OF LOW PRESSURE HEATING BOILERS**
- 1008    BOILER CONTROLS**
- 1010    SAFETY VALVES**
- 1011    EXPLOSION DOORS**
- 1012    INSTALLATION OF MINIATURE BOILERS**
- 1013    INSTALLATION OF UNFIRED PRESSURE VESSELS**
- 1014    SAFETY VALVES FOR UNFIRED PRESSURE VESSELS**
- 1015    WATER STORAGE TANKS, WATER HEATERS, HYDRO-PNEUMATIC TANKS**
- 1016    HYDRO-PNEUMATIC TANKS**
- 1017    RELIEF VALVES, GAUGES AND SAFETY CONTROLS**
- 1018    WELDING ON BOILERS AND UNFIRED PRESSURE VESSELS**
- 1019    TEST METHODS**
- 1020    REPAIRS BY WELDING**
- 1021    WELDED REPAIRS ON BOILERS AND UNFIRED PRESSURE VESSELS**
- 1022    EXISTING POWER BOILER INSTALLATIONS**
- 1023    PARTS AND EQUIPMENT FOR EXISTING POWER BOILER INSTALLATIONS**
- 1024    EXISTING HEATING BOILER INSTALLATIONS**
- 1025    EXISTING MINIATURE BOILER INSTALLATIONS**
- 1026    EXISTING UNFIRED PRESSURE VESSEL INSTALLATIONS**

*Strike Section 1001 of the International Mechanical Code in its entirety and insert a new Section 1001 in the Mechanical Code in its place to read as follows:*

**1001            GENERAL**

**1001.1 Scope.** This chapter shall govern the installation, repair, maintenance, testing and inspection of new and existing *boilers*, water heaters and *pressure vessels*.

**Exceptions.** The following *pressure vessels*, *boilers*, tanks and containers are not covered by this chapter.

1. *Pressure vessels* used for unheated water supply.
2. Portable unfired *pressure vessels* and Interstate Commerce Commission containers.
3. Containers for bulk oxygen and medical gas.

4. Unfired *pressure vessels* having a volume of 5 cubic feet (0.14 m<sup>3</sup>) or less operating at pressures not exceeding 250 pounds per square inch (psi) (1724 kPa) and located within occupancies of Groups B, F, H, M, R, S and U.
5. *Pressure vessels* used in refrigeration systems that are regulated by Chapter 11 of the *Mechanical Code*.
6. Pressure tanks used in conjunction with coaxial cables, telephone cables, power cables and other similar humidity control systems.
7. Any *boiler* or *pressure vessel* subject to inspection by federal inspectors.

**1001.2 Standards applicability.** *Boilers, pressure vessels* and their respective appurtenances and control systems shall be designed, constructed, installed, inspected, repaired or altered in accordance with the requirements of this chapter and of the specific provisions of the following standards, to the extent of their respective references contained in this chapter:

1. ASME BPVC, Boiler and Pressure Vessel Code;
2. ASME CSD-1;
3. NFPA 8501, NFPA 8502, NFPA 8504;
4. UL 726; and
5. ANSI/NBBPVI NB-23 National Board Inspection Code (NBIC).

**1001.3 Permit Requirement.** A permit shall be obtained from the *code official* for each *boiler* or unfired *pressure vessel* installed, erected, or moved and reinstalled, or re-erected in a new location in the District of Columbia before any work in connection with the equipment is performed.

**1001.4 Licensed engineer requirement.** The *owner or user* of a facility containing one or more *boilers* or *pressure vessels* shall be responsible for employing or contracting for the services of an engineer holding the appropriate class of license for the size of the facility, issued by the *Department* in accordance with the requirements of the District of Columbia Board of Industrial Trades (Title 17 DCMR). The engineer's license shall be framed, protected under a durable transparent material and prominently displayed in the *boiler room* or engine room. A daily log of plant operations documenting daily testing of all *boiler* safeties and controls for each tour of duty shall also be kept in the *boiler room* or engine room.

**1001.4.1 Engineer's license suspension or revocation.** Any engineer licensed by the District of Columbia to operate *boilers* or *pressure vessels* covered by this code shall be subject to fines and other penalties for violation of the *Construction Codes*, and to suspension or revocation of his or her engineer's license, if he or she shall operate, or cause to be



operated, any *boiler* or unfired *pressure vessel* under his or her supervision without a certificate of inspection or with a certificate that has expired. Revocation or suspension of a license, shall be in accordance with the procedures laid out at D.C. Official Code §§ 47-2853.17 through 47-2853.30 (2015 Repl.).

**1001.5 Inspection criteria.** The approval of the design and the inspection of the construction, installation and operation of *power boilers*, *steam boilers*, *hot water boilers* and *pressure vessels* in the District of Columbia, shall be performed in accordance with the requirements of the *ASME Code*, ANSI/NBBPVI NB-23 and ASME CSD-1, as specified by this chapter and the manufacturer's inspection instructions. Inspections for compliance with specific District of Columbia safety requirements shall be performed in accordance with this chapter.

**1001.5.1 Equipment replacement.** The inspection of *boiler* and *pressure vessel* equipment installed to replace inoperable equipment shall be performed in accordance with the inspection requirements for new construction as specified in Section 1001.5.

**1001.5.2 Existing equipment.** Inspection of *boilers* and *pressure vessels* installed and operating in existing facilities shall be performed at a frequency in accordance with the requirements of ANSI/NBBPVI NB-23 and this chapter.

*Strike Section 1003 of the International Mechanical Code in its entirety and insert a new Section 1003 in the Mechanical Code in its place to read as follows:*

## **1003 REQUIREMENTS FOR BOILERS AND PRESSURE VESSELS**

**1003.1 Certificates of inspection.** No person shall use or cause to be used any *steam boiler* or unfired *pressure vessel* until a *certificate of inspection* has been issued and posted as required in this Chapter. The *certificate of inspection* shall not be issued until it is determined that the *boiler* or *pressure vessel* condition is in conformity with the *ASME Code* and this chapter, and the provisions of the *Construction Codes* governing the installation of fuel burning equipment in the District of Columbia. A separate *certificate of inspection* shall be required for each equipment unit inspected. Each certificate shall be protected under a durable transparent material in a frame to be supplied by the *owner* or *user* and shall be prominently displayed in the *boiler room* or engine room near the equipment to which it pertains. Certificates for portable equipment shall be kept with the equipment at all times.

**1003.2 Final inspection.** Upon installation, erection or alteration of any *boiler* or unfired *pressure vessel* in the District of Columbia for which a permit is required, including re-installation or erection of any used *boiler* or unfired *pressure vessel*, a final inspection by the *code official* is required to verify compliance with the applicable *Construction Code* provisions.

**1003.2.1 Responsibility of installer.** On all installations for which a permit has been issued, the contractor or *person* making the installation shall be responsible for notifying the *code official*, with sufficient advance notice so that the necessary inspections can be performed in a timely manner. The contractor or *person* making the installation shall be responsible for

ensuring that no boiler or unfired pressure vessel shall be operated until final inspection has been performed and approved by the *code official* to operate the equipment.

**1003.3 Renewal of certificate of inspection.** No *person* shall operate or cause to be operated any *boiler* or unfired *pressure vessel* requiring inspection under this code without a current *certificate of inspection*. Each *certificate of inspection* must be renewed annually, or at an interval specified by the *code official*, as long as the equipment is in service. Renewal will be granted upon satisfactory demonstration to the *code official* that the equipment or system has met all of the inspections and testing required by the *Construction Codes* and referenced standards. Inspections shall be made by the *code official*, or by an *insurance company inspector* as permitted by Section 1003.12, at the expense and responsibility of the *owner* or *user*.

**1003.4 Responsibility to notify code official.** Where a *boiler* or unfired *pressure vessel* subject to the provisions of this code is not covered by a current *certificate of inspection*, the *owner* or *user* of such *boiler* or *pressure vessel* shall immediately notify the *code official* in writing of the following information:

1. The location of each *boiler* or unfired *pressure vessel* not covered by a current *certificate of inspection*;
2. The date of the last inspection, if any;
3. Whether or not the equipment is insured and inspected by an insurance company; and
4. The name of the company that insures such equipment.

**1003.5 Operating pressure.** No *person* shall operate or cause to be operated any *boiler* or unfired *pressure vessel* at a pressure in excess of the allowable pressure as stated on the *certificate of inspection*.

**1003.5.1 Marking of pressure vessels.** Unfired *pressure vessels* operated at a pressure in excess of 60 pounds per square inch (psi) (414 kPa) and having a capacity in excess of 15 gallons (57 L) shall bear the following information:

1. The ASME symbol;
2. The name of the manufacturer;
3. The maximum allowable working pressure;
4. The serial number and National Board Numbers;
5. The year built; and
6. Any other required data to indicate that it has been built in accordance with the provisions of Section VIII of the *ASME Boiler and Pressure Vessel Code*.

**Exception:** Marking of nonstandard pressure vessels shall not be required to contain the information indicated in items 1, 4 and 6 of this section.

**1003.6 Safety devices.** *Boilers* and unfired *pressure vessels* shall be equipped with safety appliances and piping as prescribed in the *ASME Code*. No *person* shall operate or cause a *boiler* or unfired *pressure vessel* to be operated unless equipped with the prescribed safety appliances and piping, and no *person* shall remove or tamper with any safety appliance or piping, except for the purpose of making repairs. Any adjustments to safety valves shall be made only by direction of the *code official* or an *insurance company inspector*.

**1003.7 Tests.** When in the judgment of the inspector it is considered necessary to demonstrate the proper operation of the *boiler* safeties and controls, or to demonstrate the licensed engineer's ability to properly operate the *boiler*, the safety-valve capacity of a *boiler* and/or the low water cutout shall be tested. An accumulation test shall be made by shutting off all other steam-discharge outlets from the *boiler*, and operating the fuel-burning equipment to produce the maximum steaming capacity of the *boiler*. An evaporation test shall be performed to demonstrate proper operation of the low water cutout.

**1003.7.1 Safety-valve.** The safety-valve equipment shall be sufficient to prevent the pressure from rising more than (a) 6 percent above the maximum allowable working pressure, for power *boilers*, and (b) 5 pounds per square inch (psi) (34 kPa) above the maximum allowable working pressure, for heating *boilers*. Provision shall be made for piping the safety valve discharge out of the *boiler* room during a test pursuant to Section 1003.7.

**1003.8 Portable boiler or unfired pressure vessel.** No temporary *portable boiler* or unfired *pressure vessel* shall be used until it has been inspected by the *code official* or an *insurance company inspector* in accordance with this Chapter 10 and a *certificate of inspection* has been issued. Each *owner* or *user* of *portable boilers* or unfired *pressure vessels* shall furnish in writing to the *code official*, yearly, before December 27, the following information:

1. A list of his or her *portable boilers* and unfired *pressure vessels*;
2. The location of each *portable boiler* and unfired *pressure vessel* in the list; and
3. A statement for each *portable boiler* and unfired *pressure vessel* in the list, indicating whether the boiler or pressure vessel is insured and inspected by an insurance company.

**1003.9 Annual boiler inspection requirements.** All steam *boilers* including hot water *boilers* shall be inspected annually by the *code official* or by an *insurance company inspector* as provided in Section 1003.15. The inspection shall include the following.

**1003.9.1 Internal inspection.** The *internal inspection* shall consist of a thorough examination of all tubes, seams, rivets, drums, stay bolts and other parts to insure that the *boiler* is in safe operating condition and able to carry the pressure allowed.

**1003.9.2 External inspection.** The *external inspection*, to determine the general condition of the boiler and its appurtenances as well as the adequacy of safety valves, pressure gauges, apparatus for determining water level and other appliances, shall be made under normal operating conditions at which time the steam pressure carried shall be observed and the operation of all valves, gauges, safety devices or other appliances shall be checked to ensure that they are in proper working order.

**1003.9.3 Hydrostatic test.** A hydrostatic test shall be required when, in the judgment of the *code official* or *insurance company inspector*, it is considered necessary in the interest of safety. The test shall be conducted with water at a temperature of at least 70 °F (21 °C) but not higher than 120°F (49 °C), with pressure applied to the vessel at 1.5 times the maximum allowable working pressure. The test pressure shall hold for 30 minutes.

**1003.10 Boiler preparation.** A steam or hot water *boiler* shall be prepared *for internal inspection* by the *owner* or *user* on a date specified by the *code official*. Insofar as practicable, the *internal inspection* shall be made no later than 15 days prior to the expiration of the current *certificate of inspection*. In no case shall the *internal inspection* be deferred more than 30 days after the date of expiration of the *certificate of inspection*. The *code official* is authorized to order a steam or hot water *boiler* discontinued from service until the inspection is performed.

**1003.10.1 Inspection Procedure.** Preparation for *internal inspection* shall be made in the following manner:

1. Water shall be drawn off and the boiler thoroughly washed out;
2. All manhole and handhole plates, washout plugs and the water column connection plugs shall be removed and the furnace and combustion chambers thoroughly cooled and cleaned;
3. All grates or stoker dead plates of internally-fired boilers shall be removed; and
4. All leaks of steam or hot water into the *boiler* shall be stopped. The inspector is also authorized to require the removal of brickwork and insulation covering the seams of shell, drums or domes, sufficient to determine the size and pitch or rivets, their condition, and any other information as may be necessary to definitely determine the condition of the *boiler* and its fitness for safe operation.

**1003.10.2 Hydrostatic test preparation.** A steam or hot water *boiler* shall be prepared for hydrostatic test by the *owner* or *user*, when required by the inspector by filling the *boiler* with water to the stop valve and blanking off the connections of the *boiler* to other *boilers* when that *boiler* is connected to other *boilers* that are under steam pressure. Arrangements shall be made with the inspector for the protection of the safety valve and under no circumstances shall the safety valve spring be screwed down for making hydrostatic tests.

**1003.10.3 Test gauges.** An indicating test gauge shall be connected directly to the *boiler* or *pressure vessel* where it is visible to the operating engineer throughout the duration of the test. The pressure gauge scale shall be graduated over a range of not less than 1.5 times and not greater than four times the maximum test pressure. All gauges utilized for testing shall be calibrated and certified by the operating engineer.

**1003.11 Unfired pressure vessels requiring annual inspection.** Each unfired *pressure vessel* operating at a pressure in excess of 60 pounds per square inch (psi) (414 kPa) and having a capacity in excess of 15 gallons (57 L) shall be inspected annually by the *code official* or an *insurance company inspector* as permitted by Section 1003.12. Any unfired *pressure vessel* as described herein shall be subjected to inspection if it is connected to a source of supply.

**1003.11.1 Type of Inspection.** The annual inspection of unfired pressure vessels shall consist of an *external inspection* including safety devices and other appurtenances. When a vessel is provided with manholes, an *internal inspection* shall also be performed.

**1003.11.2 Hydrostatic Test.** A hydrostatic test shall be required when, in the judgment of the inspector, it is considered necessary in the interest of safety. This test shall be conducted with water at a temperature of at least 70°F (21°C) but not higher than 120°F (49°C), and shall consist of applying to the vessel a pressure of 1.5 times the maximum allowable working pressure. The test pressure shall hold for 30 minutes.

**1003.12 Annual inspection by insurance company inspectors.** Any steam or hot water *boiler* or unfired *pressure vessel* which is insured and inspected at least once annually by an *insurance company inspector* shall be exempt from annual inspection by the *code official*, provided that the requirements of Sections 1003.12.1 through 1003.12.3 are satisfied.

**1003.12.1 ASME Code.** The *insurance company inspector* shall apply the inspection provisions in Section I, Part PG, paragraph PG-90, "Inspection and Tests - General" in the *ASME Code*.

**1003.12.2 Qualifications.** In order to perform inspection of *boilers* or *pressure vessels* in the District of Columbia, the inspector shall hold a current *certificate of competency* issued by the *code official* in accordance with Section 1003.13.

**1003.12.3 Inspection reports.** The *insurance company inspector* shall file reports of inspections and other data relating to an insured *boiler* or unfired *pressure vessel*, as may be required, with the *code official* within ten *business days* after the inspection, on the standard forms and in the manner prescribed by the *code official*; provided, that the *internal inspection* report shall be filed in time to prevent the *certificate of inspection* from becoming more than thirty (30) days overdue. Each report shall be printed or typewritten, bear the original inspector's signature in ink and state unambiguously whether or not the *certificate of inspection* should be issued, and the equipment working pressure allowed.

**1003.12.3.1 Supplemental report.** If the inspector has ordered or recommended changes or repairs to be made following inspection, the inspection report filed with the

*code official* in accordance with Section 1003.12.3 shall state the nature of all changes or repairs ordered or recommended. No later than 30 days after the inspection during which the deficiencies were identified, the *insurance company inspector* shall re-inspect the insured *boiler* or *pressure vessel* and submit a supplemental report to the *code official* stating whether the changes or repairs have been completed. If the work has not been completed within the time allowed, the *code official* is authorized to order operation of the equipment to be discontinued, or to take any other actions authorized by the *Construction Codes*.

**1003.13 Certificates of competency for insurance company inspectors.** This section establishes the application requirements and procedures for *certificates of competency*.

**1003.13.1 Application.** In order to obtain or renew a *certificate of competency*, each inspector employed or retained, by an insurance company licensed to operate in the District of Columbia, to inspect *boilers* and *pressure vessels* located in the District of Columbia that are insured by the company shall submit an application to the *code official*, in the form prescribed and provided by the *code official*. The application shall include the following:

1. Name, age, qualifications, experience and local address of the inspector;
2. Documentation evidencing employment or retention by an insurance company licensed to operate in the District of Columbia for the inspection of *boilers* and *pressure vessels* in the District of Columbia;
3. A copy of a valid current certificate issued by the *National Board* to the inspector; and
4. Such other data and information as may be required by the *code official*.

**1003.13.2 National Board certification.** The *code official* is authorized to accept a certificate issued by the *National Board*, upon proper substantiation, and to issue a *certificate of competency* based on such *National Board* certificate.

**1003.13.3 Filing fee.** All applications for a new or renewed *certificate of competency* shall be accompanied by a filing fee of two hundred dollars (\$200), or such amount as may be established in the applicable fee schedule published in the *D.C. Register*.

**1003.13.4 Expiration.** The *certificate of competency* shall be issued for a two-year period, provided, however, any *certificate of competency* issued shall become null and void if the inspector holding the *certificate of competency* ceases to be employed or retained by the insurance company upon which his or her *National Board* eligibility is based, or if the *National Board* certification on which the inspector's *certificate of competency* is based is cancelled or invalidated in any way.

**1003.14 Insurance company reporting duties.** An insurance company that insures any *boiler* or *pressure vessel* in the District of Columbia shall immediately report the following information to the *code official* by written notice:

1. The name of the *owner* or *user* and the location of every *boiler* and unfired *pressure vessel* on which insurance is refused, canceled or discontinued by the company and the reason therefore;
2. The location and name of the *owner* or *user* of each new *boiler* or *pressure vessel* upon which coverage is taken, whether the new equipment has been inspected by the *code official* and whether an installation permit has been obtained;
3. The names of the D.C.-licensed engineers working on all watches, and the grade of license held by each engineer, and if there is none, the report shall so state; and
4. The termination or cessation of any employment or contractual relationship with an *insurance company inspector* and the reasons therefore.

**1003.15 Internal inspection.** In the case of *boilers* that can be internally inspected, *certificates of inspection* shall not be issued until after the *internal inspection* has been performed.

**1003.16 Notice to make repairs or alterations.** If upon inspection by the *code official* it is found that repairs, alterations or cleaning are necessary to ensure the safe operation of a steam *boiler*, hot water *boiler* or unfired *pressure vessel*, and its conformity to the *ASME Code* and this Chapter, a written notice stating the work required to be done and the time allowed for completion shall be sent to the *owner* or *user*.

**1003.16.1 Repairs, alterations or cleaning.** Repairs, alterations or cleaning required under Section 1003.16 shall be made as directed. Upon completion of the work ordered, the *owner* or *user* shall notify the *code official*. If the work has not been completed within the time allowed, the *code official* is authorized to order operation of the equipment to be discontinued, and to take any other actions authorized by the *Construction Codes*.

**1003.17 Condemnation of defective, unsafe or dangerous equipment.** Whenever the *code official* finds that a *boiler* or unfired *pressure vessel*, or its necessary appurtenances, is in such a defective or unsafe condition that life or property is endangered, he or she shall immediately order its further use and operation discontinued. A *boiler* or unfired *pressure vessel* which has been declared unsafe or condemned by the *code official* shall be distinctly labeled as "Unsafe to Use" or condemned by the *Department*. The provisions of Sections 115 and 116 of the *Building Code* and Sections 108 and 109 of the *Property Maintenance Code* shall also apply to defective, unsafe or dangerous boilers and unfired pressure vessels.

**1003.17.1 Operation prohibited.** No *person* shall operate or cause to be operated any *boiler* or unfired *pressure vessel* which is known to be unsafe or which has been condemned by the *code official*. No *person* shall operate or cause to be operated any *boiler* or unfired *pressure vessel*, the further use and operation of which has been ordered discontinued by the *code*

*official*, until the defective or unsafe condition which was the reason for such action has been corrected and a new *certificate of inspection* is issued.

**1003.17.2 Notification of unsafe condition.** If an *insurance company inspector* finds that a *boiler* or unfired *pressure vessel*, or its necessary appurtenances, are in such a defective or unsafe condition that life or property is endangered and, in his or her opinion, cannot be repaired and made safe, he or she shall immediately notify the *code official*.

**1003.17.3 Abatement.** The *owner* or *user* of the equipment deemed unsafe shall abate or cause to be abated or corrected such unsafe condition.

**1003.18 Numbering boilers and unfired pressure vessels.** Every boiler and unfired pressure vessel installed in the District of Columbia shall be given a District of Columbia number. Numbers assigned to cast-iron boilers shall be of metal not less than 1 inch (25.4 mm) in height and shall be securely attached to a metal plate which in turn shall be securely attached to the front of the boiler. Miniature boilers shall have sufficient space provided so that the District of Columbia boiler number can be stamped on the shell and be clearly visible when the insulating jacket is in place. Numbers on condemned boilers shall not be reassigned.

**1004 PERMITS FOR CONSTRUCTION AND INSTALLATION OF BOILERS AND UNFIRED PRESSURE VESSELS; PERMIT, INSPECTION AND MISCELLANEOUS FEES**

*Strike Section 1004.7 of the International Mechanical Code in its entirety and insert new Sections 1004.7 and 1004.8 in the Mechanical Code in its place to read as follows:*

**1004.7 Permits required for installation.** No person shall erect, install, re-erect or reinstall or cause to be erected, installed, re-erected or reinstalled, any steam or hot water *boiler* or unfired *pressure vessel* until he or she shall have made application on the form provided by the *code official*, and obtained an installation permit.

**1004.7.1 Permit applications.** Applications for permits shall be accompanied by a form U-1, "Manufacturer's Data Report," as specified in the *ASME Code*, properly filled out and signed by an *authorized boiler inspector* employed by an insurance company, showing that the boiler or unfired pressures vessel has been constructed and inspected in accordance with the requirements of the *ASME Code*. When an application is made to install a used boiler or unfired pressure vessel sufficient specific information shall be furnished to show that the boiler or unfired pressure vessel has been built in accordance with all the requirements of the *ASME Code* and is so stamped.

**1004.7.2 Inspection of used equipment.** Before an installation permit for a used boiler or unfired pressure vessel shall be issued, the *code official* shall cause the boiler or unfired pressure vessel to be inspected in order to determine whether it is safe to operate, and any repairs or changes that shall be deemed necessary.



**1004.8 Permit, inspection and miscellaneous fees.** The *code official* is authorized to require the payment of fees, pursuant to the applicable fee schedule published in the *D.C. Register*, for permits, inspections and other miscellaneous services related to *boilers* and unfired *pressure vessels*, including, but not limited to, fees for permit processing, inspections, welding qualification tests and issuance of *certificates of competency* and *certificates of inspection*.

*Strike Section 1005 of the International Mechanical Code in its entirety and insert a new Section 1005 in the Mechanical Code in its place to read as follows:*

## **1005 REQUIREMENTS FOR POWER BOILERS**

**1005.1 Steel platforms.** To provide access to the top of every power boiler setting, a steel platform shall be provided, reached by means of a stationary steel stairway or ladder. The platform shall be provided with a 4 inch (102 mm) high toe guard, with a steel railing not less than 36 inches (914 mm) in height, and shall have a runway not less than 30 inches (762 mm) in width, made of steel grating or other approved material.

**1005.2 Platform access.** The stairway or ladder shall not be less than 16 inches (406 mm) in width and shall provide easy access to and from the platform. Where more than one boiler is served by the same platform, or where otherwise deemed necessary, a second stairway or ladder, remote from the first one, shall be provided.

**1005.3 Means of egress.** Two unobstructed and accessible means of egress remote from each other shall be provided in every room housing power boilers with an aggregate capacity of 75 horsepower (56 kW) or over, or heating boilers with an aggregate capacity of 2,400,000 btu/h (703 kW) or over. Blow off pits, ash pits, alleyways, steam pipe tunnels and other places where there would be danger of personnel being trapped shall have adequate ventilation, lighting and a number of means of egress deemed adequate by the code official.

**1005.4 Blow-off discharge.** Blow-off piping from power boilers shall not discharge directly into a sewer. A blow-off tank or sump shall be used where conditions do not provide an adequate and safe open discharge.

**1005.5 Blow-off tanks.** Blow-off tanks shall be designed for at least 50 percent of the working steam pressure of the boiler to which it is connected and shall be built in accordance with the *ASME Code*. The tanks shall have a discharge connection at least 6 inches (152 mm) above the maximum water level with a water seal, a vent from the top of the tank and a cold-water connection to the top of the tank. The vent shall be routed to a safe point of discharge above the roof of the building where it is located or the roof of any adjoining building, so as not to constitute a hazard or nuisance. The vent shall be substantially supported. The design of each tank and appurtenant piping shall be submitted to the *Department* for approval. Tank, outlet and vent sizes shall not be less than indicated in Table 1005.5.

### **TABLE 1005.5 REQUIREMENTS FOR POWER BOILERS BLOW-OFF TANKS**

<b>BOILER RATING</b>	<b>TANK SIZE</b>	<b>OUTLET (inches nom.)</b>	<b>VENT (inches nom.)</b>
2 to 25 horsepower	24 in. diameter by 36 in. long	2	2
26 to 75 horsepower	30 in. diameter by 48 in. long	3	3
76 to 150 horsepower	36 in. diameter by 54 in. long	5	4
151 to 250 horsepower	36 in. diameter by 60 in. long	5	5
251 to 600 horsepower	42 in. diameter by 66 in. long	5	6
601 to 1,000 horsepower	48 in. diameter by 72 in. long	6	6

For SI: 1 inch = 25 mm, 1 horsepower = 0.7457 kW.

*Strike Section 1007 of the International Mechanical Code in its entirety and insert a new Section 1007 in the Mechanical Code in its place to read as follows:*

**1007 INSTALLATION OF LOW PRESSURE HEATING BOILERS**

**1007.1 Return water connection.** The return water connection to every low pressure steam or hot water heating boiler shall be arranged to form what is known as a “Hartford Loop” so that the water cannot be forced out of the boiler below the safe water level. This connection shall be installed on each boiler, with the inside bottom of the return pipe close nipple, where it connects to the equalizing loop, at the same level as the top of the bottom nut of the water gauge glass.

**1007.2 Equalizer pipe.** Each boiler shall have a separate equalizer pipe installed between the bottom opening of the boiler and the boiler stop valve, when used. The equalizer pipe shall not have a valve in it at any point and shall not be used as a means to connect two or more boilers together below the water line. Equalizer pipe sizes shall not be less than the schedules indicated in Table 1007.2.

**TABLE 1007.2  
EQUALIZER PIPE SIZES**

<b>GRATE AREA (square feet)</b>	<b>S.V.R.C.<sup>a</sup> (pounds per hour)</b>	<b>PIPE SIZE (inches nom.)</b>
Under 4	250 or less	1 ½
4 to 15	251 to 2000	2 ½
Over 15	2001 or over	4

For SI: 1 square foot = 0.0929 m<sup>2</sup>, 1 inch = 25 mm, 1 pound/hour = 0.4536 kg/h.

- a. For this purpose, S.V.R.C. (Safety Valve Relieving Capacity) shall be the capacity of the boiler as stamped on a steel boiler or on the name plate of a cast iron boiler.

**1007.3 Stop valve.** When a stop valve is used in the return line of the loop it shall be located within 6 feet (1829 mm) of the floor. A drain valve shall be provided at the lowest point of the return line. Galvanized pipe and fittings shall not be used in any part of the equalizer pipe or return line.

**1007.4 Public water system mechanical feed.** Each *boiler* shall be provided with a mechanical feed line supplied from a reliable public water system. The feed line shall not connect directly into any part of a *boiler* exposed to the direct radiant heat from the heat source. It shall be connected to the equalizing line between the *boiler* and the condensate return connection and shall have a check valve in the line as close to the *boiler* as possible.

**1007.5 Boiler feed line.** The *boiler* feed line shall be designed so as to adequately take care of the maximum demand of the *boiler*.

**1007.6 Public water system shut-off valve.** All connections from the public water system shut-off valve shall be made of brass pipe with screwed fittings. Tubing shall not be used.

**Exceptions:**

1. Low-pressure heating *boilers* bearing the ASME stamp that are trimmed by the manufacturer.
2. Low-pressure heating *boilers* rated less than 100 horsepower (74.6 kW).

**1007.7 Condensate return pump.** A condensate return pump shall have capacity to supply the *boiler* or *boilers* it serves with sufficient water to maintain a normal water level when the boilers are operating at maximum capacity. When more than one *boiler* is served by the pump, the condensate return line shall be arranged to supply all *boilers* adequately.

**1007.8 Stop valve.** A stop valve shall be installed in each supply and return connection of two or more *boilers* connected to a common system. When a stop valve is used in the supply pipe connection of a single *boiler*, there shall be one used in the return pipe connection and vice versa. If there are multiple branch connections, each one shall be valved. When stop valves over 2 inches in nominal size are used they shall be of the outside screw-and-yoke type.

**1007.8.1 Stop valve location.** Stop valves shall be located as close to the *boiler* as possible and when over 7 feet (2134 mm) above the floor shall be made accessible for operation by means of either (1) a permanent steel ladder and platform; or (2) a chain or motor operated mechanism.

**1007.9 Blow-off connections.** Each *boiler* shall have one or more blow-off connections fitted with straightway valves connected directly with the lowest water space. Plug or bob cocks shall not be used. A discharge pipe shall be run to the floor, full size, with an “ell” at the bottom to direct the water away from the operator, or to a blow-off tank. A “tee” fitting shall be used at the *boiler* in order to provide a cleanout for the line. Blow-off valves and discharge pipes shall not be smaller than the schedule indicated in Table 1007.9 based on the equivalent direct radiation

rating of the *boiler*. If a surface blow down is used, it shall be run full size to the floor with an “ell” at the bottom, or to an approved drain.

**TABLE 1007.9  
BLOW-OFF VALVES AND DISCHARGE PIPES**

<b>BOILER RATING (square feet E.D.R.)</b>	<b>Valve and Pipe Size (inches nom.)</b>
Under 1000	$\frac{3}{4}$
1001 to 3500	1
3501 to 8500	1 $\frac{1}{2}$
8501 and over	2

For SI: 1 square foot = 0.0929 m<sup>2</sup>, 1 inch = 25 mm.

**1007.10 Wash-out and hand-hole openings.** All wash-out and hand-hole openings shall be accessible and shall not be obstructed or blocked by pipe or other obstacle. Capped pipe nipples and plugs shall be installed in wash-out openings.

**1007.11 Cross connections.** There shall be no cross connection below the water line, for any purpose, between two or more *boilers*.

*Strike Section 1008 of the International Mechanical Code in its entirety and insert a new Section 1008 in the Mechanical Code in its place to read as follows:*

## **1008 BOILER CONTROLS**

**1008.1 Steam limit control.** Every steam *boiler*, when mechanically fired, shall be provided with a steam limit control (pressure regulator) that shall operate to prevent the steam pressure from rising above the allowable working pressure of the *boiler*. All connections shall be on non-ferrous pipe with screwed fittings. There shall not be any valve between the *boiler* and the control.

### **Exceptions:**

1. *Boilers* that bear the ASME stamp and are trimmed by the manufacturer are exempt from the non-ferrous pipe with screwed fittings requirement.
2. *Boilers* rated less than 100 horsepower (74.6 kW) are exempt from the non-ferrous pipe with screwed fittings requirement.

**1008.2 Master limit control.** When two or more *boilers* are connected to a common header, a master limit control connected into the main steam header shall be provided to control all *boilers* simultaneously.

**1008.3 Low-water fuel cut-off.** Each steam *boiler*, when mechanically fired, shall be equipped with an approved low-water fuel cut-off, so arranged as to automatically cut off the fuel supply in case the water-level gauge indicates low-water level.

**1008.4 Independent operational controls.** The operation of automatic operational controls shall not be dependent upon the functioning of any other device.

**1008.5 Oil burner cut-off location.** When an oil burner is manually operated, the cut-off valve shall be located in the oil line close to the burner and shall only be re-set manually.

**1008.6 Valve location restriction.** No valves shall be permitted between the low-water fuel cut-off and the *boiler*.

**1008.7 Water gauge glass controls.** Each steam *boiler* shall have one or more water-gauge glasses attached to the water column or directly to the *boiler* by means of valved fittings, with the lower fitting provided with a drain valve of the straightway type with opening not less than 1/4 inch (6.4 mm) diameter. The gauge glasses shall be visible from the operating floor and without the removal of any cover or casing. There shall be no obstruction to interfere with visibility of the gauge glasses.

**1008.8 Operating elevated gauge glass controls.** When gauge cocks or gauge glass shut off cocks are located 78 inches (1981 mm) or more above the operating floor, they shall be of the quick opening type with chains or rods attached for operation from the floor. The gauge glass and pressure gauge shall be illuminated by a light with an approved type of reflector so that they can be easily read.

**1008.9 Automatic water feeder.** An automatic water feeder shall be installed on each mechanically fired steam heating *boiler*. It shall have sufficient capacity to take care of the water demand for maximum boiler output.

**1008.10 Feed pump capacity.** A *boiler* feed pump, when used, shall have capacity to supply sufficient water to all *boilers* served to maintain a normal water level when the *boiler* or *boilers* are operating at maximum capacity.

**1008.11 Public water system by-pass.** A public water system by-pass valve, with the valve accessible from the floor, shall be installed around a feeder and shall have a valved drain extended to within 6 inches (152 mm) of the floor. A mechanical water feeder supplied from a public water system shall be installed with a bypass valve, with inlet and outlet valves accessible from the floor, with cross tees for inspection and with the drain valve piping extended to within 6 inches (152 mm) of the floor.

**1008.12 Feed-water level.** A water feeder shall be installed so that it will not cause the water level to rise above the normal operating level specified by the manufacturer of the *boiler*.

**1008.13 Minimum boiler water level.** On low-pressure steam heating *boilers*, the water gauge glass shall be located so that the lowest permissible water level in the glass shall be as specified in Sections 1008.13.1 through 1008.13.4.

**1008.13.1 Multiple fire-tube boilers.** For multiple fire-tube boilers at least 1/2 inch (13 mm) of water shall be maintained over the top row of tubes or the fusible plug, if used, whichever is higher.

**1008.13.2 Scotch Marine boilers.** For package type Scotch Marine boilers at least 1/2 inch (13 mm) of water shall be maintained over the top row of tubes or the fusible plug, if used, whichever is higher.

**1008.13.3 Horizontal tube boilers.** For fire-box, horizontal water tube *boilers* at least 1 inch (25 mm) of water shall be maintained over the highest point of the crown sheet.

**1008.13.4 Miscellaneous boilers.** For any other type *boiler* the minimum water level shall be maintained in accordance with the manufacturer's recommendations.

**1008.14 Multiple boiler water level.** Two or more *boilers* that share any appurtenance shall be arranged so that the low water lines of all boilers are at the same level.

**Exception:** When each *boiler* is provided with an individual pump control and an individual automatically operated feed water control valve, operation with different water levels shall be allowed.

**1008.15 Boiler pressure gauge.** Every *boiler* shall have a pressure gauge connected to its steam space, or to its water column, or to its steam connection by means of a siphon or equivalent device exterior to the boiler, and of sufficient capacity to keep the gauge tube filled with water. The pressure gauge shall be arranged so that the gauge cannot be shut off from the boiler except by a cock with a "tee" or lever handle installed in the pipe near the gauge.

**1008.16 Cock handle position.** The handle of the cock for the pressure gauge shall be parallel to the pipe in which it is located when the cock is open.

**1008.17 Gauge scale graduation.** The scale on the dial of a gauge on a low pressure *boiler* shall be graduated to not less than 30 pounds per square inch (psi) (210 kPa), in 5 psi (35 kPa) increments. Connections to steam gauge siphons shall be of non-ferrous pipe. The gauge shall be visible at all times without the removal of any cover or casing, and shall be of such size and so located as to be easily readable from the operating floor.

**Exceptions:**

1. *Boilers* that bear the ASME stamp and are trimmed by the manufacturer are exempt from the non-ferrous pipe connection requirement.

2. *Boilers* rated less than 100 horsepower (74.6 kW) are exempt from the non-ferrous pipe connection requirement.

**1008.18 Independent controls.** When two or more mechanically fired steam *boilers* are connected to the same system, each boiler shall have independent low-water fuel cut-offs, pressure controls, pressure gauges and water feeders.

**1008.19 Non-ferrous pipe and fittings.** All of the connections for the water column, water feeder, low-water fuel cut-off and make up water line to the boiler, shall be of non-ferrous pipe and screwed fittings, with a cross at each right angle turn and with a check valve in the feed line as close to the boiler as possible. High pressure *boilers* shall have a valve between the *boiler* and the check valve. Tubing shall not be permitted on *boiler* piping or fittings. All piping shall be firmly braced and supported.

**Exceptions:**

1. *Boilers* that bear the ASME stamp and are trimmed by the manufacturer are exempt from the non-ferrous pipe with screwed fittings requirement.
2. *Boilers* rated less than 100 horsepower (74.6 kW) are exempt from the non-ferrous pipe with screwed fittings requirement.

**1008.20 Drain locations.** *Boiler* drains shall be located so that the discharge will not impinge on the boiler setting or electrical equipment. Water column, water feeder and low-water fuel cut-off shall each have separate full size straight-way valve drains extended to within 6 inches (152 mm) from the floor or to a visible approved drain, with the valves located so as to be conveniently accessible for operation. Plug cocks shall not be used.

*Strike Section 1010 of the International Mechanical Code in its entirety and insert a new Section 1010 in the Mechanical Code in its place to read as follows:*

**1010 SAFETY VALVES**

**1010.1 General.** Each steam *boiler* shall be provided with one or more safety valves of the spring-pop type, having side outlet discharge, adjusted and sealed to discharge at a pressure not to exceed 15 pounds per square inch (psi) (103 kPa). Seals shall be attached so as to prevent the valve from being taken apart or re-set to relieve at a higher pressure without breaking the seal.

**1010.2 Lever-lifting device.** Each valve shall have a substantial lever-lifting device which will positively lift the disk from its seat at least 1/16 inch (1.6 mm) when there is no pressure on the boiler. Where the lever is more than 78 inches (1981 mm) above the floor, a flexible chain or cable operating over a pulley shall be provided so that the valve can be tested.

**1010.3 Safety valve marking.** Each steam safety valve shall bear the ASME symbol to indicate that it complies with the requirements of the *ASME Code* in regard to construction, testing and

rating, and shall be plainly and permanently marked by the manufacturer in such a way that the marking will be readable when the valve is installed and will not be obliterated in service.

**1010.3.1 Marking data.** The marking shall include the following information:

1. The manufacturer's name;
2. The type and catalog number;
3. The pressure at which it is set to open; and
4. The capacity in pounds of steam per hour as certified by the *National Board*.

**1010.4 Valve capacity.** The steam safety valve capacity for each steam *boiler* shall be such that with the fuel burning equipment installed and operating at maximum capacity, the pressure cannot rise more than 5 psi (34 kPa) above the maximum allowable working pressure of the boiler.

**1010.5 Non-compliant valves.** When a safety valve no longer meets the provisions of Sections 1010.1 through 1010.4, such as when there is no stamping on a valve or it is not legible, or when a safety valve does not function properly, a new safety valve or valves as required in Section 1010 shall be installed.

**1010.6 Installation.** It shall be the responsibility of the contractor making the installation or changes to a system to provide and install the necessary safety valves, as required by this Chapter and/or recommended by the manufacturer.

**1010.7 Accumulation test.** In case of dispute over the safety valve capacity or when, in the judgment of the *code official* or *insurance company inspector*, it is considered necessary to test the capacity of the safety valves, an accumulation test shall be conducted by the contractor, owner or operator in the presence of the *code official* or *insurance company inspector*.

**1010.7.1 Test procedure.** The accumulation test shall be conducted by closing off all other discharge outlets from the boiler and operating the fuel burning equipment at maximum capacity. The safety valves shall be sufficient to prevent the pressure from rising more than 5 psi (34 kPa) above the maximum allowable working pressure of the boiler. Provision shall be made for piping the steam discharge from the *boiler room* during the test.

**1010.8 Minimum capacity.** The minimum required capacity of the safety valve or valves, in pounds of steam per hour, shall be determined as follows:

1. For steel or cast iron *boilers*, multiply the area of heating surface in square feet, if available, by 5 or use the maximum rating output of the *boiler* as specified by the manufacturer, whichever is greater.



2. If the fuel burning equipment installed will produce a greater output than the minimum obtained in Item 1 of Section 1010.8, the minimum capacity of the safety valve or valves shall be based on the maximum output obtainable. In any event the requirements of Section 1010.4 shall be met.

**1010.9 Safety valves connection.** Safety valves shall be connected to *boilers*, with the spindle in a vertical position, in any one of the following ways:

1. Directly to a tapped or flanged opening in the *boiler*;
2. To a fitting connected to the *boiler* by a close nipple;
3. To a Y-base;
4. To a valveless steam pipe between the adjacent *boilers*; or
5. To a valveless header connecting steam outlets on the same *boiler*.

**1010.9.1 Y-base connection.** When a Y-base is used pursuant to Item 3 of Section 1010.9 above, the inlet area shall not be less than the combined outlet areas.

**1010.9.2 Clearance.** There shall be sufficient clearance above and around safety valves so that they can be removed and replaced without dismantling. The identification plate shall be located so as to be readable.

**1010.10 Shut-off prohibition.** No shut-off or connection of any description shall be placed between a safety valve and the boiler, nor on the valve discharge pipe between such valve and the atmosphere. A safety valve shall not be connected to an internal pipe in the boiler. Tubing or galvanized pipe shall not be used between the valve and *boiler*.

**1010.11 Discharge pipe.** A discharge pipe shall not be used on safety valves on low pressure equipment, except where a *boiler* is located in a restricted space or where the discharge from the valve might constitute a hazard to persons or to equipment. A discharge pipe shall be designed to accommodate the opening of a single valve or the aggregate area of all valves, based on the nominal diameter of the discharge openings of the valves with which it connects. The cross section of the discharge pipe shall be equal to the area of all of the safety valves discharging into it.

**1010.11.1 Discharge pipe installation.** The discharge pipe shall be fitted with an open drain to prevent water from lodging in the upper part of the valve or in the pipe. When an elbow is placed on a safety valve discharge pipe, it shall be located close to the valve outlet and 45° turns shall be used. The discharge pipe shall be braced and supported so that no weight or strain is placed on the valve body. The discharge shall be arranged so there will be no danger of scalding attendants. A safety valve shall not be installed so as to discharge inside the casing of a self-contained *boiler*.

**1010.11.2 Discharge pipe location.** The safety valve or valves of each high-pressure *boiler* shall be provided with a full size discharge pipe leading to a safe point of discharge, which shall be above the roof of the building where it is located, or of any adjoining building to which it could constitute a hazard or nuisance. Visible, non-valved drains shall be provided to receive the discharge from the valve discharge piping.

**1010.11.3 Discharge pipes not required.** Boilers of 25 horsepower (18.6 kW) or less shall not be required to have safety valve discharge pipes if the discharge from the safety valve will not constitute a hazard.

**1010.12 Connection of two or more boilers.** When two or more *boilers* with different allowable working pressures are connected to a common steam main, safety valves shall be allowed to be set at a pressure exceeding the lowest allowable pressure, provided that the *boilers* with allowable working pressures below the safety valves' set pressure shall be protected by a safety valve or valves placed on the connecting pipe to the steam main.

**1010.12.1 Connecting pipe.** The area or combined area of the safety valve or valves placed on the connecting pipe to the steam main, as provided for in Section 1010.12, shall not be less than the area of the connecting pipe or the area of the steam main, whichever is smaller. Each safety valve placed on the connecting pipe shall be set at the lowest allowable pressure of any of the connected *boilers*

*Strike Section 1011 of the International Mechanical Code in its entirety and insert a new Section 1011 in the Mechanical Code in its place to read as follows:*

## **1011 EXPLOSION DOORS**

**1011.1 Explosion doors.** Each *boiler* burning fuel in suspended or gaseous form shall have one or more self-closing explosion doors located in the *boiler* setting and breeching as required. This section shall apply to new installations and to existing installations that are changed to burn fuel in suspended or gaseous form.

**1011.2 Deflectors.** Explosion doors, when located in the walls of the *boiler* setting within 7 feet (2134 mm) of the firing floor or of any platform or walkway, shall be provided with substantial deflectors to divert the blast of exploding gas so that it will not constitute a hazard.

*Insert a new Section 1012 in the Mechanical Code to read as follows:*

## **1012 INSTALLATION OF MINIATURE BOILERS**

**1012.1 Miniature boiler limitation.** *Miniature boiler* is a power or high-temperature water boiler that does not exceed the size and pressure limits specified in its definition. Where any one of the limits specified in the definition is exceeded, the rules for *power boilers* shall apply.

**1012.2 Clearance.** Each *boiler* shall be located so that adequate space will be provided for the proper operation of the *boiler* and appurtenances, for the inspection of all surfaces and for their

necessary maintenance and repair. Each *miniature boiler* shall have the following minimum clearances:

1. 18 inches (457 mm) on all sides;
2. 3 feet (914 mm) from electric meters and main-line switches;
3. 18 inches (457 mm) from all other switches and fuse boxes; and
4. 3 feet (914 mm) horizontally from any gas meter.

**1012.3 Feed pump.** Each *miniature boiler* operating at a pressure in excess of 25 pounds per square inch (psi) (172 kPa) shall be provided with at least one feed pump or other approved feeding device except where the steam generator is operated with no extraction of steam (closed system).

**1012.4 Blow-off connection.** Each *miniature boiler* shall be provided with a blow-off connection that shall not be reduced in size and shall be led to a safe point of discharge. Whenever, in the judgment of the *boiler inspector* a safe place of discharge cannot be provided, a blow-down tank shall be installed, and a 1 inch (25 mm) vent leading to a safe point of discharge shall be provided on the tank. The blow-off shall be fitted with a valve or cock in direct connection with the lowest water space practicable.

**1012.5 Mechanically fired boilers.** Each mechanically fired *miniature boiler* shall be provided with an automatic low-water fuel cut-off so located as to automatically cut off the fuel supply in case the water level falls to the level of the bottom of the water glass.

**1012.6 Gas-fired boilers.** Where *miniature boilers* are gas-fired, the burners used shall conform to the requirements of the *Fuel Gas Code*. The burner shall be equipped with an automatic fuel-regulating governor that shall be regulated by the steam pressure. This governor shall be so constructed that, in the event of its failure, there shall be no possibility of steam from the boiler entering the gas chamber or gas supply pipe. A manual stop or throttle valve shall be located in the inlet pipe ahead of the fuel-regulating governor. All applicable requirements of the *Fuel Gas Code* shall be satisfied.

**1012.7 Boiler vent installations.** Each gas-fired *miniature boiler* shall be connected to a vent or flue, or to a chimney, extended to an approved location outside of the building. The venting arrangement shall be of *approved* design and in accordance with the boiler manufacturer's installation instructions.

*Insert a new Section 1013 in the Mechanical Code to read as follows:*

### **1013           INSTALLATION OF UNFIRED PRESSURE VESSELS**

**1013.1 Access for inspection.** Each unfired *pressure vessel* shall be installed so that it is available for complete *external inspection* of shell and heads and shall be located so that,

wherever possible, there will be not less than 12 inches (305 mm) between the vessel and any floor, wall, ceiling or other obstruction. There shall be no piping or other obstructions to prevent proper access. Any manhole or inspection opening shall be located so that it is readily accessible. All stamping and longitudinal welded or riveted joints shall be located in a position so as to be readily visible to the inspector. Where necessary to install a vessel underground, it shall be enclosed in a concrete or brick pit with a removable cover so that inspection of the entire shell and heads of the vessel can be performed.

**1013.2 Structural supports.** Each unfired *pressure vessel* shall be supported by masonry or structural supports of sufficient strength and rigidity to safely support the vessel and its contents. Provisions shall be made to reduce vibration in both the vessel and its connecting piping.

**1013.3 Piping and connections.** All piping and connections to an unfired *pressure vessel* shall be supported in a substantial and safe manner so that there is no strain placed upon the vessel. Provision shall be made for expansion, contraction and drainage.

**1013.4 Protection.** Each unfired pressure vessel shall be painted with two coats of approved paint, so that it is protected from rust and corrosion. It shall not be in contact with any corrosive material or moisture.

**1013.5 Drip pipe.** Each unfired *pressure vessel* shall have a bottom drip pipe fitted with a valve or cock in direct connection with the lowest space practicable. The minimum size of pipe and fittings shall be  $\frac{3}{4}$  inch (19 mm) except for tanks 20 inches (508 mm) in diameter or less, in which the minimum size of the pipe and fittings shall be  $\frac{1}{4}$  inch (6.4 mm). If a plug cock is used, the plug shall be held in place with a guard or gland. Globe valves and cocks shall not be used.

**1013.6 Pressure gauge.** Each unfired pressure vessel shall have a pressure gauge connected in a manner that the gauge cannot be shut off from the vessel, except by a cock with a “tee” or lever handle, which shall be placed on the pipe near the gauge. Connections to gauges shall be placed on the pipe near the gauge. Connections to gauges shall be made of non-ferrous pipe and fittings from the tank to the gauge. Tubing shall not be used. The dial of the gauge shall be graduated to not less than 1.5 times the maximum pressures allowed for the vessel. A  $\frac{1}{4}$  inch (6.4 mm) test gauge connection shall be provided for attaching the inspector’s test gauge.

*Insert a new Section 1014 in the Mechanical Code to read as follows:*

## **1014 SAFETY VALVES FOR UNFIRED PRESSURE VESSELS**

**1014.1 General.** Each unfired *pressure vessel* shall be protected by safety and relief valves and shall be provided with indicating and controlling devices to ensure its safe operation. These valves and devices shall be so constructed, located and installed that they cannot readily be rendered inoperative.

**1014.2 Safety valves.** The relieving capacity of safety valves shall be such as to prevent pressure in the vessel from rising to more than ten percent (10%) above the maximum allowable

working pressure, taking into account the effect of static head. Safety valve discharge shall be carried to a safe place.

**1014.3 Type of safety valve.** Each *pressure vessel* safety valve shall be of the direct spring-loaded type, having a substantial lever-lifting device so that the disk can be lifted from its seat by the spindle not less than  $\frac{1}{8}$ th the diameter of the valve when the pressure of the vessel is seventy-five percent (75%) of that at which the safety valve is set to open.

**1014.4 Marking.** Every *pressure vessel* valve shall be marked “ASME” or “National Board Standard,” and shall bear the following information:

1. The name or identifying mark of the manufacturer;
2. The pipe size of valve inlet;
3. The pressure at which the valve is set to open; and
4. The relieving capacity.

**1014.5 Prohibited safety valves.** Safety valves having either the seat or disk of cast iron shall not be used.

**1014.6 Multiple safety valves.** If more than one safety valve is used, the discharge capacity shall be taken as the combined capacity of all valves.

**1014.7 Pressure relief in unfired pressure vessels.** For vessels in which pressure is not generated but is derived from an outside source, each safety valve shall be so connected to the vessel, vessels or system which it protects as to prevent pressure from rising beyond the maximum allowable pressure in any vessel protected by the safety valve.

**1014.8 Pressure relief in other than unfired pressure vessels.** For vessels in which pressure may be generated, the safety valve or valves shall be connected directly to the vessel that is to be protected or to a pipe line leading to the vessel. The internal cross-sectional area of the pipe line shall be not less than the nominal area of the safety valve or valves used, and without any intervening valve between the vessel and the safety valve or valves protecting it.

**1014.9 Pressure relief escape pipe.** When an escape pipe is used, it shall be full-sized and fitted with an open drain to prevent liquid from lodging in the upper part of the safety valve, and no valve of any description shall be placed on the escape pipe between the safety valve and the atmosphere.

**1014.10 Escape pipe fittings.** When an elbow is placed on an escape pipe, it shall be located close to the safety valve outlet or the escape pipe shall be securely anchored and supported. When two or more safety valves are placed on one connection, this connection shall have a cross-sectional area at least equal to the combined area of these safety valves.

**1014.11 Freeze protection.** Each safety valve which is exposed to a temperature of 32 °F (0 °C) or less shall have a drain at least  $\frac{3}{8}$  inch (9.5 mm) in diameter at the lowest point where water can collect.

**1014.12 Spring adjustment.** Safety-valve springs shall not be adjusted to carry more than 10 percent greater pressure than that for which the springs were made.

**1014.13 Valve testing.** Each safety valve shall be tested at least once every day by raising the disk from its seat.

**1014.14 Valve sizing.** Safety valves for compressed air tanks shall not exceed 3 inches (75 mm) in diameter and shall be sized for the maximum flow of free air that can be supplied, as determined in Section VIII, Division 1, Part UG, paragraph UG-133, "Determination of Pressure Relief Requirements" in the *ASME Code*.

**1014.15 Use of rupture disks.** Rupture disks or heads used for supplemental protection of pressure vessels shall be designed to fail at a pressure above the safety or relief valve setting.

**1014.16 Multiple vessels.** When two or more unfired *pressure vessels* that are allowed different pressures are connected to a common source of pressure, all safety valves shall be set at a pressure not exceeding the lowest vessel working pressure allowed.

*Insert a new Section 1015 in the Mechanical Code to read as follows:*

## **1015 WATER STORAGE TANKS, WATER HEATERS, HYDRO-PNEUMATIC TANKS**

**1015.1 Limited capacity storage tanks.** Each hot water storage tank, range boiler, or automatic storage water heater, having a nominal water-containing capacity of 120 gallons (454 L) or less shall be built for a minimum working pressure of 125 pounds per square inch (psi) (862 kPa) and shall be tested hydrostatically to 300 pounds per square inch (psi) (2069 kPa). Each tank shall have clearly and indelibly stamped or stenciled thereon the name of the manufacturer, the maximum allowable working pressure for which it is built, and the test pressure.

**1015.2 Tank labeling.** Each hot water tank shall be stamped with the ASME symbol to indicate that it is constructed in accordance with the *ASME Code*. It shall also be stamped with the name of the manufacturer, the maximum allowable working pressure, the year built and the identifying number of the *National Board*.

**1015.3 Manufacturer's data report.** Applications for permits for hot water storage tanks as described in Section 1015.1 shall be accompanied by the manufacturer's data report, which shall be signed by an inspector licensed by the *National Board* to inspect *boilers* and *pressure vessels*.

**1015.4 Gas-fired automatic storage water heaters.** Gas-fired automatic storage water heaters shall bear a label indicating approval and listing in accordance with the *Fuel Gas Code*.

**1015.5 Oil-fired or electrically-heated water heaters.** Oil-fired or electrically-heated automatic storage water heaters shall be listed and labeled, and shall bear the label of an *approved* listing agency.

**1015.6 Storage water heater label.** Each storage water heater shall bear the manufacturer’s trade name or trademark, the catalog number, the input rating in Btu/h (W), the output in gallons per hour at 100 °F rise in temperature, and the nominal capacity of the storage tank, in gallons (L).

**1015.7 Storage tank installation.** Storage tanks shall be substantially supported by one of the following methods:

1. Installed on steel supports constructed of pipe or structural steel and resting upon a structurally sound floor;
2. Hung from supports attached to structural steel or concrete beams that have been determined to be of sufficient strength to support the additional weight; or
3. Installed upon concrete saddles.

In all cases, provision shall be made to take care of expansion. Tanks shall not be supported by their piping system. Manhole openings shall be kept clear of all walls, pipes or other obstructions.

**1015.8 Gas-fired water heater venting.** Each gas-fired water heater shall be provided with an approved draft diverter installed in accordance with the manufacturer’s installation instructions and connected to an effective chimney. Connection to a common chimney shall be made above the entrance of other larger vent connectors or breechings, in accordance with Section 803.7.

**1015.9 Commercial and industrial installations.** In commercial and industrial establishments, when a connection to a chimney is impracticable, the installation of an automatic unvented water heater shall be approved by the *code official* if all of the following requirements are met:

1. The flow of gas supply shall be limited, by fixed orifices, to the maximum flow values specified in Table 1015.9 as a function of the net interior volume of the space in which the heater is located the maximum input rating of the heater shall not exceed 10,000 BTU per hour (3 kW); and
2. The heater shall otherwise conform to the *Construction Codes*.

**TABLE 1015.9  
MAXIMUM ALLOWABLE GAS FLOW  
FOR UNVENTED COMMERCIAL AND INDUSTRIAL WATER HEATERS**

Net Volume of Room or Space (cubic feet)	MAXIMUM ALLOWABLE GAS FLOW (CUBIC FEET PER HOUR, CFH)
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	COLUMN NO. 1 <sup>a</sup>	COLUMN NO. 2 <sup>b</sup>
1000 to 1500	2	3
1501 to 2000	3	4
2001 to 2500	4	5
2501 to 3000	5	6
3001 to 3500	6	7
3501 to 4000	7	8
Over 4000	8	8

For SI: 1 cubic foot = 0.028 m<sup>3</sup>, 1 CFH = 0.028 m<sup>3</sup>/h

- a. Column No.1 applies to appliances located in spaces that do not have openings to other spaces.
- b. Column No. 2 applies to appliances located in spaces that have permanent openings of at least 15 square feet (1.4 m<sup>2</sup>) leading to another space of equal or greater volume.

**1015.10 Prohibited use.** Water from a hot water supply *boiler*, automatic water heater coil or tank shall not be used for building heating, except for auxiliary space heating, permitted to have a by-pass from any such *boiler* or heater, provided that there is no actual withdrawal of water from the unit and that all surfaces and connections in contact with the water are of copper or other approved corrosion resistant material.

**1015.11 Existing tanks.** A tank currently in use shall not be painted, lined or repaired on the inside with any material or in any manner that will affect either the color or taste of the water supply after the tank is put into service. Any material intended for use as a lining or protective coating for the interior of tanks shall be submitted to the *code official* for approval.

**1015.12 Tank maintenance and repair.** The water supply connections to and from the tank shall be disconnected or plugged while the tank is being cleaned, painted, lined or repaired, to prevent any foreign fluid or substance from entering the distribution piping. Adequate measures shall be taken for the protection of workers in the tank.

**1015.13 Welding repair.** Any repair by welding on a tank shall be done by a qualified welder licensed by the *Department* and the work shall be witnessed by the *code official*.

**1015.14 Alterations or additions.** When changes or additions are made to an existing hot water supply system or when a storage tank is replaced or moved, compliance with the provisions of this chapter shall be required.

**Exception:** When there is no available opening in the top of an automatic storage water heater with a nominal water containing capacity 120 gallons (454 L) or less, it shall be permissible to install the relief valve in the outlet header from the heater, with only one fitting between the relief valve and the tank.

*Insert a new Section 1016 in the Mechanical Code to read as follows:*



**1016 HYDRO-PNEUMATIC TANKS**

**1016.1 Minimum working pressure.** Each hydro-pneumatic tank shall be constructed for a minimum working pressure of 150 pounds per square inch (psi) (1034 kPa).

**1016.2 Label.** Each hydro-pneumatic tank shall be stamped with the ASME symbol to indicate that it is constructed in accordance with the *ASME Code*. It shall also be stamped with the name of the manufacturer, the maximum allowable working pressure, the year built and the identifying number of the *National Board*.

**1016.3 Manufacturer's data report.** Applications for permits shall be accompanied by the manufacturer's data report, which shall be signed by an inspector licensed by the *National Board* to inspect boilers and pressure vessels.

**1016.4 Gauges and manhole.** Each hydro-pneumatic tank shall be provided with a gauge-glass to show the level of the water in the upper section of the tank, and a pressure gauge. The tank shall also be provided with an 11-inch (280 mm) manhole opening, which shall be kept clear of walls, pipes or other obstructions.

**1016.5 Safety relief valves.** Each hydro-pneumatic tank shall be equipped with a lever lifting safety valve bearing the ASME symbol, suitable for use with air, installed in a vertical position on the top of the tank, and set to relieve at or below the maximum allowable working pressure of the tank. The valve shall be sealed to prevent tampering and there shall be no shut-off valve between the tank and the relief valve.

**1016.6 Pressure gauge.** Each hydro-pneumatic tank shall be provided with a pressure gauge not less than 4 inches (102 mm) in diameter connected directly to the tank by means of non-ferrous pipe. A cock with a "tee" handle shall be placed in the pipe near the gauge. The gauge shall be graduated to not less than 1.5 times the maximum allowable working pressure of the tank.

**1016.7 Valve by-pass.** Each hydro-pneumatic tank shall be piped to include a full-size valved by-pass so that domestic water can be used in the building when the tank is not in service.

**1016.8 Vacuum relieving device.** Each hydro-pneumatic tank shall be provided with a vacuum relieving device located on the top of the tank, and a horizontal swing check valve in the water supply line from the pump to the tank, and in the domestic water supply by-pass line to the tank. A valved sludge drain pipe shall be installed at the bottom of the tank and it shall discharge through an air break into the drainage system of the building.

*Insert new Section 1017 in the Mechanical Code to read as follows:*

**1017 RELIEF VALVES, GAUGES AND SAFETY CONTROLS**

**1017.1 General.** Each hot water storage tank and automatic water heater shall be equipped with safety controls to prevent the temperature of the water in the tank from exceeding 200 °F (93 °C)

and the pressure from exceeding the maximum allowable working pressure for which the tank is built. Each such unit shall be equipped with the following:

1. A pressure relief valve and a separate temperature relief valve of the spillage type;
2. A combination temperature-pressure relief valve of the spillage type; or
3. In the case of automatic water heaters manufactured as a unit, a thermostat and a pressure relief valve.

**1017.2 Pressure relief valves.** Each pressure relief valve shall be of the lever lifting, spring-loaded type without disk on the pressure side of the valve. The valves shall be set to relieve at a pressure at or below the maximum allowable working pressure of the tank and shall be so arranged that they cannot be reset to relieve at a higher pressure than that stamped thereon.

**1017.3 Relief valve capacity.** The pressure relief valve or valves shall have sufficient capacity to prevent the pressure in the tank from rising to more than ten percent (10%) above the maximum allowable working pressure. The rated capacity of the valve or valves shall be equal to the maximum gross output of the heating unit installed. The gross output shall be determined from the data supplied on the manufacturer's nameplate or catalog data, or from the fuel input.

**1017.4 Labeling.** Pressure relief valves shall bear the ASME symbol to indicate that they comply with the requirements of the *ASME Code* in regard to construction, testing and rating, and shall be plainly and permanently marked by the manufacturer in a way that the marking will be readable when the valve is installed and will not be obliterated in service. Pressure relief valves used on non-ASME approved, gas-fired equipment shall bear the seal or mark of an approved agency to indicate listing under the requirements of an approved testing agency. Pressure relief valves shall bear the ASME symbol for equipment using other fuels. The marking on pressure relief valves shall include the following information:

1. The manufacturer's name;
2. The type and catalog number;
3. The pressure at which it is set to open; and
4. The capacity in pounds of steam per hour (kg/hr) or BTU per hour (W) as certified by the *National Board*.

**1017.5 Valve size.** No pressure relief valve shall be less than  $\frac{3}{4}$  inch (19 mm) standard pipe size.

**1017.6 Valve installation.** Each pressure relief valve shall be installed in a vertical position, directly on the top of the tank, or if there is no opening available, on a fitting in the hot water service line, within 2 inches (51 mm) of the tank. Each pressure relief valve shall have a full size discharge pipe of non-ferrous metal, with an unthreaded open end, extended to an approved plumbing fixture or, if none is available, to within 6 inches (152 mm) of the floor. When the

discharge pipe is over 1 inch (25 mm) in diameter it shall be supported and braced to prevent any strain being placed on the valve.

**1017.7 Multiple valves.** If more than one relief valve is used, it shall be permissible to connect them to a manifold whose inlet pipe area shall be equal to the sum of the areas of the inlet openings of all the connected valves. There shall be no restriction to pipe cross sectional area on either the inlet or discharge side of the relief valve or valves, and there shall be no shut-off valve or check valve between the relief valve and the tank.

**1017.8 Temperature relief valves.** Each temperature relief valve shall bear a label indicating approval and listing by ASME, and shall be approved by the *Department*.

**1017.8.1 Valve type and design.** Each temperature relief valve shall be of the automatic self-closing type with a test lever and shall be designed to open at 200 °F (93 °C) or lower and be of sufficient capacity to limit the temperature to not over 200 °F (93 °C). The valve shall be non-adjustable and shall not be less than 3/4 inch (19 mm) standard pipe size.

**1017.8.2 Label.** Each temperature relief valve shall bear a plate permanently attached, giving the following information:

1. The name of the manufacturer;
2. The model or type number of the valve;
3. The temperature at which the valve will open; and
4. The rated capacity in BTU per hour (W).

**1017.8.3 Installation.** Each temperature relief valve shall be installed in a vertical position on the top of the tank. Temperature relief valves shall be screwed directly into the tank without intervening fittings unless the dip tube extension type is used, in which case the tube shall project into the tank. If a fitting is used, it shall be of non-ferrous material. Each valve shall have a full size discharge pipe with an unthreaded open end, extended to within 6 inches (152 mm) of the floor or to an approved receptor fixture. There shall be no restrictions to pipe cross section area on either the inlet or discharge side of the relief valve, and there shall be no shut-off or check valve between the relief valve and the tank.

**1017.9 Combination temperature and pressure relief valve.** When a combination temperature-pressure relief valve is used, it shall conform with the requirements of Section 1017 for pressure relief valves and for temperature relief valves. It shall bear the ASME symbol, meet the labeling requirements of Sections 1017.4 and 1017.8.2, and bear the symbol of the American Gas Association for the temperature relief element.

**1017.10 Aquastat.** Each aquastat used on an automatic gas water heater shall be listed by the American Gas Association, unless provided as part of a complete American Gas Association

approved unit, and shall operate to shut off the gas supply to limit the temperature of the heated water to not over 210 °F (99 °C).

**1017.11 Hot water heating systems.** Hot water supply *boilers*, tankless heaters, electric heaters, immersion heating coils in *boilers* and any other type of heater shall be protected against excessive pressure, as provided herein.

**1017.11.1 Pressure gauge.** Each hot water supply *boiler* and hot water storage tank shall be provided with a pressure gauge connected directly to the *boiler* or tank by means of non-ferrous pipe. A cock with a “tee” handle shall be placed in the pipe near the gauge. The gauge shall have a dial not less than 4 inches (102 mm) in diameter and shall be so located that it can be easily read from the floor. It shall be graduated to not less than one and one-half (1½) times the maximum allowable working pressure of the *boiler* or tank. Gauges shall not be required for range *boilers* and domestic type water heaters.

**1017.11.2 Thermometer.** Each hot water supply *boiler*, hot water storage tank, tankless heater, immersion type heater or any other type of heater shall be provided with a thermometer capable of providing readings up to 300 °F (149 °C), of a size and so located that it can be easily read from the floor. It shall be located in a well so that it will indicate the temperature of the water at or near the outlet and shall be accurate within two percent (2%). Thermometers shall not be required for range *boilers* or domestic type water heaters.

**1017.11.3 Water mixing valve.** When hot water is used by the general public or by persons not in control of the heating equipment, an approved water mixing valve shall be installed to limit the temperature of the water at the fixtures to not over 140 °F (60 °C). A thermometer shall be installed on the discharge side of the mixing valve and shall be of a size and so located as to be easily read from the floor.

*Insert a new Section 1018 in the Mechanical Code to read as follows:*

## **1018 WELDING ON BOILERS AND UNFIRED PRESSURE VESSELS**

**1018.1 Rules for welding on boilers and unfired pressure vessels.** The construction, installation, repair or *alteration* of a boiler or unfired pressure vessel by welding shall be made in accordance with the section of the *ASME Code* governing the particular kind of vessel or work to be done, or by the specific requirements in this section for welded repairs.

**1018.1.1 Qualified welding procedure.** A contractor desiring to make repairs shall have a written welding procedure specification that shall be prepared and qualified in accordance with the Welding Qualification of Section IX of the *ASME Code*. Alternatively, the contractor shall have the option to use the standard District of Columbia welding procedure specification. The selected procedure shall then be used for qualifying each welder and shall be strictly adhered to in making repairs under this chapter. A welder shall be limited to the type of steel and thickness of plate for which he or she is qualified.

**1018.1.1.1 Unacceptable welds.** Welding repairs or alterations on *boilers* or unfired *pressure vessels* and connections thereto, performed by unqualified contractors or welding operators, shall not be accepted for either new or existing installations.

**1018.1.2 Welder qualification.** Each welder shall pass a qualification test as *approved* by the *code official* in accordance with the *ASME Code*

**1018.1.3 Qualification standard.** The qualification test for individual welders shall be made in accordance with the *ASME Code*. The test shall be made in the presence of the *code official* who shall stamp the specimens with an identifying number. The *code official* shall have the option of accepting a welder without further examination, provided that the applicant submits proof of a satisfactory welding procedure and operator qualification test, made in accordance with the *ASME Code* and these regulations, for approval prior to any welding.

**1018.1.4 Specimen testing.** After the specimens have been prepared as required by the *ASME Code*, they shall be tested either by the *code official* or the National Institute of Standards and Technology (NIST). The test shall be made in accordance with the guided-bend jig test as described in the *ASME Code*. A report shall be made on a form similar to the data recording forms in Section IX, Appendix B of the *ASME Code*.

**1018.1.5 Authorization card.** If the report indicates that the welder has passed the test, the *code official* shall issue a card authorizing him or her to perform welding on *boilers* or unfired *pressure vessels* in the District of Columbia. This authorization shall be valid for a period of two years from the date of the test.

**1018.1.6 Welder qualification limitations.** The qualification test does not qualify a welder to do welding on pressure piping.

**1018.2 Qualification retest.** A welder who fails to meet the requirements for one or more of the test specimens shall be allowed to be retested unless, in the judgment of the *code official*, the welder requires further training or practice, in which case a complete retest of the welder shall be performed after completion of such additional training or practice. When a request for an immediate retest is approved, the welder shall make two test welds of each type for each position on which the welder has failed. To become qualified, all of the retest weld specimens shall pass the specimen test specified in Section 1018.1.4.

**1018.3 Welder retest requirements.** Notwithstanding the issuance of a qualification card, the *code official* has the authority to request a new test under any the following circumstances:

1. When a welder has not welded under the procedure specification for a period of three months or more;
2. When there is a specific reason to question the welder's ability to make welds that meet the specification; or

3. At the expiration of the welder's two year qualification period.

**1018.3.1 Questionable welds.** If any question arises as to the quality of a weld, the *code official* is authorized to require that test specimens be trepanned from the weld. Preparation and testing of the specimens shall be done by NIST, and the contractor shall be responsible for all expenses incidental to this testing.

**1018.3.2 Welding inspection requirements.** No welding on any boiler or unfired pressure vessel shall be done before an inspection has been made by the *code official* or an *insurance company inspector*, and the method of welding has been sanctioned by the *code official* or the *insurance company inspector*. If, in the opinion of the *code official*, or the *insurance company inspector* a hydrostatic test is necessary, that test shall be applied after the repairs have been completed.

**1018.4 Responsibilities of insurance company inspector.** Before repairs are started, the *insurance company inspector* shall examine the written welding procedure and records of qualification tests, to verify that procedures and welders have been properly approved, tested and qualified. The *insurance company inspector* who authorized and witnessed the repair shall submit a written report to the *code official* on every welded repair.

*Insert a new Section 1019 in the Mechanical Code to read as follows:*

## **1019 TEST METHODS**

**1019.1 Welder qualification tests.** The qualification tests described herein shall be specifically devised to determine a welder's ability to produce sound welds. In order to determine the welder's ability to make groove welds in various plate positions, tests with the groove in the following three positions shall be required:

1. Test Position I – Plates placed in a vertical position with the welding groove horizontal. This test shall qualify the welder to make horizontal flat welds.
2. Test Position II – Plates placed in a vertical position with the welding groove vertical. This test shall qualify the welder to make vertical flat welds.
3. Test Position III – Plates placed in a horizontal position with the weld metal deposited from the underside of the plates. This test shall qualify the welder to make flat welds in the overhead position.

**1019.2 Weld plate specifications.** The base material of the plates to be welded shall be of flange or firebox steel quality,  $\frac{3}{8}$  inch (9.5 mm) thick and having a tensile strength of not less than 55,000 pounds per square inch (psi) (379 MPa). The plates shall be 5 inches (127 mm) long by 6 inches (152 mm) wide, and shall be prepared for a single "V" groove butt joint.

**1019.3 Preparing test specimens.** The method of preparing test specimens shall be as follows:

1. When the welding has been completed, specimens shall be removed as directed, by machine or flame cutting. They shall be approximately 1½ inches (38 mm) wide.
2. The weld reinforcement shall be removed by machine or grinding, flush with the surface of the base material.
3. The corners of the edges of all test specimens shall be rounded to a radius of not more than 1/15 inch (1.7 mm).

In addition to (1), (2) and (3) above, the test specimens shall be prepared as specified in Section IX, paragraph QW-462, "Test Specimens," of the *ASME Code*.

**1019.4 Specimen testing methods and passing criteria.** The method of testing specimens shall be as follows:

1. Specimens shall be bent in a bending jig called the "guided bend test," until the curvature of the specimen is such that a 1/32 inch (0.8 mm) wire cannot be passed between the curve portion of the plunger and the specimen.
2. Face bend specimens shall be placed with the face of the weld toward the gap in the jig; root bend specimens shall be placed with the root of the weld toward the gap.

After removal from the jig, the convex surface of the specimens shall be examined for the appearance of cracks or other open defects. Any specimen in which a crack or other open defect exceeding ⅛ inch (3.2 mm) measured in any direction is present after the bending shall be cause for failure to pass the test.

*Insert a new Section 1020 in the Mechanical Code to read as follows:*

## **1020 REPAIRS BY WELDING**

**1020.1 Repairs limited to specific types of steel.** These rules shall be applicable only to repairs to steel having a known weldable quality, and are further limited to carbon steel having a carbon content of not more than 0.35 percent and to low alloy steel having a carbon content of not more than 0.25 percent. A welder shall not make repairs in a plate with thickness in excess of that permitted under the qualification tests in the *ASME Code*. A welder shall not make repairs on a material for which the welder is not qualified, or in a thickness of plate that exceeds that permitted under the welder's qualification conditions.

**1020.2 Groove welding.** Groove welds shall completely penetrate the material being welded. If possible, welding shall be applied from both sides of the plate, or a backing strip or ring may be used to ensure complete penetration. Welds shall have a convex surface on both sides if applied on both sides of the plates being joined, or on the weld side if welding is applied from one side only. No valleys or undercutting at edges or welded joints shall be permitted. The reinforcement may be chipped, ground or machined off flush with the base material, if so desired, after the welding has been completed.

**1020.3 Defective weld repairs.** In making a repair to a weld that has failed in service, the defective weld material shall be removed by chipping or grinding until sound material is reached on all sides. The resulting groove shall be filled as required by the applicable welding procedure.

**1020.4 Carbon steel stress-relieving.** In the repair of carbon or low alloy steel, thermal stress-relieving shall be applied to the completed work when required by these rules and when considered necessary by the *code official or insurance company inspector*. The heat may be applied by any means that will raise the temperature of the material, in the region of the weld, gradually and uniformly, to approximately 1200°F (649°C). In the absence of a more accurate means of determining temperature, reaching a dull “red glow” in daylight will suffice. This temperature shall be maintained for a period of 1 hour/inch (1 hour/25 mm) of thickness of the joined material.

**1020.4.1 Circumferential joints.** For circumferential joints, the area heated shall comprise a band extending completely around the cylinder and having a width on each side of the center line of the weld not less than three times the greatest width of the finished weld.

**1020.4.2 Nozzles.** For nozzles, the heated area shall comprise a circumferential band of the shell of the vessel extending around the entire joint, including the nozzle of the welded attachment, and shall extend at least six times the vessel plate thickness beyond the weld that connects the nozzle or other attachment to the vessel.

**1020.4.3 Stress-relief cooldown procedure.** Upon completion of the stress-relieving operation, the plate shall be allowed to cool at a rate not greater than 500° F (278° C) per hour divided by the maximum thickness of the welded part in inches, until the temperature of 500° F (260°C) is reached, after which normal cooling by exposure to air in a still atmosphere shall be permitted.

**1020.5 Thermal stress-relief alternatives.** Where conditions are such that thermal stress relieving as outlined above is inadvisable, another method of stress-relieving acceptable to the *code official or insurance company inspector* shall be used. When deemed necessary, preheating shall be used.

*Insert a new Section 1021 in the Mechanical Code to read as follows:*

## **1021 WELDED REPAIRS ON BOILERS AND UNFIRED PRESSURE VESSELS**

**1021.1 Crack repair in stayed areas.** Cracks in stayed areas shall be allowed to be repaired by welding, provided that no multiple or star cracks radiating from rivet or stay bolt holes shall be welded.

**1021.2 Crack repair in unstayed areas.** Cracks in unstayed shells, drums or headers of boilers or pressure vessels shall be allowed to be repaired by welding, provided that the cracks do not extend between rivet holes in a longitudinal seam, or parallel to a longitudinal riveted seam within 8 inches (203 mm), measured from the nearest caulking edge. The total length of any one



such crack shall not exceed 8 inches (203 mm). A crack of greater length shall be allowed to be welded provided the complete repair is radiographed and stress-relieved. Any crack that is allowed to be welded shall be properly prepared to permit fusion through the entire plate thickness.

**1021.3 Crack repair in unstayed furnaces.** Cracks of any length in unstayed furnaces shall be allowed to be welded, provided that the welds are thermally stress-relieved. Welds shall be applied from both sides of the plate wherever possible. Welds applied from one side only shall be allowed to be used if expressly permitted by the inspector. Repair of cracks by welding at the knuckle or turn of flange of furnace openings shall be prohibited except upon special prior approval by the boiler inspector.

**1021.4 Corrosion repair in stayed furnaces.** Corroded areas in stayed furnaces shall be allowed to be built up by welding, provided that the remaining uncorroded plate material has an average thickness of not less than 50 percent of the original plate thickness, and further provided that the areas so affected are not deemed by the inspector to be sufficiently extensive to impair the safety of the object. In cased furnaces, the stays and stay bolts shall come completely through the reinforcing metal and the original ends of the stay bolts shall be plainly visible to the inspector.

**1021.5 Corrosion repair around access openings.** Corroded areas around manholes or handhole openings, in either stayed or unstayed plates, shall be allowed to be built up by welding, provided that the average loss of thickness does not exceed 50 percent of the original plate thickness and that the area to be repaired does not extend more than 3 inches (76 mm) from the edge of the hole.

**1021.6 Corrosion repair in unstayed shells.** Corroded areas in unstayed shells, drums or headers of boilers or pressure vessels shall be allowed to be built up by welding, provided that the remaining uncorroded plate material has an average thickness of not less than 50 percent of the original plate thickness, and further provided that the inspector has deemed that the safety of the object has not been impaired.

**1021.7 Repairs to connector areas.** Edges of butt straps, of plate laps, of nozzles, or of connections, attached by riveting, shall be allowed to be restored to their original thickness by welding. No seal welding shall be used except upon special prior approval by the boiler inspector, and in no case shall seal welding be used where cracks are present in riveted areas.

**1021.8 Welding tube ends.** The ends of tubes in fire-tube and water-tube boilers shall be allowed to be welded, provided that they have not been reduced more than 10 percent in thickness and they comply with the requirements of paragraphs PWT-11 and PFT-12 in Section I, Parts PWT and PFT of the *ASME Code*.

**1021.9 Re-ending tubes and pipes.** Re-ending of piecing tubes or pipes in either fire-tube or water-tube boilers shall be permitted, provided that the thickness of the tube or pipe has not been reduced by more than 10 percent from the thickness required by the *ASME Code* for the

approved pressure. In all cases they shall comply with the requirements in Section I, Part PWT, paragraph PWT-10, "Tube Wall Thickness" of the *ASME Code*.

**1021.10 Patch material.** The material used for patches shall be of the same general quality and have at least the same yield strength of the plate to be patched. The thickness of any patch shall be at least equal to, but not more than 1/8 inch (8.5 mm) greater than, the plate being patched.

**1021.11 Permitted patches.** Flush or butt-welded patches or new sections shall be allowed to be applied to stayed plates without limitation of size or plate thickness. Lapped or fillet-welded patches shall be allowed to be applied to stayed plates, provided that they are not exposed to radiant heat. Lapped and fillet-welded patches shall be allowed to be applied on the pressure side of the sheet in unstayed areas, provided that the maximum diameter of the opening so repaired does not exceed 16 times the thickness of the plate, but in no case shall the opening be larger than 8 inches (203 mm) in diameter.

**1021.12 Patches not permitted.** No flush or butt-welded patches shall be permitted in unstayed shells, drums or headers.

**1021.13 Threaded to weld-in stays.** Threaded stays shall be allowed to be replaced by welded-in stays, provided that, in the judgment of the *code official or insurance company inspector*, the plate adjacent to the stay bolt has not been materially weakened by deterioration or wastage. All requirements of the applicable sections of the *ASME Code* governing welded-in stays, including Section I, Part PW, paragraph PW-19, "Welded-in Stays" shall be met.

*Insert a new Section 1022 in the Mechanical Code to read as follows:*

## **1022            EXISTING POWER BOILER INSTALLATIONS**

**1022.1 Maximum allowable working pressure.** The maximum allowable working pressure on the shell or drum of a power boiler shall be determined by the strength of the weakest section of the structure, computed from the following information.

1. The thickness of the plate;
2. The tensile strength of the plate;
3. The efficiency of the longitudinal joint or tube ligaments, whichever is least;
4. The inside diameter of the course; and
5. The factor of safety allowed by this chapter.

**1022.1.1 Computation.** The maximum allowable working pressure shall be determined in accordance with the following equation:

$$(TS \times t \times E) \div (R \times FS) = P_m$$

where:

- $P_m$  = Maximum allowable working pressure (psi) (kPa)
- $TS$  = Ultimate tensile strength of shell plates (psi) (kPa)
- $t$  = Minimum thickness of shell plate in weakest course (inch) (mm)
- $E$  = Efficiency of longitudinal joint, per Section VIII, Division 1, Part UW, paragraph UW-12 of the *ASME Code*
- $R$  = Inside radius of the weakest course of the shell or drum (inch) (mm)
- $FS$  = Factor of safety required by Chapter 10 of the *Mechanical Code*

**1022.2 Nonstandard boilers factor of safety.** The factor of safety for *nonstandard boilers* with longitudinal joints of butt or double strap construction shall not be less than the following:

Age of the Boiler	Safety Factor
0 to 20 years	4.5
20 to 25 years	5
25 to 30 years	5.5

At the beginning of each subsequent 5-year period, the factor of safety shall be increased by not less than 0.5.

**1022.2.1 Allowable working pressure limitation.** In no case shall the maximum allowable working pressure on old *boilers* be increased unless they are being operated at a lesser pressure than would be allowable for similar new *boilers*, in which case the changed pressure shall not exceed that allowable for new *boilers* of the same construction.

**1022.3 Standard boilers factor of safety.** The factor of safety for *standard boilers* with longitudinal joints of butt or double strap construction shall be five for *boilers* not more than 25 years old. At the beginning of each subsequent 5-year period, the factor of safety shall be increased by not less than 0.5.

**Exception:** When a thorough internal and external inspection of a boiler more than 25 years old is conducted, and a hydrostatic pressure test is performed at 1 1/2 times the allowed working pressure of the boiler, during which no leakage or signs of distress develop, the allowed working pressure shall be allowed to continue to be calculated with a factor of safety of five.

**1022.4 Water-tube boilers factor of safety.** The factor of safety for *nonstandard boilers* of the water-tube type with longitudinal joints of lap riveted construction shall not be less than the following:

Age of the Boiler	Safety Factor
0 to 20 years	5
20 to 25 years	5.5
25 to 30 years	6

At the beginning of each subsequent 5-year period, the factor of safety shall be increased by not less than 0.5.

**1022.5 Factor of safety for other nonstandard boilers.** The factor of safety for nonstandard fire tube, flue and cylinder boilers, the shells of which are exposed to the products of combustion and which have continuous longitudinal joints of lap-riveted construction exceeding 12 feet (3658 mm) in length, shall not be less than the following:

Age of the Boiler	Safety Factor
0 to 10 years	6
10 to 15 years	6.5
15 to 20 years	7

At the beginning of each subsequent 5-year period, the factor of safety for boilers specified in this section shall be increased by not less than 0.5.

**1022.5.1 Reinstallation.** When a *boiler* regulated by Section 1022.5 is removed from an existing setting, it shall not be reinstalled for an allowable working pressure in excess of 15 pounds per square inch (psi) (103 kPa).

**1022.6 Boilers with cast-iron headers and mud drums.** The maximum allowable working pressure on water-tube *boilers*, the tubes of which are secured to cast-iron or malleable-iron headers or which have cast-iron mud drums, shall not exceed 160 pounds per square inch (psi) (1103 kPa).

**1022.7 Assumed tensile strengths.** When the tensile strength of steel or wrought iron shell plates is not known, it shall be taken as 55,000 pounds per square inch (psi) (379 212 kPa) for steel and 45,000 pounds per square inch (psi) (310 264 kPa) for wrought iron.

**1022.8 Crushing strength of mild steel.** The resistance to crushing of mild steel shall be taken at 95,000 pounds per square inch (psi) (655 000 kPa).

**1022.9 Rivets.** In computing the ultimate strength of rivets in shear, the cross-sectional area of the rivet shank shall be used to determine the value of the shear strength of the rivet, based upon the provisions in Section I of the *ASME Code*.

**1022.9.1 Size of rivets.** When the diameter of the rivet holes in the longitudinal joints of a boiler is not known, the diameter of rivets, after driving, shall be selected from Table 1022.9.1, or ascertained by cutting out one rivet in the body of the joint.

**TABLE 1022.9.1**  
**MINIMUM SIZES OF RIVETS BASED ON PLATE THICKNESS**

Thickness of plate (inch)	Diameter of rivet after driving (inch)
1/4	11/16
9/32	11/16
5/16	3/4
11/32	3/4
3/8	13/16
13/32	13/16
7/16	15/16
15/32	15/16
1/2	15/16
9/16	1-1/16
5/8	1-1/16

For SI: 1 inch = 25 mm

**1022.10 Inspection of inaccessible parts.** When the heads of water tube *boiler* mud drums or headers are not accessible for inspection, the brick work shall be removed after the boiler has been in service for 10 years to facilitate inspection and at not more than 5-year intervals thereafter. Seams and parts of fire-tube boilers that are not accessible for inspection shall be exposed whenever the *code official* or *insurance company inspector* deems that the general condition of the *boiler* warrants further examination.

**1022.11 Safety valves.** Each power *boiler* shall be equipped with one or more safety valves of the spring-pop type with a lifting device, placed as close to the *boiler* as possible. No valve of any description shall be placed between the safety valve and the *boiler*, nor on the escape pipe between the safety valve and the atmosphere. When an elbow is placed on a safety valve escape pipe, it shall be located close to the safety valve outlet or the escape pipe shall be securely anchored and supported. When an escape pipe is used, it shall be full size and fitted with an indirect drain to prevent water from lodging in the upper part of the safety valve or escape pipe. Safety valves having either the seat or disk of cast iron shall not be used. Dead weight and lever weight safety valves shall be prohibited.

**1022.11.1 Safety valve capacity.** The capacity of the safety valve or valves installed on each *boiler* shall be such that the safety valve or valves will discharge all the steam that can be generated by the *boiler* without allowing the pressure to rise to more than 6 percent above the maximum allowable working pressure, nor to more than 6 percent above the highest pressure to which any safety valve is set.

**1022.11.2 Safety valve setting.** One or more safety valves on every *boiler* shall be set at or below the maximum allowable working pressure. The remaining valves may be set within a range of 3 percent above the maximum allowable working pressure, but the range of setting of all the safety valves on a *boiler* shall not exceed 10 percent of the highest pressures to which any safety valve is set.

*Insert a new Section 1023 in the Mechanical Code to read as follows:*

**1023 PARTS AND EQUIPMENT FOR EXISTING POWER BOILER INSTALLATIONS**

**1023.1 Fire-actuated fusible plugs.** Where fire-actuated fusible plugs are used, they shall conform to the rules of the *ASME Code* for new construction.

**1023.2 Water glass.** Each steam *boiler* shall have at least one water glass, the lowest visible part of which shall be as required by the *ASME Code* for new construction.

**1023.3 Gauge cocks.** Each *boiler* with an allowable working pressure in excess of 15 pounds per square inch (psi) (103 kPa) shall have three or more gauge cocks located within the range of the visible length of the water glass, except when such *boiler* has two water glasses with independent connections to the boiler located on the same horizontal plane and not less than 2 feet (610 mm) apart.

**1023.4 Outlet connections.** No outlet connections shall be placed on the pipes connecting a water column to a *boiler*, except for connections for a damper regulator, a feed water regulator, a low water fuel cut-off, drains or a steam gauge. Each water column shall have a valved drain extended to within 6 inches (152 mm) of the floor.

**1023.5 Steam gauges.** Each steam *boiler* shall have a steam gauge connected to the steam space or to the steam connection to the water column. The steam gauge shall be connected to a siphon or equivalent device of sufficient capacity to keep the gauge tube filled with water and so arranged that the gauge cannot be shut off from the *boiler* except by a cock placed near the gauge and provided with a "T" or lever handle arranged to be parallel to the pipe in which it is located when the cock is open.

**1023.6 Low-water cut-off.** Each mechanically fired steam *boiler* shall be equipped with a low-water fuel cut-off so located as to automatically cut off the fuel supply when the water level falls below the top of the bottom nut of the water glass. Each cut-off shall have a drain extended to within 6 inches (152 mm) of the floor. When two or more mechanically-fired *boilers* are connected to the same system, each *boiler* shall have independent low-water cut-offs, controls, and gauges.

**1023.7 Stop valve.** Each steam outlet from a high-pressure *boiler* shall be fitted with a stop valve located as close as practicable to the boiler. This requirement shall not apply to safety-valve connections.

**1023.8 Blow drains.** When a stop valve is so located that water can accumulate, free blow drains shall be provided, the discharge of which shall be visible to the operator while manipulating the valve.

**1023.9 Blow-off connection.** Each *boiler* shall have a full-size blow-off connection, fitted with a valve or cock connected directly with the lowest water space practicable. When cocks are used, they shall be of the gland or guard type and suitable for the pressure allowed. Globe valves shall not be used for this purpose.

**1023.9.1 Extra heavy blow-off pipe.** When the maximum allowable working pressure exceeds 100 pounds per square inch (psi) (689 kPa), the blow-off shall be extra heavy from *boiler* to valve or valves, and shall extend full size from the boiler to the valve without reducers or bushings. Blow-off piping shall be of black wrought iron or black steel and shall be extra heavy pipe. Galvanized pipe shall not be used for this purpose.

**1023.9.2 Fittings.** All fittings between the *boiler* and valve shall be steel or extra heavy fittings of bronze, brass or malleable iron. Replacement of pipe or fittings in the blow-off lines shall be installed in accordance with the *ASME Code* for new installations.

**Exceptions:**

1. Low-pressure heating boilers bearing the ASME stamp that are trimmed by the manufacturer are exempt from the fittings material requirements.
2. Low-pressure heating boilers rated less than 100 horsepower (74.6 kW) are exempt from the fittings material requirements.

**1023.9.3 Extra heavy blow-off valves.** When the maximum allowable working pressure exceeds 100 pounds per square inch (psi) (689 kPa), each bottom blow-off pipe shall be fitted with two valves or a valve and cock, such valves and cocks to be of the extra heavy type.

**1023.9.4 Protection of blow-off pipe.** A bottom blow-off pipe, when exposed to direct furnace heat, shall be protected by fire-brick or other heat-resisting material, arranged so as to allow the pipe to be inspected. An opening in the *boiler* setting for a blow-off pipe shall be arranged to provide for free expansion and contraction.

**1023.10 Feed-water connections.** The feed pipe of a steam *boiler* shall be provided with a check valve near the boiler and a valve or cock between the check valve and the *boiler*. When two or more *boilers* are fed from a common source, there shall also be a globe valve on the branch to each *boiler*, between the check valves and the main feed pipe. When a globe valve is used on a feed pipe, the inlet shall be under the disk from the valve. In all cases where the safety valve is set above 25 pounds per square inch (psi) (172 kPa), there shall be a second means of feeding water against the maximum approved working pressure of the *boiler*.

**1023.11 Hydrostatic test.** When a hydrostatic test is applied, test pressure shall not exceed 1 ½ times the maximum allowable working pressure of the boiler. During a hydrostatic test of a boiler, suitable provisions shall be made to attain the test pressure without using the compression screw of the safety valve spring.

**1023.12 Repairs and replacements.** Where repairs or replacements are made or fittings or appliances are renewed or attached to a *boiler*, they shall comply with the provisions of the *ASME Code* for new installations.

**1023.13 Conditions not covered by these rules.** Installation conditions of power *boiler* parts and equipment not specifically covered in Chapter 10 of the *Mechanical Code* shall be regulated as determined by the *code official*.

*Insert a new Section 1024 in the Mechanical Code to read as follows:*

## **1024 EXISTING HEATING BOILER INSTALLATIONS**

**1024.1 Maximum allowable working pressure.** The maximum allowable working pressure of heating *boilers* shall be determined as follows:

- 1. Riveted Heating Boilers.** The maximum allowable working pressures on the shell or drum of a riveted heating *boiler* shall be determined in accordance with Section 1022, except that in no case shall the maximum allowable working pressure of a steam boiler exceed 15 pounds per square inch (psi) (103 kPa).
- 2. Cast Iron Heating Boilers.** The maximum allowable working pressure of a *boiler* composed principally of cast iron shall not exceed 15 pounds per square inch (psi) (103 kPa), unless such *boiler* complies with all the requirements of the *Mechanical Code* for power *boilers*. The maximum allowable working pressure of a *boiler* having cast-iron shell or heads and steel or wrought-iron tubes shall not exceed 15 pounds per square inch (psi) (103 kPa).

**1024.1.1 Low pressure boiler.** A radiator in which steam pressure is generated at a pressure of 15 pounds per square inch (psi) (103 kPa) or less shall be considered a low pressure *boiler*.

**1024.1.2 Manufacturer's specification and identification.** The maximum allowable working pressure shall in no case exceed the pressure indicated by the manufacturer's identification stenciled or cast upon the *boiler* or upon a plate secured to it. In the absence of a manufacturer's identification stencil or plate, the maximum allowable working pressure shall not exceed that recommended in the manufacturer's specification or catalog.

**1024.1.3 Safe operating pressure.** If, in the judgment of the *code official* or an *insurance company inspector*, a steam-heating *boiler* is not safe for operation at the pressure previously approved, the operating pressure shall be reduced to a pressure deemed safe by the *code official* or *insurance company inspector*, or proper repair shall be made, or the *boiler* shall be retired from service, as determined by the *code official* or *insurance company inspector*.

**1024.2 Safety valves.** Each steam-heating *boiler* shall be provided with one or more safety valves with a total area of not less than 1 square inch (645 mm<sup>2</sup>) for each 5 square feet (0.46 m<sup>2</sup>) of grate area or equivalent if grates are not used. The steam-relieving capacity of the safety valve or valves on any *boiler* shall be sufficient to prevent the *boiler* pressure from rising to



more than 5 pounds per square inch (psi) (34 kPa) above the maximum allowable working pressure of the *boiler*.

**1024.2.1 Capacity.** If there is any doubt as to the capacity of the safety valve, an accumulation test shall be run. No safety valve shall be smaller than 3/4 inch (19 mm) in diameter nor larger than 4.5 inches (114 mm) in diameter.

**1024.2.2 Stop valve.** No stop valve of any type shall be located between a *boiler* and its safety valve, nor in the safety valve discharge pipe.

**1024.3 Parts and equipment.** Each steam-heating *boiler* shall be equipped with the following parts and equipment that shall meet the requirements of Sections 1024.3.1 through 1024.3.8, as applicable.

**1024.3.1 Steam pressure gauge.** Each steam-heating *boiler* shall have a steam pressure gauge connected to the steam space of the *boiler* itself or on steam pipe near the *boiler*. The graduations of the steam gauge shall not have a range of less than 15 pounds per square inch (psi) (103 kPa) nor more than 30 pounds per square inch (psi) (207 kPa).

**1024.3.2 Water gauge glass.** Each heating *boiler* shall have at least one water gauge glass with the lowest visible part above the heating surfaces in the primary combustion chamber. When, in the judgment of the *code official* or an *insurance company inspector*, the heating surfaces above the low-water line may be damaged by contact with high temperature gases, the water gauges shall be raised until the lowest visible part of the glass gauge is above the testing surface.

**1024.3.3 Gauge cocks.** Each steam-heating *boiler* shall have two or more gauge cocks located within the visible length of the water gauge glass.

**Exception:** Steam-heating *boilers* provided with two water gauge glasses.

**1024.3.4 Steam stop valve.** Heating boilers that can be closed-off from the heating system by closing a steam stop valve shall be equipped with a check valve in the condensate return line, between the boiler and the system. Any part of a heating system that can be closed off from the remainder of the system by closing a steam stop valve, shall be provided with a check valve in the condensate return pipe from that part of the system.

**1024.3.5 Feed-water connections.** Feed-water connections shall be independent of any water gauge connections. Where possible, feed-water connections shall be made to the condensate return pipe of the reservoir of the condensate return pump. There shall be a check valve in the feed-water line, close to the boiler.

**1024.3.6 Low-water cut-off of mechanically fired boilers.** Each mechanically fired heating *boiler* shall be equipped with a low-water cut-off so located as to automatically cut off the fuel supply in case the water level falls below the top of the bottom nut of the water glass. Each cut-off shall have a drain extended to within 6 inches (152 mm) of the floor.

When two or more mechanically fired heating *boilers* are connected to the same system, each *boiler* shall have independent low-water cut-offs, controls and gauges.

**1024.3.7 Low-water cut-off of electrically operated boilers.** If a low-water fuel cut-off device is electrically operated, it shall be so connected that it will fail-safe in the “cut-off” position both when the electric current is switched off and upon loss of electric power supply.

**1024.3.8 Condensate return pump.** Each condensate return pump shall be provided with an automatic water level control, set to maintain the water level between two gauge cocks.

**1024.4 Repairs or replacements.** When repairs or replacement of parts or piping are made, or fittings or appliances are replaced or attached to a heating *boiler*, the rules applying to new installations shall be followed as nearly as practicable.

**1024.4.1 Safety valve replacement.** When a safety valve is replaced the requirements of Section 1010 shall be met. No safety valve shall be smaller than 3/4 inch (19 mm) in diameter nor larger than 4.5 inches (114 mm) in diameter.

*Insert a new Section 1025 in the Mechanical Code to read as follows:*

## **1025            EXISTING MINIATURE BOILER INSTALLATIONS**

**1025.1 Maximum allowable working pressure.** The maximum allowable working pressure on the shell or drum of a *miniature boiler* shall be determined in accordance with the following equation:

$$(TS \times t \times E) \div (R \times FS) = P_m$$

where:

$P_m$	=	Maximum allowable working pressure (psi) (kPa)
TS	=	Ultimate tensile strength of shell plates (psi) (kPa)
t	=	Minimum thickness of shell plate in weakest course (inch) (mm)
$E^a$	=	Efficiency of longitudinal joint, per Section VIII, Division 1, Part UW, paragraph UW-12, “Joint Efficiencies” of the <i>ASME Code</i>
$E^a$	=	Efficiency for tube ligaments between openings as calculated in Section I, Part PG, paragraphs PG-52 and PG-53 of the <i>ASME Code</i>
R	=	Inside radius of the weakest course of the shell or drum (inch)

(mm)

FS = Factor of safety required by Chapter 10 of the *Mechanical Code*

- a. Where there are both riveted joints and tube ligaments to consider, the lowest calculated efficiency, E, shall be used.

**1025.2 Parts and equipment.** Each *miniature boiler* shall be equipped with the following parts and equipment that shall meet the requirements of Sections 1025.2.1 through 1025.2.13, as applicable.

**1025.2.1 Feed pump.** Each *miniature boiler* operating at a pressure in excess of 25 pounds per square inch (psi) (172 kPa) shall be provided with at least one feed pump or other approved water-feeding device.

**Exception:** Where the steam generator is operated as a closed system with no extraction of steam, in lieu of a feeding device, a suitable connection or opening, not less than ½ inch (13 mm) nominal pipe size, shall be provided to fill the generator when cold.

**1025.2.2 Feed water and blow-off connections.** Each *miniature boiler* shall be fitted with feed water and blow-off connections that shall not be less than 1/2 inch (13 mm) iron pipe size, unless operated on a closed system. The feed pipe shall be provided with a check valve and a stop valve. The blow-off shall be fitted with a valve or cock and shall be in direct connection with the lowest water space practicable. When the boiler is under pressure, feed water shall not be introduced through the openings or connections used for the column, the water gauge glass or gauge cocks. All valves, pipe fittings and appliances shall be rated at a minimum of 125 pounds per square inch (psi) (862 kPa) standard pressure.

**1025.2.3 Water gauge glass and gauge cocks.** Each *miniature boiler* shall be equipped with a water gauge glass and one or more gauge cocks. The lowest permissible water level shall be at a point one-third of the height of the shell.

**Exceptions:**

1. Where the *miniature boiler* is equipped with internal furnace, the lowest permissible water level shall be not less than one-third of the length of the tube above the top of the furnace.
2. In the case of small generating units operated as a closed system, where there is insufficient space for the usual water gauge, water-level indicators of the glass bull's eye type shall be allowed to be used.

**1025.2.4 Steam gauge.** Each *miniature boiler* shall be equipped with a steam gauge having its dial graduated to not less than 1 1/2 times the maximum allowable working pressure. The gauge shall be connected to the steam space or to the steam connection to the water column

by a brass or bronze composition siphon tube, or equivalent device that will keep the gauge tube filled with water.

**1025.2.5 Safety valve.** Each *miniature boiler* shall be equipped with a sealed, spring loaded, “pop” safety valve not less than 1/2 inch (13 mm) diameter connected directly to the boiler. To ensure the safety valve is unrestricted, each valve shall have a substantial lifting device by which the valve disk can be lifted from its seat when the pressure in the boiler is at least 75 percent of full working pressure. All safety valves shall be mounted with their spindles vertical and shall be accessible.

**1025.2.5.1 Safety valve identification.** The safety valve shall be plainly marked by the manufacturer with the following information:

1. Manufacturer name or identifying trademark;
2. The nominal diameter;
3. The steam pressure at which it is set to open; and
4. The capacity in pounds of steam per hour (kg/hr) and ASME Standard.

**1025.2.5.2 Minimum relieving capacity.** The minimum relieving capacity for the safety valve shall be determined on the basis of 3 pounds of steam per hour per square foot (lb/hr/ft<sup>2</sup>) (14.65 kg/hr/m<sup>2</sup>) of heating surface and shall be sufficient to discharge all the steam that can be generated by the miniature boiler without allowing the pressure to rise to more than 6 percent above the maximum allowable working pressure.

**1025.2.6 Standard stop valve.** Each steam line from a *miniature boiler* shall be provided with a 125 pounds per square inch (psi) (862 kPa) standard stop valve located as close to the boiler shell or drum as practicable.

**1025.2.7 Blow-off connections.** Each *miniature boiler* shall be provided with a blow-off connection that shall not be reduced in size and shall be extended to a safe point of discharge. Whenever, in the judgment of the *code official*, a safe point of discharge is not available, a blow-down tank shall be provided. The blow-off shall be fitted with a valve or cock and shall be connected directly to the lowest water space practicable.

**1025.2.8 Automatic low-water fuel cut-off.** Each *miniature boiler* mechanically-fired by any fuel other than gas shall be provided with an automatic low-water fuel cut-off, so located as to automatically cut off the fuel supply in case the water level falls below the bottom of the water glass.

**1025.2.9 Gas-fired boilers.** The burners of gas-fired *miniature boilers* shall conform to the listing requirements of the American Gas Association. Such burners shall be equipped with an automatic fuel-regulating governor regulated by the steam pressure. The governor shall be so constructed that, in the event of its failure, there can be no possibility of steam from the

boiler entering the combustion chamber or the gas supply pipe. A manual stop cock or throttle valve shall be provided, located in the inlet pipe ahead of the fuel-regulating governor. Each gas-fired *miniature boiler* shall be equipped with a 4-inch (102 mm) vent or flue, extended to an approved location outside of the building or connected to a chimney, in accordance with the *Fuel Gas Code*. Where the horizontal run of the vent is more than 10 feet (3048 mm), its size shall be increased to 6 inches (152 mm).

**1025.2.10 Replacement.** All *miniature boiler* replacements shall conform to the requirements of the *Mechanical Code* for new installations.

**1025.2.11 Retubed boiler inspections.** Each retubed *miniature boiler* shall be inspected and approved by the *code official* before the *boiler* is again put in service.

**1025.2.12 Used boilers.** Each used *miniature boiler* brought into the District of Columbia shall be inspected and approved by the *code official* before being installed. Installation shall require a permit pursuant to Section 1001.3 and Section 105 of the *Building Code*.

**1025.2.13 Installation Permit.** Moving a *miniature boiler* and reinstalling it in the same or another building shall require a boiler installation permit.

*Insert a new Section 1026 in the Mechanical Code to read as follows:*

## **1026            EXISTING UNFIRED PRESSURE VESSEL INSTALLATIONS**

**1026.1 Maximum allowable internal working pressures.** The maximum allowable working pressure for a *pressure vessel* shall be determined in accordance with Sections 1026.1.1 or 1026.1.2.

**1026.1.1 Standard Pressure Vessels.** The maximum allowable working pressure for standard *pressure vessels* shall be determined in accordance with the applicable provisions of the *ASME Code* or the *API-ASME Code* under which they were constructed but shall not exceed the working pressure shown on the manufacturer's nameplate stamping and data report.

**1026.1.2 Non-Standard Pressure Vessels.** The maximum allowable working pressure for a non-standard *pressure vessel* shall be determined by the calculated strength of its weakest course. The computation shall be determined by the formula that follows, based on the thickness of the plate, the tensile strength of the plate, the efficiency of the longitudinal joint, the radius of the course and the factor of safety required by the *Mechanical Code*.

$$(TS \times t \times E) \div (R \times FS) = P_m$$

where:

$$P_m = \text{Maximum allowable working pressure (psi) (kPa)}$$

- TS = Ultimate tensile strength of shell plates (psi) (kPa)
- t = Lowest thickness of shell plate in weakest course (inch) (mm)
- E<sup>a</sup> = Efficiency of longitudinal joint depending upon construction  
Use values as follows:  
For riveted joints = calculated riveted efficiency
- For fusion welded joints:
- Single “V” weld = 50%
  - Double “V” weld = 70%
  - Single lap weld = 40%
  - Double lap weld = 50%
  - Forge weld = 80%
  - Brazed steel = 80%
  - Brazed copper = 90%
- E<sup>a</sup> = Efficiency for tube ligaments between openings as calculated in Section I, Part PG, paragraphs PG-52 and PG-53 of the *ASME Code*
- R = Inside radius of the weakest course of the shell (inch) (mm). If the thickness of the shell exceeds 10 percent of the inside radius, the outer radius shall be used
- FS = Factor of safety required by Chapter 10 of the *Mechanical Code*
- a. Where there are both riveted joints and tube ligaments to consider, the lowest calculated efficiency, E, shall be used.

**1026.2 Maximum allowable external working pressure.** The maximum allowable working pressure for cylindrical vessels subjected to external or collapsing pressure shall be determined by methods in Section I, Part PG, paragraph PG-28 of the *ASME Code*, except that the factor of safety used to calculate the working pressure shall be in accordance with the requirements of Section 1026.3.

**1026.3 Factor of safety.** The maximum permissible exterior working pressure for existing *pressure vessels* of other than lap-seam construction shall be calculated using a factor of safety of not less than 4.5.

**1026.3.1 Pressure vessels of lap-seam construction.** The maximum permissible exterior working pressure for existing *pressure vessels* with longitudinal lap joints shall be calculated based on the age of the vessel, using the factors of safety in Table 1026.3.1.

**TABLE 1026.3.1**  
**MINIMUM SAFETY FACTORS FOR EXISTING PRESSURE VESSELS WITH**  
**LONGITUDINAL LAP SEAMS**

Age of the Vessel	Safety Factor
0 to 10 years	4
10 to 20 years	4.5
20 to 25 years	5
25 to 30 years	5.5

**1026.3.2 Age limit.** The age limit of a *pressure vessel* having a longitudinal lap joint and a working pressure over 50 pounds per square inch (psi) (345 kPa) shall be 30 years.

**1026.4 Stress limits.** In checking the tensile stresses in the walls of existing vessels, the effect of static head shall be considered in order to verify that such tensile stresses do not exceed the ultimate tensile strength of the material, divided by the applicable factor of safety required by the *Mechanical Code*.

**1026.5 Inspection of inaccessible parts.** Where, in the opinion of the *code official*, as the result of conditions disclosed at the time of an inspection, it is deemed necessary to remove interior or exterior lining, covering or brick work to expose certain parts of the vessel not visible at the time of regular inspection, the *code official* is authorized to require the removal of such material to permit proper inspection and to ascertain hidden conditions and remaining thicknesses.

**1026.6 Lap-seam cracks.** The shell or drum of a *pressure vessel* in which a lap seam crack is discovered along a longitudinal riveted joint shall be immediately discontinued from use. If the vessel is not more than 15 years of age, and when approved by the *code official*, the *owner* or *user* is authorized to make repairs consisting of the installation of a complete new course of the original shell thickness. Patching shall be prohibited. For the purpose of this section, a “lap-seam crack” is the typical crack frequently found in lap seams, extending parallel to the longitudinal joints and located either between or adjacent to rivet holes.

**1026.7 Tensile strength.** When the ultimate tensile strength of steel shell plates is not known, it shall be taken as 55,000 pounds per square inch (psi) (379 000 kPa) for equipment operating at temperatures not exceeding 700°F (371°C).

**1026.8 Crushing strength of mild steel.** The resistance to crushing of mild steel shall be taken at 95,000 pounds per square inch (psi) (655 000 kPa).

**1026.9 Rivets.** In computing the ultimate strength of rivets in shear, the values of the material shear strength contained in Table 1026.9, to be applied to the cross-sectional area of the rivet shank, shall be used.

**TABLE 1026.9  
ULTIMATE STRENGTH OF RIVETS IN SHEAR**

	Pounds per square inch (psi)
Steel rivets in single shear	44,000

Steel rivets in double shear	88,000
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**1026.9.1 Cross-Sectional Area.** The cross-sectional area used in the computations shall be that of the rivet shank after driving.

**1026.9.2 Diameter.** When the diameter of the rivet holes in the longitudinal joints of a pressure vessel is not known, the diameter of the rivet after driving shall be ascertained from Table 1022.9.1 or by cutting out one rivet in the body of the joint, and the cross-sectional area of the rivet shall be calculated from the obtained diameter.

**1026.10 Safety appliances.** Each unfired *pressure vessel* shall be protected by such safety and relief valves and indicating and controlling devices as will ensure its safe operation. These valves and devices shall be so constructed, located and installed that they cannot readily be rendered inoperative. The relieving capacity of safety valves shall be such as to prevent a rise in pressure in the vessel to more than 10 percent above the maximum allowable working pressure, taking into account the effect of static head. Safety valve discharges shall be carried to a safe place of disposal.



**CHAPTER 11            REFRIGERATION**  
**1101    GENERAL**

**1101            GENERAL**

*Strike Section 1101.4 of the International Mechanical Code in its entirety and insert a new Section 1101.4 into the Mechanical Code in its place to read as follows:*

**1101.4 Water connection.** Water supply and discharge connections associated with refrigeration systems shall be made in accordance with the *Mechanical Code* and the *Plumbing Code*. Disposal of water used for the purposes regulated by Sections 1101.4.1, 1101.4.2 and 1101.4.3 shall be in accordance with the *Plumbing Code*.

**1101.4.1 Condenser cooling water.** Water used for *condenser* cooling purposes without recirculation shall at all times be regulated by automatic controls designed to produce a minimum water temperature rise of 15 °F (8.3 °C), and to stop the flow of water when cooling is not required.

**1101.4.2 Approval of refrigeration systems.** No permit shall be issued for the installation of a refrigeration system that requires water from the public water mains at a peak demand flow in excess of 15 gpm (56.8 L/m), until an application to install such system, signed by the *owner* of the *premises* where the system is to be installed, is filed with and approved by the District of Columbia Water and Sewer Authority (DC Water).

**1101.4.3 Water for refrigeration.** Water supplied from the public water mains shall not be used for refrigeration purposes where DC Water has determined that such use might be detrimental to the proper service of consumers in the affected distribution area.

**CHAPTER 15 REFERENCED STANDARDS**

*Insert a new standard reference in Chapter 15 of the Mechanical Code, under the subheading NSF, NSF International, to read as follows:*

**NSF**  
 NSF International  
 789 N. Dixboro Road, P.O. Box 130140  
 Ann Arbor, MI 48113-0140

<i>Standard reference number</i>	<i>Title</i>	<i>Referenced in code section number</i>
NSF/ANSI 14-2012	Plastics Piping System Components and Related Materials	301.4

*Insert a new standard reference in Chapter 15 of the Mechanical Code, under subheading NFPA, National Fire Protection Association, to read as follows:*

**NFPA**  
 National Fire Protection Association  
 1 Batterymarch Park  
 Quincy, MA 02169-7471

<i>Standard reference number</i>	<i>Title</i>	<i>Referenced in code section number</i>
45-15	Standard on Fire Protection for Laboratories Using Chemicals	515.1

*Strike standard UL 896 in its entirety from the International Mechanical Code, under subheading UL, Underwriters Laboratories, Inc in Chapter 15, without substitution,*

*Insert a new code section number reference for standard UL 723 in Chapter 15 of the Mechanical Code, as follows:*

**UL**  
 UL LLC  
 333 Pfingsten Road  
 Northbrook, IL 60062-2096

<i>Standard reference number</i>	<i>Title</i>	<i>Referenced in code section number</i>
723—2008	Standard for Test for Surface Burning Characteristics of Building Materials	202, 510.9, 602.2, 602.2.1,

602.2.1.6,  
 602.2.1.6.2,  
 602.2.1.6.3,  
 602.2.1.7, 604.3,  
 1204.1

*Strike standard reference number 31-11 from the International Mechanical Code, under subheading NFPA, National Fire Protection Association in Chapter 15, and insert new standard reference number 31-11 in its place in Chapter 15 of the Mechanical Code to read as follows:*

**NFPA**

National Fire Protection Association  
 1 Batterymarch Park  
 Quincy, MA 02169-7471

Standard reference number	Title	Referenced in code section number
31-11	Installation of Oil-burning Equipment	701.1, 801.2.1, 801.18.1, 801.18.2, 920.2, 1308.1

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov). Comments on this Notice of Second Proposed Rulemaking must be received no later than thirty (30) days after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-F DCMR PLUMBING CODE SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia adopts the 2015 edition of the *International Plumbing Construction Code (IPC ICC)*, as amended by this Supplement.

**IPC-ICC CHAPTERS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

CHAPTER 1	SCOPE AND ADMINISTRATION
CHAPTER 2	DEFINITIONS
CHAPTER 3	GENERAL REGULATIONS
CHAPTER 4	FIXTURES, FAUCETS AND FIXTURE FITTINGS
CHAPTER 6	WATER SUPPLY AND DISTRIBUTION
CHAPTER 7	SANITARY DRAINAGE
CHAPTER 8	INDIRECT/SPECIAL WASTE
CHAPTER 9	VENTS
CHAPTER 11	STORM DRAINAGE
CHAPTER 13	NONPOTABLE WATER SYSTEMS
CHAPTER 14	SUBSURFACE LANDSCAPE IRRIGATION SYSTEMS

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<sup>1</sup> The *District of Columbia Plumbing Code* (2017), referred to as the “*Plumbing Code*,” consists of the 2015 edition of the *International Plumbing Code (International Plumbing Code)*, published by the International Code Council (ICC), as amended by the *Plumbing Code Supplement of 2017* (12-F DCMR). The *International Plumbing Code* is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be obtained at: <https://codes.iccsafe.org/public/document/IPC2015>.

*Strike Chapter 1 of the International Plumbing Code in its entirety and insert a new Chapter 1 into the Plumbing Code in its place to read as follows:*

**CHAPTER 1           SCOPE AND ADMINISTRATION**

**101    GENERAL**

**101            GENERAL**

**101.1 Scope and Intent.** Scope and intent of the *Plumbing Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**101.2 Administration and Enforcement.** Administration and enforcement of the *Plumbing Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**CHAPTER 2            DEFINITIONS****202    GENERAL DEFINITIONS****202            GENERAL DEFINITIONS**

*Insert new definitions into Section 202 of the Plumbing Code to read as follows:*

**CONTACT WATER FEATURE.** Fountain or other ornamental water feature that is designed with the intent to allow or entice the public to come into direct contact with the water of the feature, or that is constructed without sufficient barriers to reasonably prevent the public to come into contact with the water. This definition does not encompass swimming pools, spas and aquatic recreation facilities regulated by the *Swimming Pool and Spa Code*.

**HIGH RISK NON-RESIDENTIAL STRUCTURE.** Any *building* or structure that houses operations that pose a health hazard contamination risk to the public water supply.

**LEAD-FREE PIPE AND FITTINGS.** Pipe and pipe fittings, the wetted surfaces of which contain not more than 0.25 percent lead, where such pipe and fittings are intended to be used in the supply or distribution of drinking or cooking water for human consumption. Pipe and fittings that meet the requirements of the Safe Drinking Water Act, 42 USC §§ 300f *et seq.* (2017), as amended, for pipe and fittings used to supply or distribute water for human consumption.

**LEAD-FREE PLUMBING FIXTURES AND FITTINGS.** *Plumbing fixtures* and plumbing fittings, the wetted surfaces of which contain not more than a weighted average of 0.25 percent lead, where such *plumbing fixtures* and fittings are intended to be used to dispense drinking or cooking water for human consumption. *Plumbing fixtures* and fittings that are not intended to dispense water for human consumption are exempted from lead-free requirements by the Safe Drinking Water Act, 42 USC §§ 300f *et seq.* (2017), as amended.

**WATER SERVICE POINT OF ENTRY.** The location where the water service connection initially protrudes into the building interior, through the building envelope wall or floor, to supply the *plumbing system*.

## CHAPTER 3 GENERAL REGULATIONS

## 305 PROTECTION OF PIPES AND PLUMBING SYSTEM COMPONENTS

## 314 CONDENSATE DISPOSAL

## 305 PROTECTION OF PIPES AND PLUMBING SYSTEM COMPONENTS

*Strike Section 305.4 of the International Plumbing Code in its entirety and insert a new Section 305.4 into the Plumbing Code in its place to read as follows:*

**305.4 Freezing.** *Water, soil and waste pipes* shall not be installed outside of a *building*, in attics or crawl spaces, concealed in outside walls, or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by insulation or heat or both. Exterior *water supply system* piping shall be installed not less than 12 inches (305 mm) below the frost line and not less than 30 inches (762 mm) below grade.

*Strike Section 305.4.1 of the International Plumbing Code in its entirety and insert new Section 305.4.1 in the Plumbing Code in its place to read as follows:*

**305.4.1 Sewer depth.** *Building sewers* that connect to private sewage disposal systems shall be installed not less than 30 inches (762 mm) below finished grade at the point of septic tank connection. *Building sewers* shall be installed not less than 30 inches (762 mm) below grade at any point between the *building* foundation and the connection to the *public sewer*.

## 314 CONDENSATE DISPOSAL

*Strike Section 314.2.1 of the International Plumbing Code in its entirety and substitute a new Section 314.2.1 into the Plumbing Code in its place to read as follows:*

**314.2.1 Condensate disposal.** Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an *approved* place of disposal. Such piping shall maintain a horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance. Condensate shall not discharge into separate *sanitary sewer* systems.

**Exception:** In the replacement in-kind of existing equipment, condensate disposal shall be allowed to use the existing discharge piping system.

**CHAPTER 4                      FIXTURES, FAUCETS AND FIXTURE FITTINGS**

**403     MINIMUM PLUMBING FACILITIES**

**410     DRINKING FOUNTAINS**

**403                      MINIMUM PLUMBING FACILITIES**

**403.1 Minimum number of fixtures.**

*In Table 403.1 of the Plumbing Code, in row Number 5, Institutional, I-4 insert a new footnote “f” in column titled “Bathtubs/ Showers,” to read as follows:*

**Table 403.1**  
**Minimum Number of Required Plumbing Fixtures<sup>a</sup>**  
**(See Sections 403.1 and 403.2)**

<u>No.</u>	<u>Classification</u>	<u>Occupancy</u>	<u>Description</u>	<u>Water Closets (Urinals See Section 419.2 of the Plumbing Code)</u>	<u>Lavatories</u>	<u>Bathtubs/ Showers</u>	<u>Drinking Fountains (See Section 410 of the Plumbing Code)</u>	<u>Other</u>
<u>5</u>	<u>Institutional</u>	<u>I-4</u>	<u>Adult day care and child day care</u>	<u>1 per 15</u>	<u>1 per 15</u>	<u>1<sup>f</sup></u>	<u>1 per 100</u>	<u>1 service sink</u>

*[No change to table footnotes a through e]*

**f. For child day care occupancies, bathtubs/showers shall not be required.**

*Strike Section 403.4 of the International Plumbing Code in its entirety and insert a new Section 403.4 into the Plumbing Code in its place to read as follows:*

**403.4 Signage.** Multi-occupancy *public toilet facilities* shall be provided with signs that designate the gender to which the facility is assigned. Single-occupancy *public* facilities shall be designated with gender-neutral signage. Signs shall be readily visible and located near the entrance to each *toilet facility*. Signs for accessible *toilet facilities* shall comply with Section 1111 of the *Building Code*.

*Strike Section 403.5 of the International Plumbing Code in its entirety and insert a new Section 403.5 into the Plumbing Code in its place to read as follows:*

**403.5 Drinking fountain location.** *Drinking fountains* shall not be required to be located in individual tenant spaces provided that *public drinking fountains* are located within a distance of travel of 500 feet (152 m) of the most remote location in the tenant space and not more than one story above or below the served floor level of the tenant space. Where the tenant space is in a covered or open mall, such distance shall not exceed 300 feet (91 m), measured from the main entrance of any store or tenant space. *Drinking fountains* in *buildings* or facilities required to be accessible by the *Building Code* shall be located on an accessible route.

**410                      DRINKING FOUNTAINS**



*Strike Section 410.4 of the International Plumbing Code in its entirety and insert a new Section 410.4 into the Plumbing Code in its place to read as follows:*

**410.4 Substitution.** Where restaurants provide drinking water in a container free of charge, *drinking fountains* shall not be required. In establishments of occupancies B or M, with an area of 1,500 square feet (139.4 m<sup>2</sup>) or less, a *water dispenser* shall be permitted to be substituted for the required *drinking fountains*. In other occupancies where *drinking fountains* are required, including B or M occupancies with an area of more than 1,500 square feet (139.4 m<sup>2</sup>), *water dispensers* shall be permitted to be substituted for not more than 50 percent of the required number of *drinking fountains*.

## CHAPTER 6 WATER SUPPLY AND DISTRIBUTION

## 603 WATER SERVICE

## 605 MATERIALS, JOINTS AND CONNECTIONS

## 608 PROTECTION OF POTABLE WATER SUPPLY

614 ~~LANDSCAPE IRRIGATION AND OUTDOOR FOUNTAINS~~

## 603 WATER SERVICE

*Strike Section 603.1 of the International Plumbing Code in its entirety and insert a new Section 603.1 into the Plumbing Code in its place to read as follows:*

**603.1 Size of water service pipe.** The *water service pipe* shall be sized to supply water to the structure in the quantities and at the pressures required in this code. New *water service pipe* shall be not less than 1 inch (25.4 mm) in nominal size diameter.

*Insert new Sections 603.3, 603.3.1, 603.3.2 and 603.3.3 into the Plumbing Code to read as follows:*

**603.3 Water service piping protection.** Water service piping shall be protected against backflow in accordance with Sections 603.3.1 through 603.3.3.

**603.3.1 Water service piping backflow prevention.** A backflow preventer shall be installed on the *water service pipe*, downstream of the water meter, in compliance with Table 603.3.1, for every new water service, and for existing water services as required by Section 603.3.3. Backflow preventers shall be installed in accordance with manufacturer's installation instructions and DC Water design specifications, and shall be located upstream from any served water outlet.

**603.3.2 High risk non-residential structure.** Any building, structure or campus that is or contains a facility hereafter classified as a high risk non-residential structure shall be required to install a reduced pressure principle backflow prevention assembly conforming to ASSE 1013 on the water service connection. High risk non-residential facilities include, but are not limited to, hospitals, hemoglobin dialysis centers, funeral homes or mortuary facilities, chemical manufacturing plants, car wash facilities, sewage treatment plants, auxiliary water supply systems, wells, dry cleaning plants, breweries, distilleries, laboratories, facilities where radioactive materials are handled, and facilities with a water reuse system.

**603.3.3 Existing water service piping.** Installation of a backflow preventer in an existing *water service pipe* shall be required only in the following cases:

1. Construction of a new structure reusing the existing service.
2. Alteration of the existing water distribution system of the structure affecting fixtures that in aggregate account for more than 75 percent of the demand

load of the existing installed system, calculated in accordance with Section 604.3, not including minor piping adjustments for fixture replacements.

3. Addition to the existing water distribution system of the structure that will result in an increase of more than 50 percent in the demand load of the existing installed system, calculated in accordance with Section 604.3.
4. The served existing structure has been or is heretofore classified as a *high risk non-residential structure*.
5. When the existing *water service pipe* is replaced.
6. When the meter setter is replaced.

*Insert new Table 603.3.1 in the Plumbing Code to read as follows:*

**TABLE 603.3.1 WATER SERVICE BACKFLOW PREVENTION**

**Water Service Backflow Preventers**

<b>Facility type</b>	<b>Service Size</b>	<b>Type</b>	<b>Location</b> Note a
<b>Residential or nonresidential</b>	5/8", 3/4:" 1", 1 1/2" and 2"	ASSE 1024 Dual Check Valve	On the discharge side of meter yoke Note b
<b>Non-residential</b>	3" and larger	ASSE 1015 Double Check Backflow Prevention Assembly	Inside facility, within 10 feet of water service point of entry prior to any pipe branching
<b>High Risk Nonresidential</b>	Any	ASSE 1013 Reduced Pressure Principle Backflow Prevention Assembly	

**Fire Protection Backflow Preventers**

<b>Water Treatment</b>	<b>Type</b>	<b>Location</b> Note a
No chemical additives	ASSE 1015 Double Check Fire Protection Backflow Prevention Assembly  ASSE 1048 Double Check Detector Fire Protection Backflow Prevention Assembly	Inside facility, within 10 feet of water service point of entry

Treated with chemical additives	ASSE 1013 Reduced Pressure Principle Backflow Prevention Assembly  ASSE 1047 Reduced pressure detector fire protection backflow prevention assembly	
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For SI: 1 inch = 25.4 mm, 1 ft = 304.8 mm, 1 pound per square inch = 6.895 kPa.

a - Backflow preventers shall always be located upstream from any water outlet.

b - Where inlet pressure to meter yoke is less than 42 psi, it is acceptable to locate the domestic backflow preventers inside the facility, within 10 feet of water service point of entry prior to any unprotected pipe branching.

**605 MATERIALS, JOINTS AND CONNECTIONS**

*Strike Section 605.2 of the International Plumbing Code and insert a new Section 605.2 into the Plumbing Code in its place to read as follows:*

**605.2 Lead content of water supply pipe and fittings.** Pipe and pipe fittings, including valves and faucets, utilized in any portion of the water supply system that provides drinking or cooking water for human consumption shall meet the requirements for *lead-free pipe and fittings* or the requirements for *lead-free plumbing fixtures and fittings*, as applicable. Other pipe, pipe fittings, valves and faucets utilized in the *water supply system* shall have a maximum of 8-percent lead content.

**608 PROTECTION OF POTABLE WATER SUPPLY**

*Strike Section 608.13.2 of the International Plumbing Code in its entirety and insert a new Section 608.13.2 into the Plumbing Code in its place to read as follows:*

**608.13.2 Reduced pressure principle backflow prevention assemblies.** Reduced pressure principle backflow prevention assemblies shall conform to ASSE 1013, AWWA C511, CSA B64.4 or CSA B64.4.1. Reduced pressure detector assembly backflow preventers shall conform to ASSE 1047. These assemblies shall be permitted to be installed where subject to continuous pressure conditions. The relief opening shall discharge by *air gap* and shall be prevented from being submerged. These assemblies shall not be installed in pits or vaults.

*Insert a new Section 608.13.9 into the Plumbing Code to read as follows:*

**608.13.9 Chemical dispenser backflow devices.** Backflow devices for chemical dispensers shall comply with ASSE 1001, 1011, 1013, 1051, 1020, 1035, 1052 or 1056. Instead of a backflow device, connections to chemical dispensers shall be protected against backflow by an *air gap* or an air gap fitting meeting ASME A112.1.3.

*Strike Section 608.14 of the International Plumbing Code in its entirety and insert a new Section 608.14 into the Plumbing Code in its place to read as follows:*

**608.14 Location of backflow preventers.** The location and installation of backflow preventers shall meet access and clearance requirements specified by the manufacturer's instructions and DC Water design specifications.

*Strike Section 608.16.4 of the International Plumbing Code in its entirety and insert a new Section 608.16.4 into the Plumbing Code in its place to read as follows:*

**608.16.4 Connections to automatic fire sprinkler systems and standpipe systems.** The potable water supply to automatic fire sprinkler and standpipe systems shall be protected against backflow by one of the following methods:

1. If the systems contain no chemical additives, by a double check backflow prevention assembly conforming to ASSE 1015 or by a double check detector fire protection backflow prevention assembly conforming to ASSE 1048.
2. If either system contains chemical additives, by a reduced pressure principle fire protection backflow preventer conforming to ASSE 1013 or by a reduced pressure detector fire protection backflow prevention assembly conforming to ASSE 1047.

**Exception:** Where systems are installed as a portion of the water distribution system in accordance with the requirements of this code and are not provided with a fire department connection, separate backflow protection of the water supply system from the fire suppression system shall not be required.

*Strike Section 608.16.7 of the International Plumbing Code in its entirety and insert a new Section 608.16.7 into the Plumbing Code to read as follows:*

**608.16.7 Chemical dispensers.** Where chemical dispensers connect to the potable water distribution system, the water supply system shall be protected against backflow in accordance with Section 608.13.9.

*Insert a new Section 608.18 into the Plumbing Code to read as follows:*

**608.18 Fire hydrant use connections.** Connection to a fire hydrant for any use other than firefighting operations shall require pre-approval by DC Water, shall be metered and shall be protected against backflow in accordance with Section 608. The connection shall include a reduced pressure principle backflow preventer conforming to ASSE 1013, suitable for high-hazard applications, which shall carry a current inspection tag less than six (6) months old. The assembly shall be installed within 10 feet (3048 mm) of the hydrant water meter and ahead of any water outlet.

**Exceptions:**

1. Metering shall not be required for hydrant operations performed by DC Water.
2. Where authorized by DC Water the use of an *air gap* in lieu of a backflow preventer shall be allowed for hydrant operations performed by or on behalf of DC Water or an agency of the District of Columbia government.

*Insert a new Section 614 into the Plumbing Code to read as follows:*

## **614           LANDSCAPE IRRIGATION AND OUTDOOR FOUNTAINS**

**614.1 General.** Irrigation of exterior landscaping shall comply with Sections 614.1.1 and ~~614.1.2~~. Outdoor *fountains* shall comply with Section ~~614.2~~ 614.1.3.

**Exception:** Projects under the jurisdiction of the *Residential Code*.

~~**614.1.1 Water for outdoor landscape irrigation.** In accordance with Section 614.1.2, outdoor landscape irrigation systems shall be designed and installed to reduce *potable water* use by 50 percent through plant selection, water efficient irrigation technology, the elimination of a permanently installed irrigation system, and/or, alternate onsite *nonpotable water* complying with Section 1115 and local laws and regulations. Designers shall use the EPA Water Sense Interactive Water Budget Tool to determine whether the design meets the 50 percent reduction threshold.~~

~~**Exceptions:** *Potable water* is permitted to be used as follows:~~

- ~~1. During the establishment phase of newly planted landscaping and during periods of drought in excess of 30 days.~~
- ~~2. To irrigate food production.~~
- ~~3. To supplement *nonpotable water* irrigation of shade trees provided in accordance with Section 408.2.3 of the *Green Construction Code*.~~

~~**614.1.2 Irrigation system design and installation.** Where in-ground irrigation systems are provided, the systems shall comply with all of the following:~~

- ~~1. The design and installation of outdoor irrigation systems shall be under the supervision of an irrigation professional accredited or certified by an *approved* local or national body.~~
- ~~2. Landscape irrigation systems shall not direct water onto building exterior surfaces, foundations or exterior paved surfaces. Systems shall not generate runoff.~~
- ~~3. Where an irrigation control system is used, the system shall be one that regulates irrigation based on weather, climate or soil moisture data, or time of~~

~~day. The controller shall have integrated or separate sensors to suspend irrigation events during rainfall.~~

- ~~4. Irrigation zones shall be based on plant water needs with plants of similar need grouped together. Turfgrass shall not be grouped with other plantings on the same zone.~~

**614.2 ~~614.1.3~~ Outdoor fountains.** Outdoor fountains shall be designed and installed to minimize as much as practicable the use of *potable water*. *Nonpotable water* shall not be used for outdoor *contact water features*.

**CHAPTER 7            SANITARY DRAINAGE****712    SUMPS AND EJECTORS****715    BACKWATER VALVES****712                    SUMPS AND EJECTORS**

*Strike Section 712.3.5 of the International Plumbing Code in its entirety and insert a new Section 712.3.5 into the Plumbing Code in its place to read as follows:*

**712.3.5 Pump connection to the drainage system.** Pumps connected to the drainage system shall connect to a *building sewer, building drain, soil stack, waste stack or horizontal branch drain*. The discharge point shall not be upstream of any backwater valve and shall not generate a condition that could cause flooding at any of the building fixtures. Where the discharge line connects into horizontal drainage piping, the connection shall be made through a wye fitting into the top of the drainage piping and such wye fitting shall be located not less than 10 pipe diameters from the base of any *soil stack, waste stack or fixture drain*.

**715                    BACKWATER VALVES**

*Strike Section 715.1 of the International Plumbing Code in its entirety and insert a new Section 715.1 into the Plumbing Code in its place to read as follows:*

**715.1 Sewage backflow.** Where plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the *public sewer*, such fixtures shall be protected by a backwater valve installed in the *building drain* or horizontal *branch* serving such fixtures, or shall discharge to a sump complying with Section 712.3 and served by a sewage pump or ejector complying with Section 712.4. Plumbing fixtures installed on a floor with a finished floor elevation above the elevation of the manhole cover of the next upstream manhole in the *public sewer* shall not discharge through a backwater valve or a sump. This section shall not apply to replacement in kind of compliant plumbing fixtures.

**Exception:** Where the *code official* deems it appropriate for the protection of existing multi-level buildings in flood prone areas, the retrofitting of backwater valves to be installed in the *building drain* or in a horizontal *branch* serving *fixtures* on a floor with a finished elevation above the adjacent manhole in the *public sewer* shall be allowed, thereby allowing such fixtures to discharge through the backwater valve.



**CHAPTER 8     INDIRECT/SPECIAL WASTE****802     INDIRECT WASTES****802             INDIRECT WASTES**

*Strike Section 802.3 of the International Plumbing Code in its entirety and insert a new Section 802.3 into the Plumbing Code in its place to read as follows:*

**802.3 Waste receptors.** Waste receptors shall be of an *approved* type. A removable strainer or basket shall cover the waste outlet of all waste receptors. Waste receptors shall be installed in ventilated spaces. Waste receptors shall not be installed in *bathrooms, toilet rooms*, plenums, crawl spaces, attics, interstitial spaces above ceilings and below floors or in any inaccessible or unventilated space such as a closet or storeroom. Ready *access* shall be provided to waste receptors.

**Exception:** Clothes washer standpipes shall be permitted in *bathrooms* in *dwelling units*.

**CHAPTER 9            VENTS****903    VENT TERMINALS****903            VENT TERMINALS**

**903.1 Roof extension.** Open vent pipes that extend through a roof shall be terminated not less than 12 inches (304.8 mm) above the roof. Where a roof or a portion thereof is to be used for assembly or as a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes within 10 feet (3048 mm) of the walking surface of such roof uses shall terminate not less than 7 feet (2134 mm) above such walking surface.

**CHAPTER 11 STORM DRAINAGE****1101 GENERAL****1101 GENERAL**

*Strike Section 1101.2 in the International Plumbing Code in its entirety and insert a new Section 1101.2 into the Plumbing Code in its place to read as follows:*

**1101.2 Disposal.** All roofs, paved areas, yards, courts and courtyards shall drain into a separate storm sewer system, or a combined sewer system, or to an *approved* place of disposal.

**Exception:** When *approved*, storm water is permitted to be discharged from roofs, paved areas, yards, courts, courtyards, downspouts, rain barrels, cisterns or rooftop storage facilities to vegetated areas such as lawns, gardens, grassy swales or bio-retention cells on the same *lot*. In such instances, the storm water shall flow away from the *building* and shall not flow across *lot lines* onto adjacent lots unless it discharges into an *approved* shared “best management practice” as defined in 21 DCMR Chapter 5.

**CHAPTER 13 NONPOTABLE WATER SYSTEMS****1301 GENERAL****1303 NONPOTABLE RAINWATER COLLECTION AND DISTRIBUTION SYSTEMS****1304 RECLAIMED WATER SYSTEMS**

*Strike Section 1301 of the International Plumbing Code in its entirety and insert new Section 1301 in its place in the Plumbing Code to read as follows:*

**1301 GENERAL**

**1301.1 Scope.** The provisions of Chapter 13 shall govern the materials, design, construction and installation of systems for the collection, storage, treatment and distribution of *nonpotable water*. The use and application of *nonpotable water* shall comply with laws, rules and ordinances applicable in the District of Columbia.

**1301.2 Water quality.** *Nonpotable water* for each end use application shall meet the minimum water quality requirements as established for the intended application by the laws, rules and ordinances applicable in the District of Columbia. Where *nonpotable water* from different sources is combined in a system, the system shall comply with the most stringent of the requirements of this code that are applicable to such sources.

**1301.2.1 Residual disinfectants.** Where chlorine is used for disinfection, the *nonpotable water* shall contain not more than 4 ppm (4mg/L) of chloramines or free chlorine when tested in accordance with ASTM D 1253. Where ozone is used for disinfection, the *nonpotable water* shall not contain gas bubbles having elevated levels of ozone at the point of use.

**Exception:** *Reclaimed water* sources shall not be required to comply with these requirements.

**1301.2.2 Filtration required.** *Nonpotable water* utilized for water closet and urinal flushing applications shall be filtered by a 100-micron or finer filter.

**Exception:** *Reclaimed water* sources shall not be required to comply with these requirements.

**1301.3 Signage required.** *Nonpotable water* outlets shall be identified at the point of use for each outlet with signage that complies with Section 608.8.1.

**1301.4 Permits.** A building permit and pertinent trade permits in accordance with Section 105 of the *Building Code* shall be required for the construction, installation, alteration and/or repair of *nonpotable water* systems.

**1301.5 Potable water connections.** Where a nonpotable water system described in this chapter requires makeup water from the potable water system, the water makeup piping shall be

protected against backflow by an *approved air gap*.

**1301.6 Approved components and materials.** Piping, plumbing components and materials used in collection and conveyance systems shall be manufactured of material *approved* for the intended application and compatible with any disinfection and treatment systems used.

**1301.7 Insect and vermin control.** The system shall be protected to prevent the entrance of insects and vermin into storage tanks and piping systems. Tank vent openings and overflow outlets shall be screened with a corrosion-resistant screen of not less than 16 by 20 mesh per inch (630 by 787 mesh per m) or shall be protected by an *approved* equivalent alternative method. Screen materials shall be compatible with contacting system components and shall not accelerate the corrosion of system components.

**1301.8 Freeze protection.** Where sustained freezing temperatures occur, provisions shall be made to keep storage tanks and the related piping from freezing. This provision is not intended to apply to rain *leaders* installed on the exterior of buildings.

**Exception:** Above-grade, self-contained *rainwater* collection tanks or rain barrels, with an individual capacity of 125 gallons (473 L) or less and not connected to a distribution piping system, shall not be required to comply with this requirement.

**1301.9 Nonpotable water storage tanks.** *Nonpotable water* storage tanks shall comply with Sections 1301.9.1 through 1301.9.11.

**1301.9.1 Sizing.** The storage tank holding capacity and the associated water collection and conveyance system shall be designed based on the anticipated demand, the capacity of the makeup water supply, and the capacity of the available sources of *nonpotable water* to be collected for reuse.

**1301.9.2 Location.** Above-grade storage tanks shall be protected from direct sunlight and shall be constructed using opaque, UV-resistant materials such as, but not limited to, heavily tinted plastic, fiberglass, lined metal, concrete, or wood, or shall be painted to prevent algae growth, or shall be provided with specially constructed sun barriers including, but not limited to, installation in garages, crawl spaces or sheds. Above-grade and underground storage tanks and their manholes shall not be located directly under any *soil pipe*, *waste pipe* or any source of contamination.

**Exception:** Above-grade, self-contained *rainwater* collection tanks or rain barrels, with an individual capacity of 125 gallons (473 L) or less and not connected to a distribution piping system, shall not be required to comply with this requirement.

**1301.9.3 Materials.** Water collected on site shall be stored in an *approved* tank constructed of durable, nonabsorbent and corrosion-resistant materials. The storage tank shall be constructed of materials compatible with any disinfection systems used to treat water upstream of the tank and with any systems used to maintain water quality in the tank. Wooden storage tanks that are not equipped with a makeup water source shall be provided

with a flexible liner.

**1301.9.4 Foundation and supports.** Storage tanks shall be supported on a firm base or foundation capable of withstanding the weight of the storage tank when filled to capacity. Storage tanks shall be supported by structural systems designed in accordance with the Building Code.

**1301.9.4.1 Ballast.** Where the soil can become saturated, an underground storage tank shall be ballasted, or otherwise secured, to prevent the tank from being dislodged by buoyancy when empty. The combined weight of the empty tank and hold down ballast shall exceed the buoyancy force of the tank when immersed in water. Where the installation requires a foundation, the foundation shall be flat and shall be designed to support the weight of the storage tank when full, consistent with the bearing capacity of the soil.

**1301.9.4.2 Structural support.** Where installed below grade, storage tank installations shall be designed to withstand the lateral and superimposed structural loads without damage and with minimal deformation when the tank is empty or filled with water.

**1301.9.5 Makeup water.** Where an uninterrupted supply is required for the intended application, potable or reclaimed water shall be provided as a source of makeup water for the storage tank. If potable water is used for the makeup water supply, it shall be protected against backflow by an *approved air gap*. A full-open valve located on the makeup water supply line to the storage tank shall be provided. Inlets to the storage tank shall be controlled by fill valves or other automatic supply valves installed to prevent the tank from overflowing and to prevent the water level from dropping below a predetermined point. Where makeup water is provided, the water level shall not be permitted to drop below the source water inlet or the intake of any attached pump.

**1301.9.6 Overflow.** The storage tank shall be equipped with an overflow pipe having a diameter not less than that shown in Table 606.5.4. The overflow pipe shall be protected from insects or vermin and shall discharge in a manner consistent with storm water runoff requirements of the District of Columbia. The overflow pipe shall discharge at a sufficient distance from the tank to avoid damaging the tank foundation or the adjacent property. Drainage from overflow pipes shall be directed to prevent freezing on roof or other walkways. The overflow drain shall not be equipped with a shutoff valve. Cleanouts shall be provided on each overflow pipe in accordance with Section 708.

**1301.9.7 Access opening.** Not less than one access opening shall be provided to allow inspection and cleaning of the tank interior. Access openings shall have an *approved* locking device or other *approved* method of securing the access opening. Underground storage tanks located outside of the building shall be provided with a manhole either not less than 24 inches (610 mm) square or with an inside diameter not less than 24 inches (610 mm). Manholes shall extend not less than 4 inches (102 mm) above ground or shall be designed to prevent water infiltration. Finished grade shall be sloped away from the

manhole to divert surface water. Manhole covers shall be secured to prevent unauthorized access. Service ports in manhole covers shall be not less than 8 inches (203 mm) in diameter and shall be not less than 4 inches (102 mm) above the finished grade level. The service port shall be secured to prevent unauthorized access.

**Exception:** Underground storage tanks less than 800 gallons (3028 L) in volume shall not be required to be equipped with a manhole, but shall have a service port not less than 8 inches (203 mm) in diameter.

**1301.9.8 Venting.** Storage tanks shall be provided with a vent sized in accordance with Table 906.5.1, based on the aggregate maximum flows of all tank influent pipes. The reservoir vent shall not be connected to sanitary drainage system vents. Vents shall be protected from contamination by means of an *approved* cap or U-bend installed with the opening directed downward. Vent outlets shall extend not less than 4 inches (102 mm) above grade or as necessary to prevent surface water from entering the storage tank. Vent openings shall be protected against the entrance of vermin and insects in accordance with the requirements of Section 1301.7.

**1301.9.9 Draining of tanks.** Where tanks require draining for service or cleaning, tanks shall be drained by using a pump or by a drain located at the lowest point in the tank. The tank drain pipe shall discharge as required for overflow pipes and shall not be smaller in size than specified in Table 606.5.7. Not less than one cleanout complying with Section 708 shall be provided on each tank drain pipe.

**1301.9.10 Marking and signage.** Each *nonpotable water* storage tank shall be marked with its rated capacity. The contents of *nonpotable water* storage tanks shall be identified with signage that reads as follows: "CAUTION: NONPOTABLE WATER — DO NOT DRINK." Where an opening is provided that could allow the entry of personnel, the opening shall be marked with signage that reads as follows: "DANGER — CONFINED SPACE." Markings shall be indelibly printed on the tank or on a tag or sign constructed of corrosion-resistant waterproof material that is mounted on the tank. The lettering of the signage required by this section shall be not less than 0.5 inch (12.7 mm) in height and shall be of a color that contrasts with the background on which it is applied.

**1301.9.11 Storage tank tests.** Storage tanks shall be tested in accordance with the following:

1. Storage tanks shall be filled with water to the overflow line prior to and during inspection.
2. All seams and joints shall be left exposed and the tank shall remain water tight without leakage for a period of 24 hours.
3. After 24 hours, supplemental water shall be introduced for a period of 15 minutes to verify proper drainage of the overflow system and that there are no leaks.

4. The tank drain valve shall be opened and the tank drain system shall be observed for proper operation.
5. After the drain valve is closed, the makeup water system shall be activated and observed for proper operation, and successful automatic shut-off of the system at the refill threshold shall be verified.

**1301.10 System abandonment.** If the owner of an *on-site nonpotable water reuse system* or *rainwater* collection and conveyance system elects to cease use of such system, the owner shall first obtain approval from the *code official* to abandon the system. If the owner of such system fails to properly maintain it, the *code official* is authorized to order abandonment or repair of the system, as deemed appropriate, in the interest of protection of public health and balancing equities, taking into account prior commitments and obligations of the owner and the benefit of maintaining such system. When the code official approves or orders an *on-site nonpotable water reuse system* or *rainwater* collection and conveyance system to be abandoned, such abandonment shall comply with the following:

1. All system piping connecting to a utility-provided water system shall be removed or disabled.
2. The distribution piping system shall be replaced with an *approved potable water* supply piping system. Where an existing potable pipe system is already in place, the fixtures previously served by the abandoned system shall be connected to the existing *potable water* system.
3. The storage tank shall be secured from accidental access by sealing or locking tank inlets and access points, or by filling it with sand or by an *approved* equivalent method.

**1301.11 Trenching requirements for nonpotable water piping.** *Nonpotable water* collection and distribution piping and *reclaimed water* piping shall be separated from the *building sewer* and *potable water* underground piping by 5 feet (1524 mm) of undisturbed or compacted earth. *Nonpotable water* collection and distribution piping shall not be located in, under or above cesspools, septic tanks, septic tank drainage fields or seepage pits. Buried *nonpotable water* piping shall comply with the requirements of Section 306.

**Exceptions:**

1. The required separation distance shall not apply where the bottom of the *nonpotable water* pipe within 5 feet (1524 mm) of the sewer is not less than 12 inches (305 mm) above the top of the highest point of the sewer and the pipe materials conform to Table 702.3.
2. The required separation distance shall not apply where the bottom of the *potable water* service pipe within 5 feet (1524 mm) of the *nonpotable water* pipe is a



minimum of 12 inches (305 mm) above the top of the highest point of the *nonpotable water* pipe and the pipe materials comply with the requirements of Table 605.4.

3. *Nonpotable water* pipe is permitted to be located in the same trench with a *building sewer*, provided that such sewer is constructed of materials that comply with the requirements of Table 702.2.
4. The required separation distance shall not apply where a *nonpotable water* pipe crosses a sewer pipe, provided that the pipe is sleeved to at least 5 feet (1524 mm) horizontally from the sewer pipe centerline on both sides of such crossing, with pipe materials that comply with Table 702.2.
5. The required separation distance shall not apply where a potable water service pipe crosses a *nonpotable water* pipe, provided that the *potable water* service pipe is sleeved for a distance of at least 5 feet (1524 min) horizontally from the centerline of the *nonpotable water* on both sides of such crossing, with pipe materials that comply with Table 702.2.
6. Irrigation piping located outside of a building and downstream of the backflow preventer is not required to meet the trenching requirements where *nonpotable water* is used for outdoor applications.

**1301.12 Outdoor outlet access.** Sillcocks, hose bibbs, wall hydrants, yard hydrants and other outdoor outlets supplied by *nonpotable water* shall be located in a locked vault or shall be operable only by means of a removable key.

### **1303 NONPOTABLE RAINWATER COLLECTION AND DISTRIBUTION SYSTEMS**

*Strike Section 1303.1 of the International Plumbing Code in its entirety and insert new Section 1303.1 into the Plumbing Code in its place to read as follows:*

**1303.1 General.** The provisions of Section 1303 shall govern the construction, installation, alteration and repair of *rainwater* collection and conveyance systems for the collection, storage, treatment and distribution of *rainwater* for nonpotable applications, as permitted by the District of Columbia.

*Strike Section 1303.2 of the International Plumbing Code in its entirety and insert new Section 1303.2 into the Plumbing Code in its place to read as follows:*

**1303.2 Collection surface.** *Rainwater* shall be collected only from above-ground impervious roofing surfaces constructed from *approved* materials. Collection of water from vehicular parking or pedestrian surfaces shall be prohibited except where the water is used exclusively for landscape irrigation.

*Strike Section 1303.4 of the International Plumbing Code in its entirety and insert a new Section 1303.4 into the Plumbing Code in its place to read as follows:*

**1303.4 Roof washer.** A sufficient amount of *rainwater* shall be diverted at the beginning of each rain event, and not allowed to enter the storage tank, to wash accumulated debris from the collection surface. The amount of rainfall to be diverted shall be field adjustable as necessary to minimize storage tank water contamination. The roof washer shall not rely on manually operated valves or devices, and shall operate automatically. Diverted *rainwater* shall not be drained to the roof surface, and shall be discharged in a manner consistent with the storm water runoff requirements of the District of Columbia. Roof washers shall be accessible for maintenance and service.

*Strike Section 1303.5.3 of the International Plumbing Code in its entirety and insert a new Section 1303.5.3 into the Plumbing Code in its place to read as follows:*

**1303.5.3 Cleanouts.** Cleanouts and access panels shall be provided in the water conveyance system to allow access to all filters, flushes, pipes and downspouts, for maintenance or removal of obstructions.

*Strike Section 1303.6 of the International Plumbing Code in its entirety and insert a new Section 1303.6 into the Plumbing Code in its place to read as follows:*

**1303.6 Drainage.** Water drained from the roof washer or debris excluder shall not be drained to the sanitary sewer. Such water shall be diverted from the storage tank and shall discharge in a location that will not cause erosion or damage to property in accordance with Section 1101.2. Roof washers and debris excluders shall be provided with an automatic means of self-draining between rain events, and shall not drain onto roof surfaces.

*Strike Section 1303.9 of the International Plumbing Code in its entirety and insert a new Section 1303.9 into the Plumbing Code in its place to read as follows:*

**1303.9 Disinfection.** Where the intended application for *rainwater* requires disinfection or other treatment or both, it shall be disinfected as needed to ensure that the required water quality is delivered at the point of use. Where chlorine is used for disinfection or treatment, water shall be tested for residual chlorine in accordance with ASTM D 1253. The levels of residual chlorine shall not exceed that allowed for the intended use in accordance with the requirements of the District of Columbia.

*Strike Section 1303.10.1 of the International Plumbing Code in its entirety and insert a new Section 1303.10.1 into the Plumbing Code in its place to read as follows:*

**1303.10.1 Location.** Storage tanks shall be located with a minimum horizontal distance between the tank and various elements as indicated in Table 1303.10.1.

*Strike Section 1303.13 of the International Plumbing Code in its entirety and insert a new Section 1303.13 into the Plumbing Code in its place to read as follows:*

**1303.13 Water pressure-reducing valve or regulator.** Where the water pressure supplied by the pumping system exceeds 80 psi (552 kPa) static, an *approved* water pressure-reducing valve shall be installed to reduce the pressure in the *rainwater* distribution system piping to 80 psi (552 kPa) static or less. Pressure-reducing valves shall be specified and installed in accordance with Section 604.8.

*Strike Section 1303.15.1 of the International Plumbing Code in its entirety and insert a new Section 1303.15.1 into the Plumbing Code in its place to read as follows:*

**1303.15.1 Roof gutter inspection and test.** Roof gutters shall be inspected to verify that the installation and slope is in accordance with Section 1303.5.1. Gutters shall be tested by pouring not less than 1 gallon (3.8 L) of water into the end of the gutter opposite the collection point. The gutter being tested shall not leak and shall not retain standing water.

*Strike Section 1303.15.5 of the International Plumbing Code in its entirety and insert a new Section 1303.15.5 into the Plumbing Code in its place to read as follows:*

**1303.15.5 Water supply system test.** The testing of makeup water supply piping and distribution piping utilized in *rainwater* collection and conveyance systems shall be conducted in accordance with Section 312.5.

*Strike Section 1303.15.8 of the International Plumbing Code in its entirety and insert a new Section 1303.15.8 into the Plumbing Code in its place to read as follows:*

**1303.15.8 Water quality test.** The quality of the water for the intended application shall be verified at the point of use in accordance with the requirements of the District of Columbia. Except where site conditions as specified in ASTM E 2727 affect the *rainwater*, collected *rainwater* shall be considered to have the parameters indicated in Table 1303.15.8.

*Strike Section 1304 of the International Plumbing Code in its entirety and insert a new Section 1304 into the Plumbing Code in its place to read as follows:*

## **1304 RECLAIMED WATER SYSTEMS**

**1304.1 General.** The provisions of this section shall govern the construction, installation, alteration and repair of systems supplying *reclaimed water*.

**1304.2 Water pressure-reducing valve or regulator.** Where the *reclaimed water* pressure supplied to the building exceeds 80 psi (552 kPa) static, an *approved* water pressure-reducing valve shall be installed to reduce the pressure in the *reclaimed water* distribution system piping to 80 psi (552 kPa) static or less. Pressure-reducing valves shall be specified and installed in accordance with Section 604.8.

**1304.3 Reclaimed water systems.** The design of the *reclaimed water* systems shall conform to

ASTM E 2635 and accepted engineering practice.

**1304.3.1 Distribution pipe.** Distribution piping shall comply with Sections 1304.3.1.1 through 1304.3.1.3.

**Exception:** Irrigation piping located outside of the building and downstream of a backflow preventer.

**1304.3.1.1 Materials, joints and connections.** Distribution piping conveying reclaimed water shall conform to standards and requirements specified in Section 605 for *nonpotable water*.

**1304.3.1.2 Design.** Distribution piping systems shall be designed and sized in accordance with Section 604 for the intended application.

**1304.3.1.3 Labeling and marking.** Nonpotable *reclaimed water* distribution piping labeling and marking shall comply with Section 608.8.

**1304.4 Tests and inspections.** Tests and inspections shall be performed in accordance with Sections 1304.4.1 and 1304.4.2.

**1304.4.1 Water supply system test.** The testing of makeup water supply piping and *reclaimed water* distribution piping shall be conducted in accordance with Section 312.5.

**1304.4.2 Inspection and testing of backflow prevention assemblies.** The testing of backflow preventers shall be conducted in accordance with Section 312.10.

**CHAPTER 14            SUBSURFACE LANDSCAPE IRRIGATION SYTSEMS**

*Strike Chapter 14 of the International Plumbing Code in its entirety without substitution.*

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov), not later than thirty (30) days after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-H DCMR FIRE CODE SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia has adopted the 2015 edition of the *International Fire Code* (IFC), as amended by this Supplement.

**IFC CHAPTERS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

CHAPTER 1	<u>SCOPE AND ENFORCEMENT</u> <del>ADMINISTRATION AND ENFORCEMENT</del>
CHAPTER 2	DEFINITIONS
CHAPTER 3	GENERAL REQUIREMENTS
CHAPTER 5	FIRE SERVICE FEATURES
CHAPTER 6	BUILDING SERVICES AND SYSTEMS
CHAPTER 9	FIRE PROTECTION SYSTEMS
CHAPTER 10	MEANS OF EGRESS
CHAPTER 11	CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS
CHAPTER 12	<u>[RESERVED]</u> <del>INTERIOR ENVIRONMENT</del>
CHAPTER 31	<del>TEMPORARY</del> <u>TENTS AND OTHER MEMBRANE STRUCTURES</u>
CHAPTER 56	EXPLOSIVES AND FIREWORKS
CHAPTER 61	LIQUEFIED PETROLEUM GASES
APPENDIX B	FIRE-FLOW REQUIREMENTS FOR BUILDINGS
APPENDIX C	FIRE HYDRANT LOCATIONS AND DISTRIBUTION
APPENDIX D	FIRE APPARATUS ACCESS ROADS
APPENDIX H	HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) AND HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) INSTRUCTIONS
<u>APPENDIX N</u>	<u>HOME DAY CARE</u>

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<sup>1</sup> The *District of Columbia Fire Code* (2017), referred to as the “*Fire Code*,” consists of the 2015 edition of the *International Fire Code* (International Fire Code), published by the International Code Council (ICC), as amended by the *Fire Code Supplement of 2017* (12-H DCMR). The International Fire Code is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be reviewed at: <https://codes.iccsafe.org/public/document/IFC2015>.

**CHAPTER 1      SCOPE AND ENFORCEMENT ADMINISTRATION AND ENFORCEMENT**

**PART 1            GENERAL PROVISIONS**

- 101    SCOPE AND GENERAL REQUIREMENTS**
- 102    APPLICABILITY**

**PART 2            ADMINISTRATIVE PROVISIONS**

- 103    FIRE AND EMERGENCY MEDICAL SERVICES DEPARTMENT**
- 104    GENERAL AUTHORITY AND RESPONSIBILITIES**
- 105    PERMITS**
- 106    INSPECTIONS**
- 107    MAINTENANCE**
- 108    APPEALS**
- 109    VIOLATIONS**
- 110    UNSAFE CONDITIONS**
- 111    EMERGENCY CONDITIONS**
- 112    SERVICE UTILITIES**
- 113    FEES**

**PART 1            GENERAL PROVISIONS**

**101                SCOPE AND GENERAL REQUIREMENTS**

*Strike Section 101 of the International Fire Code in its entirety and insert a new Section 101 in the Fire Code in its place to read as follows:*

**101.1 Title.** *The District of Columbia Fire Code (2017) shall consist of the 2015 edition of the International Fire Code as amended by the Fire Code Supplement of 2017 (12-H DCMR) of the District of Columbia Construction Codes Supplement of 2017.*

**101.2 Scope.** *The Fire Code establishes regulations affecting or relating to structures, processes, premises and safeguards regarding:*

- 1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices;*
- 2. Conditions hazardous to life, property or public welfare in the occupancy of structures or premises;*
- 3. Fire hazards in the structure or on the premises from occupancy or operation; and*
- 4. Conditions affecting the safety of fire fighters and emergency responders during emergency operations.*

**101.2.1 Appendices.** Provisions in the appendices of the *International Fire Code* shall not apply unless specifically adopted in the *Construction Codes Supplement*.

**101.3 Intent.** The purpose of the *Fire Code* is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing *buildings, structures* and *premises*, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

**101.4 Severability.** In the event that any part or provision of the *Construction Codes* is held to be illegal or void, this shall not have the effect of making void or illegal any other parts or provisions of the *Construction Codes*.

**101.4.1 Severance of Invalid Provisions.** Any illegal or void part of the *Construction Codes* shall be severed from the remainder of the *Construction Codes* by the court holding such part illegal or void, and the remainder of the *Construction Codes* shall remain effective.

**101.4.2 Decisions Involving Existing Structures.** The invalidity of any provision in any section of the *Construction Codes* as applied to *existing buildings* and other *structures* shall not be held to affect the validity of such section in its application to *buildings* and other *structures* erected after the effective date of the *Construction Codes*.

## 102 APPLICABILITY

*Strike Section 102 of the International Fire Code in its entirety and insert a new Section 102 in the Fire Code in its place to read as follows:*

**102.1 Buildings and Property.** The *Fire Code* shall be applicable to all *premises*, and conditions within the limits of the District of Columbia, including *premises* owned, occupied or controlled by the Government of the District of Columbia or any of its independent agencies.

**102.1.1 Foreign Missions.** The provisions of the *Fire Code* shall apply to those *premises*, or any portion thereof, occupied by or for any foreign government as an embassy or chancery, to the extent provided for in Section 206 of the Foreign Missions Act, approved August 24, 1982 (96 Stat. 286; D.C. Official Code § 6-1306(g) (2018 Repl.)).

**102.1.2 Federal Premises.** The *Fire Code* shall not apply to *premises* owned by the United States of America. *Premises* under the exclusive control of an officer of the United States government in his or her official capacity shall be deemed to be owned by the United States of America for purposes of this section, provided that the *premises* shall not be deemed to be under the exclusive control of an officer of the United States government where (a) the *premises* (or portions thereof) are leased to the United States of America, but the lessor is responsible for maintenance and repairs to the leased *premises*; or (b) the *premises* are owned by the United States of America, but leased to a *person* or



*persons* other than the United States of America for development pursuant to a long-term ground lease or comparable property interest.

**102.2 Administrative, Operational and Maintenance Provisions.** The administrative, operational and maintenance provisions of the *Fire Code* shall apply to:

1. Conditions and operations arising after the adoption of the *Fire Code*; and
2. Existing conditions and operations.

**102.3 Other Construction Codes Requirements.** Except as provided in Section 102.10, nothing in the *Fire Code* shall negate or modify permit, certificate of occupancy or other applicable requirements set forth in the *Construction Codes*, including, but not limited to, those set forth in Sections 102.3.1 through 102.3.45.

**102.3.1 Change in Use, Load or Floor Layout.** Any change in the use, occupancy load or tenant floor layout of any *structure* or portion thereof shall comply with the applicable provisions of the *Construction Codes*, including, but not limited to, Section 110.1.3 of Title 12-A DCMR.

**102.3.2 Application of Building Code and Existing Building Code.** The design and construction of new *structures* shall comply with the *Building Code* or *Residential Code* as applicable. Any alterations, additions, changes in use or occupancy, or changes in *structures* required by the *Fire Code*, which are within the scope of the *Building Code*, or the *Existing Building Code*, must comply with the *Building Code* or the *Existing Building Code* as applicable.

**102.3.3 Fire Protection Systems.** Where interior or exterior fire protection systems or devices are installed or altered, such systems or devices are subject to the permit application, fire protection documents, inspection and other applicable requirements set forth in Chapter 1 of Title 12-A DCMR.

**102.3.4 Application of Property Maintenance Code.** *Owners* and *tenants* of *premises* shall also comply with applicable property maintenance provisions as set forth in the *Property Maintenance Code*.

**102.4 Application of Fire Code to Structures Subject to the Residential Code.** Where *structures* are designed and constructed in accordance with the *Residential Code*, the provisions of the *Fire Code* shall apply as follows:

1. **Construction and design provisions:** Provisions of the *Fire Code* pertaining to the exterior of the *structure* shall apply including, but not limited to, *premises* identification, fire apparatus access, and water supplies. Where interior or exterior fire protection systems or devices are installed, the provisions of the *Fire Code* shall also apply.

2. **Administrative, operational and maintenance provisions:** All such provisions of the *Fire Code* shall apply.

**102.5 [Reserved].**

**102.6 Historic Buildings.** The provisions of the *Fire Code* relating to the construction, *alteration*, repair, enlargement, restoration, relocation or moving of *buildings* or *structures* shall not be mandatory for historic *buildings* or *structures* meeting the requirements of Chapter 12 of the *Existing Building Code*, when such *buildings* or *structures* are judged by the *code official* not to constitute a distinct hazard to life or property. The *code official* is authorized to approve a fire protection plan developed in accordance with the provisions of National Fire Protection Association (NFPA) Standard 909 for any designated historic *building* or *structure*.

**102.7 Referenced Codes and Standards.** The codes and standards referenced in the *Fire Code* shall be those that are listed in Chapter 80 of the *Fire Code*, and such codes and standards shall be considered to be part of the requirements of the *Fire Code* to the prescribed extent of each such reference. Where differences occur between the provisions of the *Fire Code* and the referenced standards, the provisions of the *Fire Code* shall apply.

**102.8 Subjects Not Regulated by the Fire Code.** Where applicable standards or requirements are not set forth in the *Fire Code*, or are contained within other laws, codes, regulations or ordinances adopted by the District of Columbia, compliance with applicable standards of the National Fire Protection Association (NFPA) or other nationally recognized fire safety standards, as *approved* by the *code official*, shall be deemed as *prima facie* evidence of compliance with the intent of the *Fire Code*. Nothing herein shall derogate from the authority of the *code official* to determine compliance with codes or standards for those activities or installations within *the code official's* jurisdiction or responsibility.

**102.9 Matters Not Provided For.** Requirements that are essential for the public safety of an existing or proposed activity, *building* or *structure*, or for the safety of the occupants thereof, which are not specifically provided for by the *Fire Code*, shall be determined by the *code official*.

**102.10 Code Precedence.** Unless otherwise provided herein, or in the *Construction Codes Act* (as defined in Section 202.2 of the *Building Code*), ~~Construction Codes Approval and Amendments Act of 1986, effective March 21, 1987 as amended (D.C. Law 6-216; D.C. Official Code §§ 6-1401 et seq. (2012 Repl.))~~ (“*Construction Codes Act*”), the *Construction Codes Supplement* shall take precedence over the *Construction Codes Act*, and the *Construction Codes Supplement* shall take precedence over the Model Codes (as defined in Section 101.1 of the *Building Code*), including standards and amendments.

**102.10.1 Conflicts.** Where, in any specific case, different sections of the *Construction Codes* specify different materials, methods of construction or other requirements, the most restrictive shall govern. When there is a conflict between a general requirement and a specific requirement within the *Construction Codes*, the specific requirement shall be applicable.

If conflict arises between the provisions of the *Construction Codes Act* and the *Construction Codes Supplement*, ~~the *Model Codes* (as defined in Section 101.1 of the *Building Code*)~~, or their referenced standards, the provisions of the *Construction Codes Act* shall take precedence. If conflict arises between the *Construction Codes Supplement*, the *Model Codes*, and their referenced standards:

1. The provisions of the *Construction Codes Supplement* shall take precedence over the *Model Codes* and their referenced standards.
2. The provisions of the *Model Codes*, other than their referenced standards, shall take precedence over their referenced standards.

**102.11 Other Laws.** The provisions of this *Fire Code* shall not be deemed to nullify any provisions of District or federal law.

**102.12 Application of References.** References in this Chapter 1 to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of the *Fire Code*.

**102.13 Flood Hazard Areas.** The storage in a *flood hazard area* of equipment or materials that are listed as dangerous materials in 20 DCMR § 3106.2, shall comply with the requirements of the *Floodplain Management Regulations of the District of Columbia*.

**102.14 Private Fire Hydrants.** The installation, maintenance, repair and replacement of private fire hydrants shall comply with the provisions of the Private Fire Hydrant Act of 2010, effective March 31, 2011 (D.C. Law 18-337; D.C. Official Code §§ 34-2410.01 *et seq.* (2012 Repl.)) (“Private Fire Hydrant Act”).

## PART 2 ADMINISTRATIVE PROVISIONS

### 103 FIRE AND EMERGENCY MEDICAL SERVICES DEPARTMENT

*Strike Section 103 of the International Fire Code in its entirety and insert a new Section 103 in the Fire Code in its place to read as follows:*

**103.1 Code Official for the Fire Code.** The Fire Chief of the District of Columbia Fire and Emergency Medical Services Department (“Fire Chief”) shall be the *code official* for the enforcement of the *Fire Code*, except that the Director of the Department of Consumer and Regulatory Affairs (“DCRA”) shall be the *code official* for enforcement of all provisions of the *Fire Code* pertaining to approval, installation, design, testing, and inspection of (a) new fire protection systems and (b) modifications of existing fire protection systems. The Fire Chief shall be the *code official* for maintenance, testing and inspection of all existing fire protection systems. References to the term “*Department*” within the *Fire Code* shall mean the District of Columbia Fire and Emergency Medical Services Department.

**103.1.1 Enforcement by DCRA Director.** The provisions of 12-A DCMR, Chapter 1,

shall apply to the enforcement by the DCRA Director of all *Fire Code* provisions pertaining to approval, installation, design, modification, maintenance, testing and inspection of all new and existing fire protection systems.

**103.2 Duties and Powers of the Code Official.** The duties and powers of the *code official* are set forth in Section 104.1.

**103.3 Delegation of Authority.** The *code official* shall have the authority to delegate his or her duties and powers under the *Fire Code*, but he or she shall remain responsible for the proper performance of those duties and powers regardless of any such delegation.

**103.4 Organization.** The *code official* shall appoint such number of officers, technical assistants, inspectors and other employees as shall be necessary for the administration of the *Fire Code* and as authorized by the appointing authority.

**103.5 Deputy.** The *code official* is authorized to designate an employee of DCRA or the *Department*, as applicable, as deputy who shall exercise all the powers of the *code official* during the temporary absence or disability of the *code official*.

**103.6 Conflicts of Interest.** No official or employee of the *Department* shall directly or indirectly engage in any private business transaction or activity that tends in any way to interfere with the performance of his or her duties, including:

1. **Furnishing of Services.** Being engaged in, or directly or indirectly connected with, the furnishing of labor, materials or appliances for the construction, *alteration* or maintenance of a *building* or *structure* under the jurisdiction of the *Construction Codes*, or the preparation of plans or specifications of a *building* or *structure* under the jurisdiction of the *Construction Codes*, unless the official or employee is the principal owner of the *building* or *structure*.
2. **Conflict with Official Duties.** Being engaged in any work which conflicts with official duties or with the interest of the *Department*.
3. **Private Work.** Directly or indirectly engaging with or accepting remuneration from any private person, firm, or corporation for the performance of any work as a designer, architect, engineer, consultant or inspector, which work is to be submitted to, passed upon, reviewed, or inspected by any officer of the District of Columbia charged with the administration of any portion of the *Construction Codes*.

~~**103.7 Relief from personal liability for official duties.** The *code official* and any officials and employees of the *Department* charged with enforcement of the *Construction Codes*, while acting in their official capacity, shall not be liable personally for any act or omission while he or she is acting within the scope of his or her employment.~~

~~**103.7.1 Defense of suits.** The Office of the Attorney General is authorized to defend, at its sole discretion, the *code official* or any officer or employee of the *Department* in any~~

~~suit instituted against that individual for actions taken or omissions made while acting within the scope of his or her employment.~~

**103.7 Liability.** The *code official*-or *Department* employee charged with the enforcement of the *Construction Codes*, the *Zoning Regulations* or other pertinent laws or regulations, while acting for the District of Columbia in good faith and without malice in the discharge of the duties required by the *Construction Codes*, the *Zoning Regulations* or other pertinent laws or regulations, shall not thereby be civilly or criminally rendered liable personally and are is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

**103.7.1 Legal defense.** Any suit or criminal complaint instituted against an officer or employee of the *Department* because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of the *Construction Codes*, the *Zoning Regulations* or other pertinent laws or regulations shall be defended by legal representatives of the District of Columbia until the final termination of the proceedings. The *code official* or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of the *Construction Codes*, the *Zoning Regulations* or other pertinent laws or regulations enforced by the *Department*.

## 104 GENERAL AUTHORITY AND RESPONSIBILITIES

*Strike Section 104 of the International Fire Code in its entirety and insert a new Section 104 in the Fire Code in its place to read as follows:*

**104.1 General.** The *code official* is hereby authorized to enforce the provisions of the *Fire Code*, and shall have the authority to render interpretations of the *Fire Code* and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies, and procedures shall be in compliance with the intent and purpose of the *Fire Code* and shall not have the effect of waiving requirements specifically provided for in the *Fire Code*.

**104.1.1 Administrative Bulletins.** The *code official* shall have the authority to promulgate, from time to time, *administrative bulletins* that shall be effective upon publication in the *D.C. Register*. *Administrative bulletins* shall be titled, numbered, and dated. *Administrative bulletins* shall be publically available at the *Department's* permit center and shall be posted on the *Department's* website. The *code official* shall maintain on the *Department's* website the same *administrative bulletins* as available at the *Department's* permit center.

**104.1.2 Amendment of the Fire Code.** Amendment of the *Fire Code* shall be governed by Section 122 of Title 12-A DCMR, which is incorporated by reference.

**104.2 Applications and Permits.** The *code official* is authorized to receive applications, review construction documents and issue permits for construction regulated by the *Fire Code*, issue permits for operations regulated by the *Fire Code*, inspect the *premises* for which such permits have been issued, and enforce compliance with the provisions of the *Fire Code*.

**104.3 Right of Entry.** Where it is necessary to make an inspection to enforce the provisions of the *Construction Codes*, the *code official* is authorized to enter the *premises*, or any part thereof, at reasonable times to inspect or to perform the duties imposed by the *Construction Codes*, subject to applicable law. This authority includes, but is not limited to, circumstances where the *code official* has reasonable cause to believe that a condition exists in or upon a *premises* that is contrary to or in violation of the *Construction Codes*. When attempting to gain entrance for inspection, the *code official* and authorized representatives thereof shall show official credentials.

**104.3.1 Occupied Dwelling Units and Sleeping Units.** The *code official* shall not enter an occupied *dwelling unit* or *sleeping unit* to conduct an inspection without first having obtained permission from the occupant, *tenant* or other *person* of suitable age and discretion who resides there.

**Exceptions:** Circumstances where:

1. The *code official* has obtained a valid administrative search warrant which permits the inspection pursuant to D.C. Official Code § 11-941 (2012 Repl.) or D.C. Superior Court Civil Rule 204.
2. The *code official* has a reasonable basis to believe that an emergency condition exists requiring immediate entry into that portion of the *premises*.
3. Where the occupant or *tenant* of the *dwelling unit* or *sleeping unit* has given access or control to a contractor or other *person* to undertake work on the *dwelling unit* or *sleeping unit* pursuant to a permit issued by the *Department*, the *code official* is authorized to obtain consent from the contractor or other *person* with common authority over the *sleeping unit* or *dwelling unit* to enter such unit for the limited purpose of inspecting the work authorized by such permit.

**104.4 Identification.** The *code official*, and all authorized representatives of the *code official*, shall carry proper credentials when inspecting *premises* in the performance of duties under the *Fire Code*, and shall present them when requested.

**104.5 Notices and Orders.** The *code official* is authorized to issue such notices or orders as are required to effect compliance with the *Fire Code* in accordance with Section 109 Violations.

**104.6 Retention of Public Records.** The *code official* shall comply with the requirements of the District of Columbia Public Records Management Act of 1985 as amended (D.C. Law 6-19, as amended; D.C. Official Code, Title 2, Chapter 17 (2016 Repl. & 2018 Supp.)). Public records of the *Department* shall be maintained for the period of time required by law. Such records shall be maintained so long as the *building* or other *structure* to which they relate remains in existence, unless otherwise provided for by statute, rule or regulation. Public records include, but are not limited to, the records required by Sections 104.6.1 through 104.6.4.

**104.6.1 Approvals.** A record of all approvals shall be maintained by the *code official* and shall be available for public inspection during business hours in accordance with applicable laws.

**104.6.2 Inspections.** The *code official* shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

**104.6.3 Fire Records.** The *Department* shall keep a record of fires occurring within the District of Columbia and of facts concerning the same, including statistics as to the extent of such fires and the damage caused thereby, together with other information as required by the *code official*.

**104.6.4 Administrative.** Applications for modification of *Fire Code* requirements and for approval of alternative methods or materials, and the final decision of the *code official* with respect to such applications, shall be in writing and shall be officially recorded in the permanent records of the *Department*.

**104.7 Access to Public Records.** Access to the public records of the *Department* is governed by the Freedom of Information Act, effective March 25, 1977 (D.C. Law 1-96; D.C. Official Code §§ 2-531 *et seq.* (2016 Repl. & 2018 Supp.)) (the “Freedom of Information Act”). The public records of the *Department* (as the term “public records” is defined in D.C. Official Code § 2-502(18) (2016 Repl. & 2018 Supp.)) shall be available for inspection and copying subject to the exemptions and procedures set forth in the Freedom of Information Act. Fees for services rendered in response to information requests, including researching and copying any requested documents, are set forth in 1 DCMR § 408.

**Exception:** Advisory Neighborhood Commissioners shall not be required to pay a fee for researching and copying requested documents intended for official ANC purposes.

**104.8 Technical Assistance.** To determine the acceptability of technologies, processes, products, facilities, materials and uses attending the design, operation or use of a *premises*, portion thereof or equipment thereon, subject to inspection by the *code official*, the *code official* is authorized to require the owner or *owner's* authorized agent to provide, without charge to the District of Columbia government, a technical opinion and report. The opinion and report shall be prepared by a qualified engineer, specialist, laboratory, or fire safety specialty organization acceptable to the *code official* and shall analyze the fire safety properties of the design, operation or use of the *premises* and equipment thereon to recommend necessary changes. The *code official* is authorized to require design submittals to be prepared by, and bear the stamp of, a *registered design professional*.

**104.9 Modifications.** Whenever there are practical difficulties involved in carrying out the provisions of the *Fire Code*, the *code official* shall have the authority to grant modifications for individual cases, provided the *code official* shall first find that special individual reason makes compliance with the strict letter of the *Fire Code* impractical, that the modification is in compliance with the intent and purpose of the *Fire Code*, and that such modification does not lessen requirements regarding health, life and fire safety. The details of any action granting

modifications shall be recorded and entered in the *Department's* files, and shall be in accordance with Section 104.10 of the *Building Code*.

**104.10 Alternative Materials and Methods.** The provisions of the *Fire Code* are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by the *Fire Code*, provided that any such alternative has been *approved* as specified in Section 104.11 of the *Building Code*. The *code official* is authorized to approve an alternative material or method of construction where the *code official* finds that: (1) the proposed design is satisfactory and complies with the intent of the provisions of the *Fire Code*, and (2) that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in the *Fire Code* in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not approved, the *code official* shall respond in writing, stating the reasons why the alternative was not approved.

**104.10.1 Research Reports.** Supporting data, when necessary to assist in the approval of materials or assemblies not specifically provided for in the *Fire Code*, shall consist of valid research reports from sources *approved* by the *code official*.

**104.10.2 Tests.** The *code official* shall have the authority to require tests as evidence of compliance, at no expense to the District of Columbia government, whenever there is insufficient evidence of compliance with the provisions of the *Fire Code*, or evidence that a material or method does not conform to the requirements of the *Fire Code*, or in order to substantiate claims for alternative materials or methods. Test methods shall be as specified in the *Fire Code* or by other recognized test standards. In the absence of recognized and accepted test methods, the *code official* shall approve the testing procedures. Tests shall be performed by an *approved agency*. Reports of such tests shall be retained by the *code official* for the period required for retention of public records.

#### **104.11 Fire Investigations.**

**104.11.1 Fire and Arson Investigation Authority.** The Fire Chief, the Fire Marshal, and his or her authorized representative(s) shall have the authority to investigate the cause, origin, and circumstances of every fire, explosion, or hazardous materials emergency in which the *Department* has a reasonable interest. When the Fire Chief, the Fire Marshal, or their authorized representative(s) have reason to believe that a fire, explosion, or hazardous materials incident may be the result of any violation of the law, he or she shall immediately take custody of and safeguard all physical evidence in connection therewith, and shall have the authority to prohibit the disturbance or removal of any materials, substance, device, or utility in or upon any *building* or *premises* where an incident occurred, until the investigation of the incident is complete. However, the Metropolitan Police Department shall be the primary investigative agency in incidents involving critical injury, death, or assaults with intent to kill.

**104.11.2 Fire Records.** The Fire Chief shall keep a record of all fires and related facts, including investigation findings and statistics and information about the cause, origin and extent of any fires and related damage.



**104.11.3 Authority to Enter and Examine.** The Fire Chief, the Fire Marshal or his or her authorized representative(s) shall have the authority at all times, in performance of the duties imposed by the provisions of the *Fire Code*, to enter upon or examine any area, *building* or *premises*, vehicle or other thing when there is a probable cause to believe that fires or attempts to cause fires exist. The Fire Chief, Fire Marshal or authorized representative(s) shall have the authority to enter, at any time, any *building* or *premises* adjacent to that at which the fire or attempt to cause fires has occurred, should they deem it necessary in the proper discharge of their duties; and are further authorized, in their discretion, to take full control and custody of such *buildings* and *premises* and place such person in charge thereof as they may deem proper until their examination and investigation is completed.

**104.11.4 Arrest and Warrant Powers.** The Fire Marshal, and any other personnel designated in writing by the Fire Chief, shall have and exercise, and are hereby invested with, the same general police powers, including arrest powers, as regular members of the Metropolitan Police Department, for the express and limited purpose of enforcing the fire safety laws in effect in the District of Columbia, including, but not limited to, the *Fire Code*. This power shall extend to any arrest, the securing of warrants pursuant to Chapter 5 of Title 23 of the D.C. Official Code, or other lawful action necessary to permit the peaceful completion of any lawful action by the *Department*.

**104.11.5 Assistance from Other Agencies.** Police and other enforcement agencies shall have authority to render necessary assistance in the investigation of fires when requested to do so.

**104.11.6 Authority at Fires and Other Emergencies.** The Fire Chief or officer of the *Department* in charge at the scene of a fire or other emergency involving the protection of life or property or any part thereof, shall have the authority to direct such operation as necessary to extinguish or control any fire, perform any rescue operation, investigate the existence of suspected or reported fires, gas leaks or other hazardous conditions or situations, or take any other action necessary in the reasonable performance of duty. In the exercise of such power, the fire chief is authorized to prohibit any person, vehicle, vessel or thing from approaching the scene and is authorized to remove, or cause to be removed or kept away from the scene, any vehicle, vessel or thing which could impede or interfere with the operations of the *Department* and, in the judgment of the *code official*, any person not actually and usefully employed in the extinguishing of such fire or in the preservation of property in the vicinity thereof.

**104.11.6.1 Barricades.** The Fire Chief or officer of the *Department* in charge at the scene of an emergency is authorized to place ropes, guards, barricades or other obstructions across any street, alley, place or private property in the vicinity of such operation so as to prevent accidents or interference with the lawful efforts of the *Department* to manage and control the situation and to handle fire apparatus.

**104.11.6.2 Obstructing Operations.** No person shall obstruct the operations of

the *Department* in connection with extinguishment or control of any fire, or actions relative to other emergencies, or disobey any lawful command of the *code official* or officer of the *Department* in charge of the emergency or any part thereof, or any lawful order of a police officer assisting the *Department*.

**104.11.6.3 Systems and devices.** No person shall render a fire protection system or device inoperative during an emergency unless by direction of the *code official* or *Department* official in charge of the incident.

## 105 PERMITS

*Strike Section 105 of the International Fire Code in its entirety and insert a new Section 105 in the Fire Code in its place to read as follows:*

**105.1 General.** Permits shall be in accordance with Sections 105.1.1 through 105.6.47.

**105.1.1 Permits Required.** Permits required by the *Fire Code* shall be obtained by the *owner* or *owner's* authorized agent from the *code official*. Permit fees, if any, shall be paid prior to issuance of the permit. Issued permits shall be kept on the *premises* designated therein at all times and shall be readily available for inspection by the *code official*.

**105.1.2 Operational Permits.** An operational permit allows the applicant to conduct an operation or a business for which a permit is required by Section 105.6 for either:

1. A prescribed period; or
2. Until renewed or revoked.

**105.1.2.1 Installation Permits.** An installation permit allows the applicant to install systems or equipment involving flammable or combustible liquids or material for which a permit is required by Section 105.7.

**105.1.3 Permits for the Same Location.** When more than one permit is required for the same location, the *code official* is authorized to consolidate such permits into a single permit, provided that each provision of those permits is listed in the consolidated permit.

**105.1.4 President or Vice President's Residence.** No permit required under the *Fire Code* shall be issued if it is determined by the *code official* that:

1. The permit affects an area in close proximity to the official residence of the President or Vice-President of the United States; and
2. The United States Secret Service has established and stated in writing that the issuance of the permit would adversely impact the safety and security of the President or Vice-President of the United States.

**105.2 Application.** Application for a permit required by the *Fire Code* shall be made to the *code official* in such form and detail as prescribed by the *code official*. Applications for permits shall be accompanied by such plans or other documents as prescribed by the *code official*.

**105.2.1 Refusal to Issue Permit.** If the application for a permit describes a use that does not conform to the requirements of the *Fire Code* and other pertinent laws and ordinances, the *code official* shall not issue a permit, but shall return the application to the applicant with the refusal to issue such permit. Such refusal shall, when requested, be in writing and shall contain the reasons for refusal.

**105.2.2 Inspection Authorized.** Before a new operational permit is *approved*, the *code official* is authorized to inspect the receptacles, vehicles, *buildings*, devices, *premises*, equipment, storage spaces or areas to be used to determine compliance with the *Fire Code* or any operational constraints required.

**105.2.3 Time Limitation of Application.** An application for a permit for any proposed work or operation shall be deemed to have been abandoned by the applicant 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the *code official* is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. Any extension shall be requested in writing and demonstrate justifiable cause for the extension

**105.2.4 Action on Application.** The *code official* shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform to the requirements of pertinent laws, the *code official* shall reject such application in writing, stating the reasons therefore. If the *code official* is satisfied that the proposed work or operation conforms to the requirements of the *Fire Code* and laws and ordinances applicable thereto, the *code official* shall issue a permit therefore as soon as practicable.

**105.3 Conditions of a Permit.** Where a permit is required by Sections 105.6 or 105.7, the permit shall constitute permission, as applicable: (1) to maintain, store or handle materials; (2) to conduct processes which produce conditions hazardous to life or property; (3) to install equipment utilized in connection with such activities; or (4) to install systems of equipment involving flammable or combustible liquids or materials in accordance with the provisions of the *Fire Code*. Such permission shall not be construed as authority to violate, cancel or set aside any provisions of the *Fire Code* or other applicable regulations or laws of the District of Columbia.

**105.3.1 Expiration.** An operational permit shall remain in effect until reissued, renewed, or revoked or for such a period of time as specified in the permit.

**105.3.1.1 Transferability of permits.** Operational permits issued pursuant to Section 105.6 are not transferable, and a new permit must be obtained where there is a change in the *person* conducting an operation or business, or a transfer of the *premises*, for which a permit has been issued.

**105.3.2 Occupancy Prohibited Before Approval.** A *building* or *structure* shall not be occupied prior to the *code official* issuing a permit and conducting associated inspections indicating that the applicable provisions of the *Fire Code* have been met.

**105.3.3 Conditional Permits.** Where permits are required and upon the request of a permit applicant, the *code official* is authorized to issue a conditional permit to occupy the *premises* or portion thereof before the entire work or operations on the *premises* is completed; provided, that such portion or portions will be occupied safely prior to full completion or installation of equipment and operations without endangering life or public welfare. The *code official* shall notify the permit applicant in writing of any limitations or restrictions necessary to keep the permit area safe. The holder of a conditional permit shall proceed only to the point for which approval has been given, at the permit holder's own risk and without assurance that approval for the occupancy or the utilization of the entire *premises*, equipment or operations will be granted.

**105.3.4 Posting the Permit.** Issued permits shall be kept on the *premises* designated therein at all times and shall be readily available for inspection by the *code official*.

**105.3.5 Compliance with *Fire Code*.** The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of the *Fire Code* or of any other law or regulation of the District of Columbia. Permits presuming to give authority to violate or cancel the provisions of the *Fire Code* or other law or regulation of the District of Columbia shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the *code official* from requiring the correction of errors in the construction documents and other data. Any addition to or alteration of *approved* construction documents shall be *approved* in advance by the *code official*, as evidenced by the issuance of a new or amended permit.

**105.3.6 Information on the Permit.** The *code official* shall issue all permits required by the *Fire Code* on an *approved* form furnished for that purpose. The permit shall contain a general description of the operation or occupancy and its location and any other information required by the *code official*. Issued permits shall bear the signature of the *code official* or other *approved* legal authorization.

**105.4 Revocation.** Without precluding the imposition of any other remedies or penalties authorized under the *Fire Code*, or other District of Columbia regulations or statutes, the *code official* is authorized to revoke a permit issued under the provisions of the *Fire Code* for any of the following conditions:

1. The permit is used for a location or establishment other than that for which it was issued.
2. The permit is used for a condition or activity other than that listed in the permit.
3. Any of the conditions or limitations set forth in the permit has been violated.

4. There have been any false statements or misrepresentations as to the material facts in the application for permit or on the plans on which a permit or approval was based.
5. The permit is used by a different *person* than the *person* in whose name the permit was issued.
6. The permittee failed, refused or neglected to comply with orders or notices duly served in accordance with the provisions of the *Fire Code* within the time provided therein.
7. The permit was issued in error or in violation of an ordinance, regulation or the *Fire Code*.

**105.4.1 Effective date of revocations.** Revocations based on Section 105.4 shall become final upon occurrence of one of the following conditions:

1. The permit holder fails to timely request a hearing from the Office of Administrative Hearings within 15 days of the date of service of the notice of revocation pursuant to Section 108.1; or
2. The Office of Administrative Hearings finds that grounds exist to revoke the permit following a hearing requested by the permit holder pursuant to Section 108.1.

**105.4.2 Cancellations.** The *code official* shall have the right to declare a permit null and void, if the Fire Department determines that the permit was erroneously issued as the result of administrative or clerical error and notifies the permit holder of the error within five business days of permit issuance. Upon such notification, the permit holder shall promptly surrender the permit for cancellation; however, the failure to surrender the permit voluntarily for cancellation shall not affect its invalidity and the permit shall be cancelled upon notification to the permit holder in accordance with Section 109.2.1.

**105.5 Approved materials and equipment.** All materials, equipment and devices *approved* by the *code official* shall be constructed and installed in accordance with such approval.

**105.5.1 Material and equipment reuse.** Materials, equipment and devices shall not be reused or reinstalled unless such elements have been reconditioned, tested and placed in good and proper working condition and *approved*.

**105.6 Required Operational Permits.** The *code official* is authorized to issue operational permits for the operations set forth in Sections 105.6.1 through 105.6.47.

**105.6.1 Aerosol Products.** An operational permit is required to manufacture, store or handle an aggregate quantity of Level 2 or Level 3 aerosol products in excess of 500 pounds (227 kg) net weight.

**105.6.2 Amusement Buildings.** An operational permit is required to operate a *special amusement building*.

**105.6.3 Aviation Facilities.** An operational permit is required to use Group H or Group S occupancy for aircraft servicing or repair and aircraft fuel-servicing vehicles. Additional permits required by other sections of the *Fire Code* include, but are not limited to, *hot work*, *hazardous materials* and *flammable finishes* or combustible finishes.

**105.6.4 Carbon dioxide systems used in beverage dispensing applications.** An operational permit is required for carbon dioxide systems used in beverage dispensing applications having more than 100 pounds of carbon dioxide.

**105.6.5 Carnivals and Fairs.** An operational permit is required to conduct a carnival or fair.

**105.6.6 Cellulose Nitrate Film.** An operational permit is required to store, handle or use cellulose nitrate film in a Group A occupancy.

**105.6.7 Combustible Dust-Producing Operations.** An operational permit is required to operate a grain elevator, flour, starch mill, feed mill, or a plant pulverizing aluminum, coal, cocoa, magnesium, spices or sugar, or other operations producing *combustible dusts* as defined in Chapter 2.

**105.6.8 Combustible Fibers.** An operational permit is required for the storage and handling of *combustible fibers* in quantities greater than 100 cubic feet (2.8 m3).

**Exception:** A permit is not required for agricultural storage.

**105.6.9 Compressed Gases.** An operational permit is required for the storage, use or handling at *normal temperature and pressure* (NTP) of *compressed gases* in excess of the amounts listed in Table 105.6.8.

**Exception:** Vehicles equipped for and using *compressed gas* as a fuel for propelling the vehicle.

**TABLE 105.6.9  
PERMIT AMOUNTS FOR COMPRESSED GASES**

TYPE OF GAS	AMOUNT (cubic feet at NTP)
Corrosive	200
Flammable (except cryogenic fluids and liquefied petroleum gases)	200
Highly toxic	Any amount
Inert and simple asphyxiant <sup>a</sup>	6,000

Oxidizing (including oxygen)	504
Pyrophoric	Any amount
Toxic	Any amount

For SI: 1 cubic foot = 0.02832 m<sup>3</sup>

**a. For carbon dioxide used in beverage dispensing applications, See Section 105.6.4.**

**105.6.10 Covered Mall Buildings.** An operational permit is required for:

1. The placement of retail fixtures and displays, concession equipment, displays of highly combustible goods and similar items in the mall.
2. The display of liquid- or gas-fired equipment in the mall.
3. The use of open-flame or flame-producing equipment in the mall.

**105.6.11 Cryogenic Fluids.** An operational permit is required to produce, store, transport on site, use, handle or dispense cryogenic fluids in excess of the amounts listed in Table 105.6.10.

**Exception:** Permits are not required for vehicles equipped for and using cryogenic fluids as a fuel for propelling the vehicle or for refrigerating the lading.

**TABLE 105.6.11  
PERMIT AMOUNTS FOR CRYOGENIC FLUIDS**

TYPE OF CRYOGENIC FLUID	INSIDE BUILDING (gallons)	OUTSIDE BUILDING (gallons)
Flammable	More than 1	60
Inert	60	500
Oxidizing (including oxygen)	10	50
Physical or health hazard not indicated above	Any amount	Any amount

For SI: 1 gallon =3.785L

**105.6.12 Cutting and Welding.** An operational permit is required to conduct cutting or welding operations in the District of Columbia.

**105.6.13 Dry Cleaning Plants.** An operational permit is required to engage in the business of dry cleaning or to change to a more hazardous cleaning solvent used in existing dry cleaning equipment.

**105.6.14 Exhibits and trade shows.** An operational permit is required to operate

exhibits and trade shows.

**105.6.15 Explosives.** An operational permit is required for the manufacture, storage, handling, sale or use of any quantity of explosives, explosive materials, fireworks or pyrotechnic special effects within the scope of Chapter 56.

**Exception:** Storage in Group R-3 occupancies of smokeless propellant, black powder and small arms primers for personal use, not for resale and in accordance with Section 3306.

**105.6.16 Fire Hydrants and Valves.** A DC Water operational permit is required to use or operate fire hydrants or valves intended for fire suppression purposes which are installed on water systems and accessible to a fire apparatus access road that is open to or generally used by the public.

**Exception:** A permit is not required for the fire department or for fire hydrant operations performed by or on behalf of DC Water or an agency of the District of Columbia government.

**105.6.17 Flammable and Combustible Liquids.** An operational permit is required:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the off-site transportation in pipelines regulated by the District of Columbia Department of Transportation (DDOT), nor does it apply to piping systems.
2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a *building* or in excess of 10 gallons (37.9 L) outside of a *building*, except that a permit is not required for the following:
  - a. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the *code official*, would cause an unsafe condition.
  - b. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.
3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.
4. To store, handle or use Class IIIB liquids in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.

**Exception:** Fuel oil and used motor oil used for space heating or water heating.



5. To remove Class I or II liquids from an underground storage tank used for fueling motor vehicles by any means other than the *approved*, stationary on-site pumps normally used for dispensing purposes.
6. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and *combustible liquids* are produced, processed, transported, stored, dispensed or used.
7. To install, alter, remove, abandon, or place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or *combustible liquid* tank.
8. To change the type of contents stored in a flammable or *combustible liquid* tank to a material that poses a greater hazard than that for which the tank was designed and constructed.
9. To manufacture, process, blend or refine flammable or *combustible liquids*.
10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments.
11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments.

**105.6.18 Floor Finishing.** An operational permit is required for floor finishing or surfacing operations exceeding 350 square feet (33 m<sup>2</sup>) using Class I or Class II liquids.

**105.6.19 Fruit and Crop Ripening.** An operational permit is required to operate a fruit- or crop-ripening facility or conduct a fruit-ripening process using ethylene gas.

**105.6.20 Fumigation and Thermal Insecticidal Fogging.** An operational permit is required to operate a business of fumigation or thermal insecticidal fogging and to maintain a room, vault or chamber in which a toxic or flammable fumigant is used.

**105.6.21 Hazardous Materials.** An operational permit is required to store, transport on site, dispense, use or handle hazardous materials in excess of the amounts listed in Table 105.6.21.

**TABLE 105.6.21  
PERMIT AMOUNTS FOR HAZARDOUS MATERIALS**

TYPE OF MATERIAL	AMOUNT
Combustible liquids	See Section 105.6.17

<b>Corrosive materials</b>		
Gases		See Section 105.6.9
Liquids		55 gallons
Solids		1,000 pounds
<b>Explosive materials</b>		
		See Section 105.6.9
<b>Flammable materials</b>		
Gases		See Section 105.6.9
Liquids		See Section 105.6.17
Solids		100 pounds
<b>Highly toxic materials</b>		
Gases		See Section 105.6.9
Liquids		Any amount
Solids		Any amount
<b>Oxidizing materials</b>		
Gases		See Section 105.6.9
Liquids		
Class 4		Any amount
Class 3		1 gallon
Class 2		10 gallons
Class 1		55 gallons
Solids		
Class 4		Any amount
Class 3		10 pounds
Class 2		100 pounds
Class 1		500 pounds
<b>Organic Peroxides</b>		
Liquids		
Class I		Any amount
Class II		Any amount
Class III		1 gallon <sup>a</sup>
Class IV		2 gallons
Class V		No permit required
Solids		
Class I		Any amount
Class II		Any amount
Class III		10 pounds <sup>b</sup>
Class IV		20 pounds
Class V		No permit required
<b>Pyrophoric materials</b>		
Gases		Any amount
Liquids		Any amount
Solids		Any amount
<b>Toxic materials</b>		
Gases		See Section 105.6.9

Liquids	10 gallons
Solids	100 pounds
<b>Unstable (reactive) materials</b>	
Liquids	
Class 4	Any amount
Class 3	Any amount
Class 2	5 gallons
Class 1	10 gallons
Solids	
Class 4	Any amount
Class 3	Any amount
Class 2	50 pounds
Class 1	100 pounds
<b>Water-reactive materials</b>	
Liquids	
Class 3	Any amount
Class 2	5 gallons
Class 1	55 gallons
Solids	
Class 3	Any amount
Class 2	50 pounds
Class 1	500 pounds

For SI: 1 gallon = 3.785 L, 1 pound = 0.454 kg

- a. 20 gallons when Table 5003.1.1 (1) Note k applies and hazard identification signs in accordance with Section 5003.5 are provided for quantities of 20 gallons or less.
- b. 200 pounds when Table 5003.1.1 (1) Note k applies and hazard identification signs in accordance with Section 5003.5 are provided for quantities of 200 pounds or less.

**105.6.22 HPM Facilities.** An operational permit is required to store, handle or use hazardous production materials.

**105.6.23 High-Piled Storage.** An operational permit is required to use a building or portion thereof as a high-piled storage area exceeding 500 square feet (46 m<sup>2</sup>).

**105.6.24 Hot Work Operations.** An operational permit is required for *hot work* including, but not limited to:

- 1. Public exhibitions and demonstrations where *hot work* is conducted.
- 2. Use of portable *hot work* equipment inside a structure.

**Exception:** Work that is conducted under a permit issued by the Department of Consumer and Regulatory Affairs pursuant to Section 105, Title 12-A DCMR.

3. Fixed-site *hot work* equipment such as welding booths.
4. *Hot work* conducted within a wildfire risk area.
5. Application of roof coverings with the use of an open-flame device.
6. When *approved*, the *code official* shall issue a permit to carry out a *hot work* program. This program allows *approved* personnel to regulate their facility's *hot work* operations. The *approved* personnel shall be trained in the fire safety aspects denoted in this chapter and shall be responsible for issuing permits requiring compliance with the requirements found in Chapter 35. These permits shall be issued only to their employees or *hot work* operations under their supervision.

**105.6.25 Industrial Ovens.** An operational permit is required for operation of industrial ovens regulated by Chapter 30.

**105.6.26 Lumber Yards and Woodworking Plants.** An operational permit is required for the storage or processing of lumber exceeding 100,000 board feet (8,333 ft<sup>3</sup>) (236 m<sup>3</sup>).

**105.6.27 Liquid- or Gas-Fueled Vehicles or Equipment in Assembly Buildings.** An operational permit is required to display, operate or demonstrate liquid- or gas-fueled vehicles or equipment in assembly buildings.

**105.6.28 LP-Gas.** The use of liquefied petroleum gas is prohibited wherever natural gas is available except where permitted by the *code official*. An operational permit is required for the following storage and/or uses of LP-gas:

1. Each permanent installation irrespective of the size of the containers.
2. The storage of any number of portable containers awaiting use, refill, or sale having a combined total of 60 pounds or more.
3. Any commercial cooking use.
4. Vending stands, vending carts or vehicles.
5. Tanks larger than 5 pounds used inside of any buildings.
6. Operation of cargo tankers that transport LP-gas.

Empty containers which have been used in LP-gas service and partially filled containers shall be considered as a full container.

**105.6.29 Magnesium.** An operational permit is required to melt, cast, heat treat or grind more than 10 pounds (4.54 kg) of magnesium.

**105.6.30 Miscellaneous Combustible Storage.** An operational permit is required to store in any building or upon any premises in excess of 2,500 cubic feet (71m<sup>3</sup>) gross volume of combustible empty packing cases, boxes, barrels or similar containers, rubber tires, rubber, cork or similar combustible material.

**105.6.31 Open Burning.** An operational permit is required for the kindling or maintaining of an open fire or a fire on any public street, alley, road, or other public or private ground. Instructions and stipulations of the permit shall be adhered to.

**Exception:** *Recreational fires.*

**105.6.32 Open Flames and Torches.** An operational permit is required to remove paint with a torch; or to use a torch or open-flame device in a wildfire risk area.

**105.6.33 Open Flames and Candles.** An operational permit is required to use open flames or candles in connection with assembly areas, dining areas of restaurants or drinking establishments.

**Exceptions:**

1. *Places of religious worship.*
2. Candles in restaurants.

**105.6.34 Organic Coatings.** An operational permit is required for any organic-coating manufacturing operation producing more than 1 gallon (4 L) of an organic coating in one day.

**105.6.35 Assembly Group A.** An operational permit is required for use of a *building* or *structure* classified under Assembly Group A, as defined in Section 303 of the *Building Code*.

**Exception:** Assembly uses with an occupant load of less than 100 persons.

**105.6.36 Private Fire Hydrants.** An operational permit is required for the removal from service, use or operation of private fire hydrants, provided, however, that no permit authorizing the installation of a private fire hydrant shall be approved without the recordation of an agreement in the land records of the District of Columbia that satisfies the requirements of the Private Fire Hydrant Act.

**Exception:** A permit is not required for a private entity with trained maintenance personnel, or a private fire brigade or fire department, to maintain, test and use private hydrants.

**105.6.37 Pyrotechnic Special Effects Material.** An operational permit is required for

use and handling of pyrotechnic special effects material.

**105.6.38 Pyroxylin Plastics.** An operational permit is required for storage or handling of more than 25 pounds (11 kg) of cellulose nitrate (pyroxylin) plastics and for the assembly or manufacture of articles involving pyroxylin plastics.

**105.6.39 Refrigeration Equipment.** An operational permit is required to operate a mechanical refrigeration unit or system regulated by Chapter 6.

**105.6.40 Repair Garages and Motor Fuel-Dispensing Facilities.** An operational permit is required for operation of repair garages and automotive, marine and fleet motor fuel-dispensing facilities.

**105.6.41 Rooftop Heliports.** An operational permit is required for the operation of a rooftop heliport.

**105.6.42 Spraying or Dipping.** An operational permit is required to conduct a spraying or dipping operation utilizing flammable or *combustible liquids* or the application of combustible powders regulated by Chapter 24.

**105.6.43 Storage of Scrap Tires and Tire Byproducts.** An operational permit is required to establish, conduct or maintain storage of scrap tires and tire byproducts that exceed 2,500 cubic feet (71 m<sup>3</sup>) of total volume of scrap tires and for indoor storage of tires and tire byproducts.

**105.6.44 Temporary Membrane Structures and Tents.** Activities conducted within a temporary membrane structure or tent are subject to operational permit requirements. An operational permit is not required to operate an air-supported temporary membrane structure or a tent, however, a permit shall be obtained from the *building code official* in accordance with Section 3103 where required. .

**105.6.45 Tire-Rebuilding Plants.** An operational permit is required for the operation and maintenance of a tire-rebuilding plant.

**105.6.46 Waste Handling.** An operational permit is required for the operation of wrecking yards, junk yards and waste material-handling facilities.

**105.6.47 Wood Products.** An operational permit is required to store chips, hogged material, lumber or plywood in excess of 200 cubic feet (6 m<sup>3</sup>).

**105.7 Required Installation Permits.** The *code official* is authorized to issue installation permits for work as set forth in Sections 105.7.1 through 105.7.9.

**105.7.1 Battery systems.** An installation permit is required to install stationary storage battery systems having a liquid capacity of more than 50 gallons (189 L).

**105.7.2 Compressed gases.** Where the compressed gases in use or storage exceed the amounts listed in Table 105.6.9, an installation permit is required to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a *compressed gas* system.

**Exceptions:**

1. Routine maintenance.
2. For emergency repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.

**105.7.2.1 Closure of Facilities.** The permit applicant shall apply for approval to close storage, use or handling facilities in accordance with Sections 5001.5 and 5001.6.

**105.7.3 Cryogenic fluids.** An installation permit is required for installation of or *alteration* to outdoor stationary *cryogenic fluid* storage systems where the system capacity exceeds the amounts listed in Table 105.6.11. Maintenance performed in accordance with this code is not considered to be an *alteration* and does not require an installation permit.

**105.7.4 Flammable and combustible liquids.** An installation permit is required:

1. To install, repair or modify a pipeline for the transportation of flammable or *combustible liquids*.
2. To install, construct or alter tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and *combustible liquids* are produced, processed, transported, stored, dispensed or used.
3. To install, alter, remove, abandon or otherwise dispose of a flammable or *combustible liquid* tank.

**105.7.5 Hazardous materials.** An installation permit is required to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a storage facility or other area regulated by Chapter 50 where the hazardous materials in use or storage exceed the amounts listed in Table 105.6.21.

**Exceptions:**

1. Routine maintenance.
2. For repair work performed on an emergency basis, application for permit shall be made within two working days of commencement of work.

**105.7.6 LP-gas.** An installation permit is required for installation of or modification to an LP-gas system. Maintenance performed in accordance with this code is not considered to be a modification and does not require a permit.

**105.7.7 Spraying or dipping.** An installation permit is required to install or modify a spray room, dip tank or booth.

**105.7.8 Tents and Membrane Structures.** See Sections 105.6.44 and 3103.

**105.7.9 Emergency Radio Responder Coverage Systems.** See Section 510.3.

## 106 INSPECTIONS

*Strike Section 106 of the International Fire Code in its entirety and insert a new Section 106 in the Fire Code in its place to read as follows:*

**106.1 Inspection authority.** The *code official* is authorized to enter and examine any *building, structure, marine vessel, vehicle or premises* for the purpose of enforcing the *Fire Code* in accordance with Section 104.3.

**106.2 Inspections.** The *code official* is authorized to conduct such inspections as are deemed necessary to determine the extent of compliance with the provisions of the *Fire Code* and to approve reports of inspection by an *approved agency*. All reports of such inspections shall be prepared and submitted in writing for review and approval. Inspection reports shall be certified by a responsible officer of such *approved agency* or by the responsible individual. The *code official* is authorized to engage such expert opinion as is deemed necessary to report upon unusual, detailed or complex technical issues.

**106.2.1 Inspection Requests.** It shall be the duty of the holder of the permit or their duly authorized agent to notify the *code official* when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by the *Fire Code*.

**106.3 Approvals.** Approval as the result of an inspection shall not be construed to be an approval of a violation of the provisions of the *Fire Code* or of other laws or regulations of the District of Columbia. Inspections presuming to give authority to violate or cancel provisions of the *Fire Code* or of other laws or regulations of the District of Columbia shall not be valid.

## 107 MAINTENANCE

*Strike Section 107 of the International Fire Code in its entirety and insert a new Section 107 in the Fire Code in its place to read as follows:*

**107.1 Maintenance of Safeguards.** Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or any other feature is required for compliance with the provisions of the *Fire Code*, or otherwise installed, such device, equipment, system,



condition, arrangement, level of protection, or other feature shall thereafter be continuously maintained in accordance with the *Fire Code* and applicable referenced standards.

**107.2 Testing and Operation.** Equipment requiring periodic testing or operation to ensure maintenance shall be tested or operated as specified in the *Fire Code*.

**107.2.1 Test and Inspection Records.** Required test and inspection records shall be available to the *code official* at all times, and such records as designated shall be filed with the *code official*.

**107.2.2 Reinspection and Testing.** Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with the *Fire Code*. The work or installation shall then be resubmitted to the *code official* for inspection and testing.

**107.3 Recordkeeping.** A record of periodic inspections, tests, servicing and other operations and maintenance shall be maintained by the *owner* on the premises or other *approved* location for not less than 3 years, or a different period of time where specified in this code or referenced standards. Records shall be made available for inspection by the fire code official, and a copy of the records shall be provided to the fire code official upon request.

The *fire code official* is authorized to prescribe the form and format of such recordkeeping. The *fire code official* is authorized to require that certain required records be filed with the *fire code official*

**107.4 Supervision.** Maintenance and testing shall be under the supervision of a responsible person who shall ensure that such maintenance and testing is conducted at specified intervals in accordance with the *Fire Code*.

**107.5 Rendering Equipment Inoperable.** Portable or fixed fire-extinguishing systems or devices and fire-warning systems shall not be rendered inoperative or inaccessible except as necessary during emergencies, maintenance, repairs, alterations, drills or prescribed testing.

## 108 APPEALS

*Strike Section 108 of the International Fire Code in its entirety and insert a new Section 108 in the Fire Code in its place to read as follows:*

**108.1 Right of Appeal.** Any person directly affected by a notice or order issued under this *Fire Code* shall have the right to appeal to the Office of Administrative Hearings, pursuant to the Office of Administrative Hearings Establishment Act of 2001, effective March 6, 2002 (D.C. Law 14-76; D.C. Official Code §§ 2-1831.01 *et seq.* (2016 Repl. & 2018 Supp.)) and regulations promulgated thereunder. The appeal shall be filed within 15 days of the date of service of the notice or order. An appeal shall be based on a claim that the *Fire Code* has been incorrectly interpreted by the *code official*, the provisions of the code do not fully apply, or the requirements of the *Fire Code* are adequately satisfied by other means.

Notwithstanding the foregoing, OAH review of a notice or order to close or vacate a residential *premises* issued pursuant to Section 110 shall be based solely on the issue of whether the *premises* are unsafe or unfit for occupancy requiring a building closure under the provisions of Section 110 of the *Fire Code*. OAH review of a notice or order to close or vacate a residential *premises* issued pursuant to Section 111 shall be based solely on the issue of whether the *code official's* building closure decision was arbitrary and capricious.

**108.1.1 Expedited OAH hearing for Section 110 closure orders.** Where a notice or order to close or vacate a building with *rental units* is issued pursuant to Section 110, a *tenant* or occupant of a *rental unit* affected by the notice or order has a right to request an expedited hearing by OAH prior to the closure subject to the following requirements:

1. The *tenant* or occupant shall file the request for an expedited hearing with OAH no later than the date specified in the closure order for *tenants* or occupants to vacate the structure or unit;
2. OAH review shall be based solely on the issue of whether the *premises* are unsafe or unfit for occupancy requiring a building closure under the provisions of Section 110 of the *Fire Code*;
3. Enforcement of the closure notice or order shall be stayed until OAH issues a written decision; and
4. OAH shall hold a hearing within 72 hours of receipt of a timely request, and shall issue a decision within 72 hours after the hearing record is closed. In determining the 72-hour period, weekends and legal holidays shall be excluded.

**108.1.2 Additional provisions applicable to buildings with rental units.** Nothing herein shall be construed to authorize an expedited hearing for any notices or orders issued, or actions taken, pursuant to Section 111. Appeal of a notice or order issued pursuant to Section 110 to close or vacate a building with *rental units*, or a request for an expedited hearing pursuant to Section 108.1.1, shall not preclude the *code official* from issuing a notice or order pursuant to Section 111 for the same *premises* or any portion thereof, while such appeal or hearing is pending.

**108.2 Stay of Action.** Appeals of notices or orders shall stay the enforcement of the notice or order until the appeal is heard by the Office of Administrative Hearings.

**Exceptions:**

1. Notices or orders issued pursuant to Section 111 Emergency Conditions.
2. Closure notices or orders issued pursuant to Section 110, and related orders to vacate *premises*, except where the *tenant* or occupant has requested an expedited OAH hearing in accordance with Section 108.1.1.

3. Stop work orders issued pursuant to Section 109.6.

**108.3 Unsafe Conditions; Emergency Measures.** Any person ordered to take emergency measures or to correct unsafe conditions shall comply with such order forthwith. Any affected *person* may thereafter pursue his, her or its right of appeal pursuant to Section 108.1.

## 109 VIOLATIONS

*Strike Section 109 of the International Fire Code in its entirety and insert a new Section 109 in the Fire Code in its place to read as follows:*

**109.1 Unlawful acts.** It shall be unlawful for a *person*, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize a building, occupancy, premises or system regulated by the *Fire Code*, or cause same to be done, in conflict with or in violation of any of the provisions of the *Fire Code*.

**109.2 Notice of violation or order.** When the *code official* finds that a *building, premises, vehicle, storage facility or outdoor area* is in violation of the *Fire Code*, the *code official* is authorized to prepare a written notice of violation or order describing the conditions deemed unsafe and, when compliance is not immediate, specifying a time for re-inspection.

**109.2.1 Service.** A notice of violation or order issued pursuant to the *Fire Code* shall be served upon the *owner, operator, occupant, or other person* responsible for the condition or violation, in accordance with the service provisions set forth in 12-A DCMR § 113.5, which are incorporated herein by reference.

**109.2.2 Additional notification provisions for premises with rental units.** The provisions of Sections 109.2.2.1 through 109.2.2.4 shall apply to *premises* with rental units.

**109.2.2.1 General.** Where a notice or order is issued to the *owner* of a *premises* or portion thereof with respect to a *rental unit* occupied by a *tenant*, the *code official* shall provide such *tenant* with a copy of the notice or order. This requirement will be satisfied by mailing a copy to the *tenant* by first-class mail postage prepaid, leaving a copy at the *tenant's* residence, or any other reasonable method in the *code official's* discretion.

**109.2.2.2 Premises with multiple rental units.** In *premises* with more than one *rental unit*, any instance where a notice or order affects the *rental unit* and/or common space of more than one *tenant*, the *code official* shall post a copy of any notice or order issued to the *owner* pursuant to Section 109 for a reasonable time in one or more locations on the *premises* where the violation exists. The locations for posting the notification shall be reasonably selected to give notice to all *tenants* affected. Any *tenant* directly affected by the violation(s) shall, upon request to the *code official*, be sent a copy of the posted notification by first class

mail, postage prepaid.

**109.2.2.3 Notices or Orders Requiring Closure of Premises With Rental Units.** Where the *code official* (a) posts a notice of unsafe condition pursuant to Section 110 on a *building* with *rental units* that prohibits access to or occupancy of the *premises* or issues an order to close and barricade a building with *rental units*, or (b) posts a notice of emergency condition pursuant to Section 111 on a building with *rental units* requiring tenants and occupants to vacate the *premises*, the following additional requirements shall apply.

1. The notice or order shall specify a date and time by which *tenants* or occupants of the *rental units* are required to vacate the *premises*.
2. The notice or order shall include a statement informing *tenants* or occupants of the *rental units* of the right to appeal pursuant to Section 108, including, where applicable, the right to an expedited hearing pursuant to Section 108.1.2.
3. The *code official* shall provide a copy of the notice or order to each *tenant* of the *rental units* affected by the notice or order by leaving a copy at each *dwelling unit* or any other reasonable method in the *code official*'s discretion.
4. The notice or order shall provide contact information for the Office of the Tenant Advocate.

**109.2.2.4 Exclusivity of tenant notice provisions.** The *code official* shall not be subject to any other *tenant* notification provisions, except as expressly set forth in this Section 109.2.2.

**109.2.3 Failure to Issue a Notice.** Issuance of a notice of violation pursuant to this section is at the discretion of the *code official*. Failure to give a notice of violation shall not be a bar to any criminal prosecution, civil action, or civil infraction proceeding brought under the *Fire Code*.

**109.2.4 Compliance with Orders and Notices.** A notice of violation or order issued or served as provided by the *Fire Code* shall be complied with by the *owner*, operator, occupant or other *person* responsible for the condition or violation to which the notice of violation or order pertains.

**109.2.5 Prosecution of Collateral Fines and Other Violations.** If the notice of violation is not complied with as specified by the *code official*, the *code official* may issue a collateral notice, or civil infraction. If violations are not corrected as specified, a request may be made to the District of Columbia Office of the Attorney General to institute the appropriate legal proceedings to restrain, correct or abate the violation or to require removal or termination of the unlawful use of the building or structure in violation of the provisions of the *Fire Code* or of any related order or direction. The *code*

*official* may request a law enforcement officer to make arrests for any offense cited in the *Fire Code* or orders of the *code official* affecting the immediate safety of the public.

**109.2.6 Unauthorized Tampering.** Signs, tags or seals posted or affixed by the *code official* shall not be mutilated, destroyed, obstructed, tampered with or removed without authorization from the *code official*. Unauthorized removal or obstruction of signs, tags or seals posted or affixed by the *code official* is a violation of the *Fire Code* and is subject to the penalties provided in Section 109 and D.C. Official Code § 6-1406 (2018 Repl.), and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.). The *owner* of the *premises* posted with a notice of unsafe condition, or the *owner's* agent, shall promptly notify the *Department* if the posted notice has been removed, damaged or obstructed so the notice can be reposted.

**109.3 Violation Penalties.** Any *person*, firm, or corporation violating any of the provisions of the *Fire Code* or failing to comply with any order issued pursuant to any section of the *Fire Code*, upon conviction thereof shall be punished by a fine of not more than \$300 or imprisonment for not more than 90 days, or both. Each day that a violation continues, after a service of notice as provided in the *Fire Code*, shall be deemed a separate offense.

**109.4 Civil Infractions.** Civil fines, penalties, and fees may be imposed as alternative sanctions for any infraction of the provisions of the *Fire Code*, or any rules or regulations issued under authority of the *Fire Code* or pursuant to Title I-III of the Department of Consumer and Regulatory Affairs Civil Infractions Act of 1985, effective October 5, 1985 (D.C. Law 6-42; D.C. Official Code §§ 2-1801.01 *et seq.* (2016 Repl. & 2018 Supp.)) (“*Civil Infractions Act*”). Notices of infraction shall be issued in accordance with the procedures and fine amounts set forth in Section 201 of the *Civil Infractions Act* and Title 16 DCMR.

**109.5 Abatement of Violation.** In addition to the imposition of the penalties herein described, the *code official* is authorized to institute appropriate action: (1) to prevent unlawful construction or to restrain, correct or abate a violation; (2) to prevent illegal occupancy of a *structure* or *premises*; or (3) to stop an illegal act, conduct of business or occupancy of a *structure* on or about any *premises*.

**109.6 Stop work order.** Whenever the *code official* finds any work regulated by the *Fire Code* being performed in a manner contrary to the provisions of the *Fire Code* or in a dangerous or unsafe manner, the *code official* is authorized to issue a stop work order.

**109.6.1. Form of stop work order.** A stop work order shall be in writing, in a form prescribed by the *code official*, and shall be given to the *owner* of the property, or to the *owner's* agent, or to the *person* doing the work. If the stop work order cannot be delivered personally, notice shall be effected by posting the stop work order in or about the structure affected by such notice as provided in Section 109.6.1.1. Upon issuance of a stop work order, the cited work shall immediately cease, except such work as that *person* is directed to perform by the *code official* to remove a violation or unsafe condition. The stop work order shall state the reason for the order, and the conditions under which the cited work is authorized to resume. The stop work order shall state the

address of the property and the specific section or sections of the *Fire Code* violated. It shall also contain a description of the right to appeal the order and how to obtain an appeal form. No stop work order shall be issued nor considered valid unless it contains all of the above information, along with the signature of the issuing official.

**109.6.1.1 Posting of stop work order.** Regardless of how service is effected, the code official shall post the stop work order in a conspicuous location, visible to the owner, the public and other government officials, in or about the building, structure or premises affected by the stop work order.

**109.6.1.2 Removal or obstruction of a posted stop work order.** Unauthorized removal or obstruction of a posted stop work order is a violation of the *Construction Codes*, and is subject to the penalties provided in D.C. Official Code § 6-1406 (2018 Repl.) and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.).

**109.6.1.3 Access required to post a stop work order.** Where the *code official* requires access into a structure to post a stop work order, the *owner* of the *structure*, or his or her agent, must provide the required access within 24 hours after receiving written notice from the *code official* pursuant to Section 109.6.1

**109.6.2 Emergencies.** Where an emergency or imminently dangerous condition exists, the *code official* shall not be required to give a written notice prior to stopping the work.

**109.6.3 Failure to comply.** Any *person* who shall continue any work after a stop work order has been posted, except such work as that *person* is directed to perform to remove a violation or unsafe condition, shall be subject to the penalties set forth in D.C. Official Code § 6-1406 (2018 Repl.) and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.).

**109.6.3.1 Owner and/or designated agent responsible for ensuring compliance with stop work order.** The *owner* of the property, or his or her agent, serving as the contractor of record, shall be deemed to have violated the stop work order where his or her subordinate employees, workers, and sub-contractors do not comply with the requirements of the stop work order.

**109.6.3.2 Code official may seek a warrant for violation of stop work order.** Upon finding that the requirements of a stop work order have been violated, including the removal of a stop work order, the *code official* may request the Office of the Attorney General for the District of Columbia to institute appropriate proceedings which may include the arrest and prosecution of the *owner* or agent.

**109.6.4 Appeal of stop work order.** The property *owner*, his or her agent, or the person responsible for the work cited in a stop work order, may appeal the stop work order to the *code official* pursuant to the procedures set forth in this section. Claimants shall appeal using a form provided by the *code official*, on which they shall state the grounds for the appeal, which shall be based on a claim that the *Fire Code* or the rules legally adopted thereunder, have been

incorrectly interpreted or applied, or the requirements of the *Fire Code* are adequately satisfied by other means. The appeal shall be filed within 15 days after the date on which the stop work order is posted.

**109.6.4.1 Action on appeal.** Within 10 business days after the date of receipt of the appeals form, the *code official* shall affirm, modify, or reverse the previous action or decision. The decision of the *code official* shall be the final decision of the *Department*. If the *code official* denies the appeal, or does not act upon the appeal within the 10 business day period, the decision will be deemed affirmed and the claimant may appeal the matter directly to the Office of Administrative Hearings, as provided for in Section 108.

**109.6.4.2 Stay of action.** The filing of an appeal does not stay the effect of a stop work order.

## 110 UNSAFE CONDITIONS

*Strike Section 110 of the International Fire Code in its entirety and insert a new Section 110 in the Fire Code in its place to read as follows:*

**110.1 Unsafe Conditions.** All *premises* or equipment thereon that are or hereafter become abandoned, deteriorated, unsafe, unsanitary, or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve either (a) illegal or improper use or occupancy or (b) inadequate maintenance, shall be deemed an unsafe condition. Unsafe conditions shall be removed or made safe and secure, as the *code official* deems necessary pursuant to this section or pursuant to other laws, including, but not limited to, D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl.), D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl.), and D.C. Official Code §§ 6-801 *et seq.* (2018 Repl.). In addition, unsafe conditions shall include those referenced in Section 108 of the *Property Maintenance Code*. A vacant *premises*, unguarded or open at door or window, shall be deemed a fire hazard and unsafe within the meaning of the *Construction Codes*.

**110.1.1 Overcrowding.** Overcrowding or admittance of any person beyond the *approved* capacity of a building or a portion thereof shall be deemed an unsafe condition. The *code official*, upon finding any overcrowding conditions or obstructions in aisles, passageways or other means of egress, or upon finding any condition which constitutes a life safety hazard, shall be authorized to cause the event or activity to be stopped until such condition or obstruction is corrected.

**110.2 Examination and Record of Unsafe Premises.** The *code official* shall examine every *premises* reported as dangerous, unsafe structurally, or constituting a fire hazard, and shall maintain a record of those *premises* where the *code official* finds an unsafe condition.

**110.3 Posting of Notice of Unsafe Condition.** Where the *code official* finds an unsafe condition, as defined in Section 110.1, the *code official* shall post a notice of unsafe condition on the *premises* where the unsafe condition exists. The *code official* shall have discretion to post the

notice of unsafe condition in the location or locations that the *code official* deems necessary to warn persons that access to, or use or occupancy of, the *premises* is restricted.

**110.3.1 Access to Posted Premises.** The notice of unsafe condition posted in accordance with Section 110.3 shall specify whether entry, use and/or occupancy of the posted *premises*, or a portion thereof, is prohibited by the *code official*. Entry, use and/or occupancy of the posted *premises* shall be at the discretion of the *code official*, subject as applicable to the requirements for closure of *buildings* with *rental units* set forth in Section 110.8.

**110.3.2 Compliance with Posted Notice.** Entry, use and/or occupancy of a *premises* or portion thereof in violation of the terms of a posted notice of unsafe condition shall be unlawful.

**110.3.3 Unauthorized Removal or Obstruction of Posted Notice.** Unauthorized removal or obstruction of a posted notice of unsafe condition is a violation of the *Construction Codes*, and is subject to the penalties provided in Section 113 and D.C. Official Code § 6-1406 (2018 Repl.), and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.). The *owner* of the *premises* posted with a notice of unsafe condition, or the owner's agent, shall promptly notify the *Department* if the posted notice has been removed, damaged or obstructed so the notice can be reposted.

**110.4 Remedial Notices or Orders Relating to Unsafe Condition.** In addition to posting of a notice in accordance with Section 110.3, where the *code official* finds an unsafe condition, the *code official* is authorized to issue a notice or order to require the *owner* of the *premises* to make the premises safe and secure or to remove the unsafe condition as the *code official* deems necessary. The notified *person* shall employ sufficient means to comply with the notice as expeditiously as can be done.

**110.5 Disregard of Remedial Notice or Order** Upon the refusal or neglect of the *person* served with a remedial notice or order pursuant to Section 110.4 to comply with the requirements of the notice or order to abate or remove the unsafe condition, the *code official* is authorized to pursue any penalties or remedies authorized by law or regulation, including, but not limited to, abatement of the unsafe condition by the *code official* or referral to the Office of the Attorney General for appropriate legal action to compel compliance.

**110.5.1 Abatement by Code Official.** Where the *person* notified of an unsafe condition pursuant to Section 110.4 fails to abate or remove such unsafe condition, the *code official* is authorized to cause such condition to be corrected and assess the costs of any corrective action, and all expenses incident thereto, as a tax against the property on which the violating condition existed, and such tax shall be carried on the regular tax rolls of the District, and collected in the same manner as general taxes in the District are collected. Costs shall include, but not be limited to: all expenses incurred for or necessitated by any corrective action; costs of inspectors, testing agencies or experts retained; costs of testing or surveying; costs of mailings, postings and recordings; and costs of attorney's fees



expended for recovering the costs of the corrective action or to obtain or enforce a related order.

**110.6 Remedies Not Exclusive.** Nothing herein shall be deemed to preclude or negate any other penalties or remedies set forth in Section 109, or to preclude conversion of a special assessment lien to an administrative judgment, enforceable in the same manner as any other civil judgment under District of Columbia law, as authorized by D.C. Official Code § 42-3131.01 (2012 Repl.).

**110.7 Other Laws.** The provisions of this Section 110 shall not be deemed to nullify any other provisions of local law governing *razing, demolition* or repair of unsafe *structures*, including, but not limited to, the provisions of D.C. Official Code §§ 6-801 *et seq.* (2018 Repl.) as amended, D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl.) as amended, or D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl.) as amended.

### **110.8 Special Provisions Applicable to Rental Units.**

**110.8.1 Copies of Notices and Orders.** The *code official* shall provide *tenants* of *rental units* with copies of remedial notices and orders issued to the *owner* of the *rental unit* pursuant to Section 110.4 in accordance with Section 109.2.2. The *code official* shall not be required to provide *tenants* of *rental units* with copies of any other notices, orders or communications, except as provided in Section 109.2.2.

**110.8.2 Closures of Buildings With Rental Units.** The *code official* is authorized to order *tenants* or occupants of *rental units* to vacate the *premises* within a time sufficient to allow the *owner* to comply with an order to close and barricade the *premises*. The notice or order shall include the time by which the *premises* must be vacated, provided that *tenants* and occupants shall be given at least five calendar days to vacate, unless the *code official* determines that the *tenants* and occupants must leave the *premises* immediately for their personal safety.

If any *tenant* or occupant fails to vacate the *premises* within the time period set forth in the notice or order, subject to the appeal provisions of Section 108, the *code official* is authorized to order the removal of the *tenants* or occupants.

**110.8.3 Other Rental Housing Provisions.** The removal of *tenants* from *rental units*, or the service of an order to vacate, pursuant to this Section 110 shall not be considered an eviction or notice to vacate under D.C. Official Code § 42-3505.01. Notwithstanding the foregoing, nothing herein shall be construed to nullify or abrogate any other rights to which a *tenant* is entitled under District laws or regulations, including relocation assistance, the right to reoccupy the rental unit following rehabilitation, or the right to pursue rights and remedies under Title 42, Chapter 34 of the D.C. Official Code.

## **111 EMERGENCY CONDITIONS**

*Strike Section 111 of the International Fire Code in its entirety and insert a new Section 111 in the Fire Code in its place to read as follows:*

**111.1 Emergency Condition.** When an emergency condition exists, the *code official* is hereby authorized to take such actions as the *code official* deems necessary to meet such emergency in accordance with this Section 111. An emergency condition shall exist when, in the opinion of the *code official*, there is imminent danger, including, but not limited to:

1. An unsafe condition, including, but not limited to collapse or potential imminent collapse of a *building*, other *structure*, *site*, or *street*;
2. An unsanitary condition or the operation of defective or dangerous equipment which immediately endangers the health or safety of occupants of a *premises* or those in the proximity of a *premises*; or
3. The presence of *flammable materials* or *explosives*, *flammable fumes or vapors*, *toxic fumes*, *gases*, or *substances*, or other hazardous or toxic conditions.

**111.1.1 Order to Vacate Premises.** When in the opinion of the *code official* an emergency condition as defined in Section 111.1 exists and the *code official* deems that occupants of any *premises* are potentially affected by the emergency condition, the *code official* is authorized to require such occupants to vacate the *premises* forthwith or within a time period specified by the *code official*. This order can be communicated verbally, provided that a notice of emergency condition pursuant to Section 111.1.2 is posted as expeditiously as possible.

**111.1.2 Posting of Notice of Emergency Condition.** Where the *code official* deems an emergency condition to exist, the *code official* shall cause to be posted on all *premises* where such emergency condition exists, a notice that states: (1) an emergency condition exists at or near the posted *premises*; and (2) access, use and/or occupancy of the posted *premises* or a portion thereof is prohibited by the *code official*. The notice shall be posted in the location or locations that the *code official* deems necessary, in the *code official's* sole discretion. Access to the posted *premises* shall be at the discretion of the *code official*, subject as applicable to the requirements for closure of *buildings* with *rental units* as set forth in Section 111.7. Failure to comply with the terms of a posted notice of emergency condition shall be unlawful.

**111.1.3 Unauthorized Removal or Obstruction of Posted Notice.** Unauthorized removal or obstruction of a posted notice of emergency condition is a violation of the *Construction Codes*, and is subject to the penalties provided in Section 109 and D.C. Official Code § 6-1406 (2018 Repl.), and the injunctive relief set out in D.C. Official Code § 6-1407 (2018 Repl.). The *owner* of the *premises* posted with a notice of emergency condition, or the *owner's* agent, shall promptly notify the *Department* if the posted notice has been removed, damaged or obstructed so the notice can be reposted.

**111.2 Emergency Work.** Whenever, in the opinion of the *code official*, an emergency condition exists, the *code official* is authorized to require or to undertake the necessary work at the *premises* where the emergency condition exists, or at the *premises* where such emergency condition arose, to render the *premises* safe in light of the existing emergency condition,

including, but not limited to, requiring implementation of temporary safeguards, repairs, *demolition*, or *razing*. Any work at a *premises* required or undertaken by the *code official* to address an emergency condition shall be referred to as “*emergency work*”. The *code official* also is authorized to take such other action(s) as the *code official* deems necessary to address an emergency condition, including, but not limited to, employing the necessary labor and materials to perform the *emergency work* at a *premises* as expeditiously as possible.

**111.2.1 Compliance With Order.** Any *person* ordered by the *code official* to undertake *emergency work* at a *premises* pursuant to Section 111.2 shall comply with such order forthwith and complete the *emergency work* within the time period specified by the *code official*. The *code official* is not required to provide the *owner* of the *premises* where an emergency condition is deemed to exist with an opportunity to correct the emergency condition before the *code official* undertakes *emergency work*, nor is the *code official* required to wait for the expiration of a time period specified in an order under this Section 111.2.1 before undertaking such work.

**111.2.2 Historic Buildings.** Prior to requiring or undertaking *emergency work* at a *premises* that is a *building* or other *structure* that is listed in the D.C. or National Register of Historic Places, or a portion thereof, either as an individual listing or as a contributing resource to a listed historic district, the *code official* shall consult with the State Historic Preservation Officer as required by D.C. Official Code §§ 6-801 and 6-802 (2018 Repl.).

**111.3 Safety Perimeter.** When necessary for public safety, the *code official* is authorized to temporarily close sidewalks, streets, alleys, *premises* and areas adjacent to a *premises* on which the emergency condition exists, and to temporarily prohibit access thereto.

**111.4 Costs of Emergency Work.** Where the *code official* causes *emergency work* to be done at a *premises* pursuant to Section 111.2, any costs incurred by the District of Columbia in the performance of such *emergency work*, and expenses incident thereto, shall be paid from appropriations of the District of Columbia, on certification of the *code official*, and shall be assessed as a tax against the *lot* on which the emergency condition existed or from which such condition arose as the case may be, carried as a tax on the regular tax rolls, and collected in the same manner as real estate taxes are collected.

**111.4.1 Additional Costs of Emergency Work.** Costs of *emergency work* shall also be deemed to include, but are not limited to: all expenses incurred for or necessitated by any *emergency work*; costs associated with cleaning the *premises* to comply with the *Construction Codes*, utility removal or disconnection costs; court costs, fines, and penalties; costs of inspectors, testing agencies or experts retained; costs of testing or surveying; costs of mailings, postings and recordings; and costs of attorney’s fees expended for recovering the costs of the corrective action or to obtain or enforce a related order. If the *code official* determines that no other shelter is available to *tenants* or occupants required to vacate *rental units* as a result of a *building* closure pursuant to this Section 111, the *code official* has discretion to assess all expenses incident to *tenant* or occupant relocation as a cost of emergency repairs, including, but not limited to, temporary housing, security deposits and the first month’s rent if required.

**111.5 Remedies Not Exclusive.** Nothing herein shall be deemed to preclude or negate any other penalties or remedies set forth in Section 113, or to preclude conversion of a special assessment lien to an administrative judgment, enforceable in the same manner as any other civil judgment under District of Columbia law, as authorized by D.C. Official Code § 42-3131.01.

**111.6 Other Laws.** The provisions of this Section 111 shall not be deemed to nullify any other provisions of local law governing *razing, demolition* or repair of unsafe *structures*, including, but not limited to, the provisions of D.C. Official Code §§ 6-801 *et seq.* (2018 Repl.) as amended, D.C. Official Code §§ 42-3131.01 *et seq.* (2012 Repl.) as amended, or D.C. Official Code §§ 42-3171.01 *et seq.* (2012 Repl.) as amended.

**111.7 Buildings with Rental Units.** Where the *code official* posts a notice of emergency condition pursuant to this Section 111 at a *building with rental units*, the *code official* is authorized to order all *tenants* or occupants to vacate the *premises* where an emergency condition exists. The posted notice shall comply with the requirements of Section 109.2.2. If any *tenant* or occupant fails to vacate the *premises* within the time specified in the notice, the *code official* is authorized to order removal of the *tenant* or occupant from the *premises*.

**111.7.1 Other Rental Housing Provisions.** Where an emergency condition exists, the removal of tenants or occupants from the *premises*, or the service of an order to vacate, pursuant to this Section 111 shall not be considered an eviction or notice to vacate under D.C. Official Code § 42-3505.01 (2012 Repl. & 2018 Supp.). Notwithstanding the foregoing, nothing herein shall be construed to nullify or abrogate any other rights to which a *tenant* is entitled under District laws or regulations, including relocation assistance, the right to reoccupy the rental unit following rehabilitation, or the right to pursue rights and remedies under Title 42, Chapter 34 of the D.C. Official Code.

**111.8 Removal of Notice of Emergency Condition.** A notice of emergency condition posted pursuant to Section 111.1.2 shall be removed only by the *code official*. The *code official* shall remove the posted notice when, in the *code official's* opinion, the emergency condition no longer exists. Any remaining unsafe conditions that do not constitute an emergency condition (as defined in 111.1) shall be governed by the provisions of Section 110.

**111.9 Appeals.** Appeals of *code official* actions pursuant to this Section 111 are governed by Section 108. As provided in Section 108, any such appeal shall not have the effect of staying any notice or order issued pursuant to this Section 111.

## 112 SERVICE UTILITIES

*Strike Section 112 of the International Fire Code in its entirety and insert a new Section 112 in the Fire Code in its place to read as follows:*

**112.1 Authority to Disconnect Service Utilities.** The *code official* shall have the authority to authorize disconnection of utility service to a *building, structure* or system in order to safely execute emergency operations or to eliminate an immediate hazard. The *code official* shall

notify the serving utility and, whenever possible, the *owner* and occupant of the *building, structure* or service system of the decision to disconnect prior to taking such action. The *owner* or occupant of the *building, structure* or service system shall be notified in writing as soon as practical thereafter.

**113 FEES**

*Strike Section 113 of the International Fire Code in its entirety and insert a new Section 113 in the Fire Code in its place to read as follows:*

**113.1 Fees.** A permit shall not be issued until the applicable fees have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

**113.2 Fee Schedule.** A fee for each plan examination, permit and inspection shall be paid in accordance with the applicable fee schedule listed here after:

<b>INSPECTION, REINSPECTION AND SUPPLEMENTAL PERMITS:</b>	
Fire Inspection per site visit and per discipline; first re-inspection of each kind of inspection is included in the original fee	\$150.00
Re-Inspection A re-inspection fee applies to second and subsequent required re-inspections due to non-compliance or incomplete work. Per site visit and per discipline.	\$150.00
Forster Care Home Inspection	Free
<b>PERMITS:</b>	
Propane (200 pounds or less)	\$100.00
For each pound in excess of 200 pounds	\$ 0.50
Bonfires/open burning	\$150.00
Open Flame per device	\$150.00
Explosives Site Permit (dynamite/nitro) (Valid for 45 business days)	\$600.00
Explosives vehicle inspection, per vehicle (Valid for 45 business days)	\$200.00
Fireworks Aerial Display Permit (per occurrence)	\$500.00

Fireworks Retail and Stand Permit	\$300.00
Special Effect and Pyrotechnics Display Permit (per occurrence)	\$300.00
Hot Work Operations	
Fuel Storage Tank (AST/ UST) Permit and Shop drawing review	\$150.00
Miscellaneous Permit	\$150.00
A miscellaneous permit shall include any hazardous operation that requires a permit as stated in Section 105.6.1 through 105.6.46 of the fire code and not specifically listed above.	\$200.00
<b>PLANS REVIEW:</b>	
Per Set (Includes all other plans: Exhibition, emergency response, evacuation plans, hot work program, special events, site, construction, alley and street closure for more than 90 days.)	\$150.00
<b>Use of Personnel -Service Request:</b> (Fire Watch, Special Events, etc.)	\$65.00 an hour Per person, per hour for a minimum of four hours,
Fire Inspector Fire Fighter Paramedic EMT	
<b>HAZARDOUS MATERIALS MITIGATION FEE:</b>	
Equipment, materials, supplies and man hours	Replacement Cost
<b>USE OF FIRE AND EMS APPARATUS:</b>	
Use of Engine Companies, Truck Companies, Rescue squads, Rapid Hazardous Material Units, Fireboats, or Brush Truck for Parades, Festivals and other Special Events:	\$400.00 per hour for a minimum of four hours + personnel cost
<b>Mass Casualty Unit</b>	\$400.00 per hour for a minimum of four hours + personnel cost
<b>Use of Ambulance:</b> Basic Life Support	\$200.00 per hour for a minimum of four hours + personnel cost

Advanced Life Support	\$250.00 for a minimum of four hours + personnel cost
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**113.3 Work Commencing Before Permit Issuance.** Any *person* who commences any work, activity or operation regulated by the *Fire Code* before obtaining the necessary permits shall be subject to an additional fee, which shall be in addition to the required permit fees.

**113.4 Related Fees.** The payment of the fee for the construction, *alteration*, removal or demolition of work done in connection to or concurrently with the work or activity authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

**CHAPTER 2            DEFINITIONS****202    GENERAL DEFINITIONS****202            GENERAL DEFINITIONS**

*Insert a new definition into Section 202 of the Fire Code to read as follows:*

**FIRE PIT APPLIANCES.** Open-flame appliances that are provided for recreational or decorative use, which are fueled by flammable or combustible gases or liquids, and where products of combustion are emitted directly into the ambient air without passing through a stack, chimney or vent. Also known as a gas fire pits, ethanol fire pits, gel fire pits, or fire tables.



**PART II GENERAL SAFETY PROVISIONS****CHAPTER 3 GENERAL REQUIREMENTS****304 COMBUSTIBLE WASTE MATERIAL****307 OPEN BURNING, RECREATIONAL FIRES AND PORTABLE OUTDOOR FIREPLACES****308 OPEN FLAMES****319 DAY CARE FACILITIES IN DWELLING UNITS****304 COMBUSTIBLE WASTE MATERIAL**

*Strike Section 304.1.2 of the International Fire Code and insert a new Section 304.1.2 into the Fire Code in its place to read as follows:*

**304.1.2 Vegetation.** Weeds, grass, vines or other growth that is capable of being ignited and endangering property shall be cut down and removed by the *owner* or occupant of the *premises* at his, her or its expense.

**307 OPEN BURNING, RECREATIONAL FIRES AND PORTABLE OUTDOOR FIREPLACES**

*Strike Section 307.4.3 of the International Fire Code and insert a new Section 307.4.3 into the Fire Code in its place to read as follows:*

**307.4.3 Portable Outdoor Fire Places.** Portable outdoor fire places and fire pits shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet of a structure or combustible materials.

**308 OPEN FLAMES**

*Strike Section 308.1.4 of the International Fire Code and insert new Section 308.1.4 into the Fire Code in its place to read as follows:*

**308.1.4 Open-flame cooking devices.** Charcoal burners and other open-flame cooking devices shall not be operated on balconies or within 10 feet (3048 mm) of any *building* or combustible construction.

**Exceptions:**

1. Detached single-family *dwellings*.
2. Where buildings, balconies and decks are protected by an *automatic sprinkler system*.

3. Natural gas grills approved and installed in accordance with the *Construction Codes*, provided that such grills are installed on a non-combustible surface and located 10 feet (3048 mm) or more from any combustible construction.

*Strike Section 308.3 of the International Fire Code and insert new Section 308.3 into the Fire Code in its place to read as follows:*

**308.3 Group A occupancies.** Open-flame devices shall not be used in a Group A occupancy.

**Exceptions:**

1. Open-flame devices are allowed to be used in the following situations, provided precautions are taken to prevent ignition of a combustible material or injury to occupants:
  - a. Where necessary for ceremonial or religious purposes in accordance with Section 308.1.7.
  - b. On stages and platforms as a necessary part of a performance in accordance with Section 308.3.2
  - c. Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected.
2. Heat-producing equipment complying with Chapter 6 and the ~~*International Mechanical Code*~~.
3. Gas lights are allowed to be used provided adequate precautions satisfactory to the *fire code official* are taken to prevent ignition of combustible materials.
4. Outdoor assembly spaces are allowed to be provided with natural gas fueled fire pit appliances complying with Section 308.5, where the flame and all heated substrate such as lava rocks, glass beads, or similar material are protected by an *approved* noncombustible cover or guard.

*Insert a new Section 308.5 into the Fire Code to read as follows:*

**308.5 Outdoor fire pit appliances.** Fire pits shall comply with all of the following:

1. Appliances shall not be operated in the following locations:
  - a. On balconies.
  - b. Within 15 feet (3048 mm) of combustible construction.
  - c. Within 15 feet (3048 mm) horizontally of the wall any *building*.
2. Appliances shall be natural gas fueled and shall be installed and used in accordance with the *Construction Codes* and manufacturer's instructions. Appliances shall be listed for the purpose for which they are used.

3. Appliances shall be located within an approved container that is permanently installed on a solid non-combustible surface that extends horizontally at least 15 feet (3048 mm) from the appliance.
4. Open-flame appliances in Group A occupancies shall comply with Section 308.3 of the *Fire Code*.
5. Permanently fixed-in-place outdoor decorative appliances shall comply with Section 636 of the *Fuel Gas Code*.
6. Appliances shall be operated while the area or space is attended in accordance with Section 307.5.

**Exception:** Detached one and two family *dwelling*s.

*Insert a new Section 319 into the Fire Code to read as follows:*

### **319 DAY CARE FACILITIES IN DWELLING UNITS**

**319.1 Fire safety inspection required.** No day care facility located in a *dwelling unit* shall be operated without a fire safety inspection conducted by the *code official* prior to commencement of operations and annually thereafter.

**319.2 Day care homes in 1- or 2-family homes or townhouses.** Day care facilities that are operated in *dwelling units* within existing detached one and two-family *dwelling*s and townhouses within the scope of the *Residential Code*, and within R-3 *dwelling*s, shall comply with the fire safety provisions in Appendix N. Appendix N shall not apply to the following:

1. Day care facilities that are classified as Group E or Group I-4 under the *Building Code*.
2. Adult day care where any of the clients are *incapable of self-preservation*, unless such persons are cared for in rooms located on a *level of exit discharge* serving such rooms and each room has an *exit* door directly to the exterior.

**319.3 Day care homes in multi-family buildings.** Day care facilities located in a *dwelling unit* within a multi-family building classified as an R-2 occupancy are prohibited.

**Exception:** Where, on or before December 16, 2016, a day care facility was legally operating in the *dwelling unit* pursuant to a child development home license issued by the Office of the State Superintendent of Education, provided that: (a) the *dwelling unit* is not located above the third floor of the R-2 building or, if operating above the third floor, the building is equipped throughout with an automatic sprinkler system that complies with Section 903.2.8; and (b) the *Fire Code Official* has conducted an annual fire safety inspection of the child development home.

**PART III BUILDING AND EQUIPMENT DESIGN FEATURES****CHAPTER 5 FIRE SERVICE FEATURES****507 FIRE PROTECTION WATER SUPPLIES****508 FIRE COMMAND CENTER****510 EMERGENCY RESPONDER RADIO COVERAGE****507 FIRE PROTECTION WATER SUPPLIES**

*Strike Section 507.5.2 of the International Fire Code and insert new Section 507.5.2 into the Fire Code in its place to read as follows:*

**507.5.2 Inspection, testing and maintenance.** Fire hydrant systems shall be subject to periodic tests as required by the *fire code official*. Fire hydrant systems shall be maintained in an operative condition at all times and shall be repaired where defective. Additions, repairs, *alterations* and servicing shall comply with *approved* standards. *Approved* markings such as color, status rings, and flow rating bands shall be provided and maintained for all fire hydrants in accordance with the requirements of the *fire code official*.

**507.5.2.1 Private fire hydrant systems.** Private fire hydrant systems shall comply with the Private Fire Hydrant Act of 2010, effective March 31, 2011 (D.C. Law 18-337; D.C. Official Code §§ 34-2410.01 *et seq.* (2012 Repl.) (“Private Fire Hydrant Act”).

**508 FIRE COMMAND CENTER**

*Strike Section 508.1 of the International Fire Code and insert a new Section 508.1 into the Fire Code in its place to read as follows:*

**508.1 General.** Where required by other sections of this code and in buildings classified as high-rise buildings by this code, a fire command center for fire department operations shall be provided and shall comply with Sections 508.1.1 through 508.1.6.

**508.1.1 Location and access.** The fire command center shall be directly accessible from the exterior on the address side of the building; or, where approved by the *code official* in consultation with the Fire Chief, in an interior location which has direct access from the entrance lobby on the address side of the building.

**508.1.1.1 Identification.** The entrance door to the fire command center shall be illuminated and clearly marked “Fire Command Center” with letters a minimum of 3 inches (76 mm) in height on a contrasting background. In instances where the fire command center is not located near the building’s main entrance, a sign indicating the location of the fire control room shall be conspicuously posted near the building’s main entrance.

**508.1.1.2 Prohibited use.** Electrical, mechanical or plumbing equipment other

than those associated with the fire command center, shall not be located within the fire command center. The fire command center shall not be used for other than its intended use unless approved by the Fire Chief.

**508.1.1.3 Locking arrangements.** The fire command center shall be secured from unauthorized entry and shall be accessible to the Department at all times.

**508.1.1.4 Access.** Where access to the fire command center from the building's exterior is restricted because of secured openings, a key box in accordance with Section 506 of the *Fire Code* shall be installed at the building's main entrance or other approved location for Department access. The key box shall be of an *approved* type and shall contain keys to gain necessary access to the building and fire command center as required by the *code official* in consultation with the Fire Chief.

**508.1.2 Separation.** The fire command center shall be separated from the remainder of the building by not less than a 1-hour *fire barrier* constructed in accordance with Section 707 of the *Building Code* or a *horizontal assembly* constructed in accordance with Section 711 of the *Building Code*, or both.

**508.1.3 Size.** The fire command center shall be of sufficient size to accommodate all equipment and features required by this section but not less than 96 square feet (8.9 m<sup>2</sup>). A minimum clear aisle width of 48 inches (1220 mm) shall be provided in front of all equipment panels.

**508.1.4 Layout approval.** A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation.

**508.1.5 Storage.** Storage unrelated to the operation of the fire command center shall be prohibited.

**508.1.6 Required features.** The fire command center shall comply with NFPA 72 and shall contain all of the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. Fire detection and alarm system annunciator.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.

6. Controls for unlocking *interior exit stairway* doors simultaneously.
7. Sprinkler valve and waterflow detector display panels.
8. Emergency and standby power status indicators.
9. A telephone for Department use with controlled access to the public telephone system.
10. Fire pump status indicators.
11. Schematic building plans indicating the typical floor plan and detailing the building core, *means of egress*, fire protection systems, fire fighter air replenishment system, fire-fighting equipment and fire department access, and other building features affecting emergency response. The schematic plans shall be readily accessible, diagrammatic in nature, and fabricated of durable material or provided with a protective cover and bound in one set.
12. A copy of the facility's Fire Safety Plans and Fire Evacuation Plans that are prepared and maintained in accordance with the *Fire Code*.
13. Generator supervision devices, manual start and transfer features.
14. Public address system, where specifically required by other sections of this code.
15. Elevator fire recall switch in accordance with ASME A17.1/BSA 44.
16. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.
17. An *approved* Building Information Card that contains, but is not limited to, the following information:
  - 17.1. General building information that includes: property name, address, the number of floors in the building (above and below grade), use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor), and the estimated building population during the day, night, and weekend.
  - 17.2. Building emergency contact information that includes: a list of the building's emergency contacts including but not limited to building manager and building engineer and their respective work phone number, cell phone number, and email address.
  - 17.3. Building construction information that includes the type of building

construction, including but not limited to floors, walls, columns, and roof assembly.

17.4. *Exit access and exit stairway* information that includes: number of *exit access* and *exit stairways* in the building, each *exit access* and *exit stairway* designation and floors served, location where each *exit access* and *exit stairway* discharges, *interior exit stairways* that are pressurized, *exit stairways* provided with emergency lighting, each *exit stairway* that allows reentry, *exit stairways* providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms and control spaces; location of sky lobby, location of freight elevator banks.

17.5. Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator, location of natural gas service.

17.6. Fire protection system information that includes: locations of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers, location of different types of sprinkler systems installed including, but not limited to, dry, wet, and pre-action.

17.7 Hazardous material information that includes: location of hazardous material, quantity of hazardous material.

## **510 EMERGENCY RESPONDER RADIO COVERAGE**

*Strike Section 510.1 of the International Fire Code in its entirety and insert a new Section 510.1 into the Fire Code in its place to read as follows:*

**510.1 Emergency responder radio coverage in new buildings.** All new buildings shall have *approved* radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the District of Columbia at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

### **Exceptions:**

1. Where *approved* by the building official and the *fire code official*, a wired communication system in accordance with Section 907.2.13.2 shall be permitted to be installed or maintained instead of an *approved* radio coverage system.
2. Where it is determined by the District of Columbia Office of Unified Communications (OUC) and the *fire code official* that the radio coverage system is not needed based on procedures and criteria set forth in Section 510 and in OUC

guidelines.

3. In facilities where emergency responder radio coverage is required and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the *fire code official* shall have the authority to accept an automatically activated emergency responder radio coverage system.
4. Building covered by the *Residential Code*.
5. Group R-2 buildings with four or fewer *dwelling units* per floor up to three floors above grade.
6. Group R-3 buildings.

*Strike Section 510.3 of the International Fire Code in its entirety and insert new Section 510.3 in the Fire Code in its place to read as follows:*

**510.3 Permits required.** No emergency responder radio coverage system or related equipment shall be installed or modified without a building permit and any required electrical permit issued by the *building code official*. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

*Strike Section 510.4.2.4 of the International Fire Code and insert a new Section 510.4.2.4 into the Fire Code in its place to read as follows:*

**510.4.2.4 Signal booster requirements.** If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be contained in electrical enclosures that are rated for the environments in which they are located. The electrical enclosures shall be a minimum of National Electrical Manufacturer's Association (NEMA) 4-type waterproof cabinets.

**Exception:** A minimum of NEMA 3R-type cabinets are required in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

2. Battery systems used for the emergency power source shall be contained in electrical enclosures that are rated for the environments in which they are located. The electrical enclosures shall be a minimum of a NEMA 4-type waterproof cabinets.

**Exception:** A minimum of NEMA 3R-type cabinets are required in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.



3. The signal booster system and battery system shall be electrically supervised and shall be monitored by a listed fire alarm control unit in accordance with NFPA 72.

**Exception:** Where a fire alarm system is not provided, the signal booster system shall be monitored by a supervisory service, or when *approved* by the *fire code official*, shall sound an audible signal at a constantly attended location.

4. Equipment shall have FCC certification prior to installation.

*Insert a new Section 510.7 into the Fire Code to read as follows:*

**510.7 Office of Unified Communications Requirements.** Emergency responder radio coverage systems and related equipment shall comply with all additional requirements, specifications and criteria established by the District of Columbia Office of Unified Communications to satisfy the operational needs of emergency responders and to prevent adverse impact on the District of Columbia's public safety communications.

**CHAPTER 6 BUILDING SERVICES AND SYSTEMS**

**601 GENERAL**

**604 EMERGENCY AND STANDBY POWER SYSTEMS**

**601 GENERAL**

*Strike Section 601.2 of the International Fire Code in its entirety and insert a new Section 601.2 into the Fire Code in its place to read as follows:*

**601.2 Permits.** Operational permits shall be obtained for refrigeration systems and battery systems as set forth in Sections 105.6 and 105.7

**604 EMERGENCY AND STANDBY POWER SYSTEMS**

*Strike Section 604.6.1 of the International Fire Code and insert a new Section 604.6.1 into the Fire Code in its place to read as follows:*

**604.6.1 Activation test.** An activation test of the emergency lighting equipment shall be completed annually. The activation test shall ensure the emergency lighting activates automatically upon normal electrical disconnect and stays sufficiently illuminated for a minimum of 30 seconds.

**CHAPTER 9 FIRE PROTECTION SYSTEMS****903 AUTOMATIC SPRINKLER SYSTEMS****905 STANDPIPE SYSTEMS****906 PORTABLE FIRE EXTINGUISHERS****907 FIRE ALARM AND DETECTION SYSTEMS****908 EMERGENCY ALARM SYSTEMS****909 SMOKE CONTROL SYSTEMS****913 FIRE PUMPS****903 AUTOMATIC SPRINKLER SYSTEMS**

*Strike Section 903.4.2 of the International Fire Code and insert new Section 903.4.2 into the Fire Code in its place to read as follows:*

**903.4.2 Alarms.** An approved audible device, located on the exterior of the building in an *approved* location, shall be connected to each *automatic sprinkler system*. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system.

**Exception:** An alarm device shall not be required on the exterior of the building when the sprinkler system is monitored by an approved central station, remote supervising station or proprietary supervising station in accordance with NFPA 72.

*Strike Section 903.4.4 of the International Fire Code and insert new Section 903.4.4 into the Fire Code in its place to read as follows:*

**903.4.4** Where a sprinkler system is looped such that more than one control valve must be closed to stop flow from that zone, a sign shall be placed at each control valve indicating the locations of the other control valves for that zone.

**905 STANDPIPE SYSTEMS**

*Strike Section 905.2 of the International Fire Code in its entirety and insert a new Section 905.2 into the Fire Code in its place to read as follows:*

**905.2 Installation standard.** Standpipe systems shall be installed in accordance with this section and NFPA 14. Fire department connections for standpipe systems shall be installed in accordance with Section 912.

**Exceptions:**

1. The residual pressure of 100 psi for 2½-inch hose connection and 65 psi for 1½-inch hose connection is not required to be greater than 65 psi in buildings equipped throughout with

an automatic sprinkler system in accordance with Section 903.3.1.1 where the highest floor level is not more than 150 feet above the lowest level of fire department vehicle access.

2. No fire pump shall be required provided that the standpipes are capable of accepting delivery by fire department apparatus of a minimum of 250 gallons per minute (gpm) at 65 pounds per square inch (psi) to the topmost floor in buildings equipped throughout with an *automatic sprinkler system*, or a minimum of 500 gpm at 65 psi to the topmost floor in all other *buildings*, from the lowest level of fire department vehicle access.

*Strike Section 905.3.1 of the International Fire Code and insert a new Section 905.3.1 into the Fire Code in its place to read as follows:*

**905.3.1 Building height.** Class III standpipe systems shall be installed throughout buildings where the floor level of the highest *story* is located more than 30 feet (9144 mm) above the lowest level of fire department vehicle access, or where the floor level of the lowest *story* is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access. In determining the lowest level of fire department vehicle access for purposes of this section, recessed loading docks for four vehicles or less shall be excluded. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible shall be excluded from the determination of the lowest level or highest level of fire department vehicle access.

**Exceptions:**

1. Class I standpipes are allowed in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Class I manual standpipes are allowed in *open parking garages* where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.
3. Class I manual dry standpipes are allowed in *open parking garages* that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.
4. Class I standpipes are allowed in *basements* equipped throughout with an *automatic sprinkler system*.
5. Hose stations for use by the building occupants shall be allowed, subject to the approval of the *Fire Chief*, provided that each hose connection is 2 ½ in. (63.5 mm) and is equipped with a 2 ½ x 1 ½ in. (63.5 mm x 38.2 mm) reducer and a cap attached with a chain.

*Strike the Exception to Section 906.1, Item 1 of the International Fire Code in its entirety and insert new Exceptions to Section 906.1, Item 1 into the Fire Code in its place to read as follows:*

**906.1 Where required.** Portable fire extinguishers shall be installed in all of 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.

**Exceptions:**

1. In new and existing Group A, B, E and R occupancies equipped throughout with quick response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6.
2. In Group R-2 occupancies, which are not equipped throughout with quick response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6 where each *dwelling unit* is provided with a portable fire extinguisher having a minimum rating of 1-A:10-B:C.

[Section 906.1 Items 2-6 and Table 906.1 are unchanged.]

**907 FIRE ALARM AND DETECTION SYSTEMS**

*Strike Section 907.3.3 of the International Fire Code and insert a new Section 907.3.3 into the Fire Code in its place to read as follows:*

**907.3.3 Elevator emergency operation.** Automatic fire detectors and all fire alarm system components installed for elevator emergency operation shall be installed in accordance with the provisions of ASME A17.1/CSA B44 and NFPA 72. Smoke detectors shall not be installed in unsprinklered elevator hoistways unless they are installed to activate the elevator hoistway smoke relief equipment.

*Strike Section 907.6.4.1 of the International Fire Code in its entirety and insert new Sections 907.6.4.1 through 907.6.4.1.1.2.1 into the Fire Code to read as follows:*

**907.6.4.1 Zoning indicator panel.** A zoning indicator panel and the associated controls shall be provided in an *approved* location that is readily discernible and readily accessible to the responding fire department. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible alarm-silencing switch. Zoning indicator panels shall include remote annunciator panels and zoning displays that are integral to the fire alarm control equipment.

**907.6.4.1.1 Remote annunciator panels.** Where remote annunciator panels are required, they shall be provided at the main entrance, at each designated fire

department entrance, and where specified by Section 907.6.4.1.1.2. Remote annunciator panels shall be provided as follows:

**907.6.4.1.1.1 Directory-style display.** A directory-style annunciator shall be provided in buildings more than one story above or below grade and in buildings with more than one zone per floor. The directory-style annunciator shall consist of either an alpha-numeric LCD display or an *approved* directory-style panel with individual lamps. As a minimum, the annunciator shall indicate related floor, zone and status conditions using readily identifiable designations in plain English text.

**Exception:** Where a graphic display with individual lamps is provided in accordance with Section 907.6.4.1.1.2.1.

**907.6.4.1.1.2 Graphic display.** A graphic annunciator display shall be provided at the main entrance, and in the fire command center or at the fire alarm control panel location where there is no fire command center, for buildings of the following types:

1. *High-rise buildings.*
2. Covered mall buildings.
3. Nursing homes and hospitals.
4. Buildings of any occupancy where three or more exits are provided per floor level above or below the level of exit discharge.
5. Buildings comprised of more than one street address with separate entrances.
6. Buildings with Group A occupancies of greater than 1000 persons.

**907.6.4.1.1.2.1 Graphic display features.** Graphic annunciator displays shall consist of an integrated graphic annunciator panel, or where *approved* in buildings not more than four stories above or two stories below the fire department entrance, a directory-style annunciator panel with a permanently mounted graphic diagram. Graphic annunciator displays shall be fabricated of a durable material and shall incorporate the following features:

1. A graphic diagram that identifies:
  - 1.1. Building address.
  - 1.2. North arrow.

- 1.3. Building floor plan outline of each general type, where the orientation of each diagram is consistent with the annunciator location.
  - 1.4. Fire alarm zoning.
  - 1.5. Location of exit stairways, labeled with designations that are consistent with Section 1023.9 and labeled to indicate stairways that provide roof access.
  - 1.6. Location of elevator banks.
  - 1.7. Location of elevator machine room.
  - 1.8. Location of the annunciator with “YOU ARE HERE” marker.
  - 1.9. Location of fire command center or fire alarm control equipment.
  - 1.10. Location of fire department connections.
2. Individual lamps that identify each associated device, floor, zone, and system status condition. Lamp colors shall be coordinated with the associated system conditions as follows: red for alarm; yellow or amber for supervisory; and yellow or amber for system trouble. Green lamps shall be permitted to indicate annunciator power supervision. A push-button style switch shall be provided for lamp test operation.
  3. Audible alert sounder that locally annunciates alarm, trouble, and supervisory conditions, with alert silencing-switch that is accessible to authorized personnel only.

**Exception:** An audible sounder is not required for an annunciator panel where the required audible annunciation is provided by fire alarm control equipment that is located adjacent to the annunciator.

## 908 EMERGENCY ALARM SYSTEMS

*Strike Section 908.1 of the International Fire Code in its entirety and insert new Sections 908.1 into the Fire Code in its place to read as follows:*

**908.1 General.** The systems required by this section shall be designed and installed in accordance with the provisions of both this code and the *Fire Code*. Before proceeding with design, construction, installation, or use of systems required by Section 908.2 through 908.6, the *owner* shall request and participate in a coordination meeting with DCRA and the Fire Department to determine the applicable code requirements. The meeting shall be attended by all

concerned parties, including, but not limited to, the *owner*, contractor, architect and design professionals.

*Strike Section 908.2 of the International Fire Code in its entirety and insert new Section 908.2 into the Fire Code in its place to read as follows:*

**908.2 Group H occupancies.** Emergency alarms for the detection and notification of an emergency condition in Group H occupancies shall be provided as required in Chapter 50. Emergency alarms for notification of an emergency condition in an HPM facility shall be provided as required in Section 2703.12. A continuous gas-detection system shall be provided for HPM gases in accordance with Section 2703.13.

*Strike Section 908.7 of the International Fire Code in its entirety and insert new Section 908.7 through 908.12 into the Fire Code in its place to read as follows:*

**908.7 Carbon monoxide detection.** Carbon monoxide detection shall be installed in new buildings in accordance with Sections 908.7.1 through 908.12. Carbon monoxide detection shall be installed in existing buildings in accordance with Section 1103.9.

**908.7.1 Where required.** Carbon monoxide detection shall be provided in Group I-1, I-2, I-4 and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 908.8 where any of the conditions in Sections 908.7.2 through 908.7.6 exist.

**908.7.2 Fuel-burning appliances and fuel-burning fireplaces.** Carbon monoxide detection shall be provided in *dwelling units*, *sleeping units* and classrooms that contain a fuel-burning appliance or a fuel-burning fireplace.

**908.7.3 Forced-air furnaces.** Carbon monoxide detection shall be provided in *dwelling units*, *sleeping units* and classrooms served by a fuel-burning, forced-air furnace.

**Exception:** Carbon monoxide detection shall not be required in *dwelling units*, *sleeping units* and classrooms if carbon monoxide detection is provided in the first room or area served by each main duct leaving the furnace, and the carbon monoxide alarm signals are automatically transmitted to an approved location.

**908.7.4 Fuel-burning appliances outside dwelling units, sleeping units and classrooms.** Carbon monoxide detection shall be provided in *dwelling units*, *sleeping units* and classrooms located in buildings that contain fuel-burning appliances or fuel-burning fireplaces.

**Exceptions:**

1. Carbon monoxide detection shall not be required in *dwelling units*, *sleeping units* and classrooms where there are no communicating openings between the fuel-burning appliance or fuel-burning fireplace and the *dwelling unit*, *sleeping unit* or



classroom.

2. Carbon monoxide detection shall not be required in *dwelling units, sleeping units* and classrooms where carbon monoxide detection is provided in one of the following locations:

- 2.1 In an *approved* location between the fuel-burning appliance or fuel-burning fireplace and the *dwelling unit, sleeping unit* or classroom.

- 2.2 On the ceiling of the room containing the fuel burning appliance or fuel-burning fireplace.

**908.7.5 Private garages.** Carbon monoxide detection shall be provided in *dwelling units, sleeping units* and classrooms in buildings with attached private garages.

**Exceptions:**

1. Carbon monoxide detection shall not be required where there are no communicating openings between the private garage and the *dwelling unit, sleeping unit* or classroom.
2. Carbon monoxide detection shall not be required in *dwelling units, sleeping units* and classrooms located more than one story above or below a private garage.
3. Carbon monoxide detection shall not be required where the private garage connects to the building through an open-ended corridor.
4. Where carbon monoxide detection is provided in an *approved* location between openings to a private garage and *dwelling units, sleeping units* or classrooms, carbon monoxide detection shall not be required in the *dwelling units, sleeping units* or classrooms.

**908.7.6 Exempt garages.** For determining compliance with Section 908.7.5, an *open parking garage* complying with Section 406.5, or an enclosed parking garage complying with Section 406.6 of the *Mechanical Code* shall not be considered a private garage.

**908.8 Locations.** Where required by Section 908.7.1, carbon monoxide detection shall be installed in the locations specified in Sections 908.8.1 through 908.8.3.

**908.8.1 Dwelling units.** Carbon monoxide detection shall be installed in *dwelling units* outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

**908.8.2 Sleeping units.** Carbon monoxide detection shall be installed in *sleeping units*.

**Exception:** Carbon monoxide detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the *sleeping unit* where the *sleeping unit* or its attached bathroom does not contain a fuel-burning appliance and is not served by a forced-air furnace.

**908.8.3 Group E occupancies.** Carbon monoxide detection shall be installed in classrooms in Group E occupancies. Carbon monoxide alarm signals shall be automatically transmitted to an on-site location that is staffed by school personnel.

**Exception:** Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an occupant load of 30 or less.

**908.9 Detection equipment.** Carbon monoxide detection required by Sections 908.7 through 908.8.3 shall be provided by carbon monoxide alarms complying with Section 908.10 or carbon monoxide detection systems complying with Section 908.11.

**908.10 Carbon monoxide alarms.** Carbon monoxide alarms shall comply with Sections 908.10.1 through 908.10.3.

**908.10.1 Power source.** Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

**Exception:** Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.

**908.10.2 Listings.** Carbon monoxide alarms shall be listed in accordance with UL 2034.

**908.10.3 Combination alarms.** Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be listed in accordance with UL 2034 and UL 217.

**908.11 Carbon monoxide detection systems.** Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 908.11.1 through 908.11.3.

**908.11.1 General.** Carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be listed in accordance with UL 2075.

**908.11.2 Locations.** Carbon monoxide detectors shall be installed in the locations specified in Section 908.8. These locations supersede the locations specified in NFPA 720.

**908.11.3 Combination detectors.** Combination carbon monoxide/smoke detectors installed in carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide detectors, provided they are listed in accordance with UL 2075 and UL 268.

**908.12 Maintenance.** Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with NFPA 720. Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.

## **909 SMOKE CONTROL SYSTEMS**

*Strike Section 909.16 of the International Fire Code; do not strike Subsections 909.16.1 through 909.16.3 of the International Fire Code. Insert a new Section 909.16 and accompanying Exception into the Fire Code to read as follows:*

**909.16 Fire-fighter's smoke control panel.** A fire-fighter's smoke control panel for fire department emergency response purposes only shall be provided and shall include manual control or override of automatic control for mechanical smoke systems. The panel shall be located in a fire command center complying with Section 508 in high-rise buildings or buildings with smoke-protected assembly seating. In all other buildings, the fire-fighter's smoke control panel shall be installed in an *approved* location adjacent to the fire alarm control panel. The fire-fighter's smoke control panel shall comply with Sections 909.16.1 through 909.16.3.

**Exception:** Where buildings are equipped with stair pressurization systems and/or elevator hoistway venting systems and no mechanical smoke control systems per Section 909 of the *Building Code*, the required manual controls are permitted to be integral to the fire alarm control panel or located at another *approved* location and are not required to comply with the provisions of Section 909.16.

## **913 FIRE PUMPS**

*Insert a new Exception 3 into Section 913.2.1 of the Fire Code to read as follows:*

3. Access to the fire pump room shall not be required to be directly from the exterior or from a fire rated enclosure.

**CHAPTER 10 MEANS OF EGRESS****1003 GENERAL MEANS OF EGRESS****1005 MEANS OF EGRESS SIZING****1007 ACCESSIBLE MEANS OF EGRESS****1010 DOORS, GATES, AND TURNSTILES****1023 EXIT PASSAGEWAYS****1025 LUMINOUS EGRESS PATH MARKINGS****1003 GENERAL MEANS OF EGRESS**

*Strike Section 1003.2 of the International Fire Code in its entirety and insert a new Section 1003.2 into the Fire Code in its place to read as follows:*

**1003.2 Ceiling height.** The *means of egress* shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

**Exceptions:**

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of *dwelling units* and *sleeping units* within residential occupancies in accordance with Section 1208.2 of the *Building Code*.
3. Allowable projections in accordance with Section 1003.3.
4. *Stair* headroom in accordance with Section 1011.3.
5. Door height in accordance with Section 1010.1.1.
6. *Ramp* headroom in accordance with Section 1012.5.2.
7. The clear height of floor levels in vehicular and pedestrian traffic areas of public and private parking garages in accordance with Section 406.4.1 of the *Building Code*.
8. Areas above and below *mezzanine* floors in accordance with Section 505.2 of the *Building Code*.
9. The *exit discharge* and *exit passageways* in a *means of egress* system shall be allowed to have a ceiling height of not less than 7 feet (2134 mm).

**1005 MEANS OF EGRESS SIZING**

*Strike the Exceptions to Section 1005.3.1 of the International Fire Code in their entirety and insert new Exceptions to Section 1005.3.1 into the Fire Code in their place to read as follows:*

**Exceptions:**

1. For other than Group H and I-2 occupancies, the capacity, in inches (mm), of the *means of egress stairways* shall be calculated by multiplying the *occupant load* served by the *stairway* by a *means of egress* capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Facilities with *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.2 indicated for stepped *aisles* for *exit access* or *exit stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is provided with a smoke control system complying with Section 909.
3. Facilities with outdoor *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.3 indicated for stepped *aisles* for *exit access* or *exit stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is open to the outdoors.

*Strike the Exceptions to Section 1005.3.2 of the International Fire Code in their entirety and insert new Exceptions to Section 1005.3.2 into the Fire Code in their place to read as follows:*

**Exceptions:**

1. For other than Group H and I-2 occupancies, the capacity, in inches (mm), of *means of egress* components other than *stairways* shall be calculated by multiplying the *occupant load* served by such component by a *means of egress* capacity factor of 0.15 inch (3.8 mm) per occupant in buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. Facilities with *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.2 indicated for level or ramped *aisles* for *means of egress* components other than *stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is provided with a smoke control system complying with Section 909.
3. Facilities with outdoor *smoke-protected assembly seating* shall be permitted to use the capacity factors in Table 1029.6.3 indicated for level or ramped *aisles* for *means of egress* components other than *stairways* where the entire path for *means of egress* from the seating to the *exit discharge* is open to the outdoors.

**1007 ACCESSIBLE MEANS OF EGRESS**

*Strike Section 1007.1.1 of the International Fire Code and insert a new Section 1007.1.1 into the Fire Code in its place to read as follows:*

**1007.1.1 Two exits or exit access doorways.** Where two *exits*, *exit access doorways*, *exit*

*access stairways or ramps*, or any combination thereof, are required from any portion of the *exit access*, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between them. Interlocking or *scissor stairways* shall be counted as one *exit stairway*.

**Exceptions:**

1. Where interior *exit stairways* or *ramps* are interconnected by a 1-hour fire-resistance-rated *corridor* conforming to the requirements of Section 1020, the required *exit* separation shall be measured along the shortest direct line of travel within the *corridor*.
2. Where a building is equipped throughout with an *automatic sprinkler system* in accordance with Sections 903.3.1.1 or 903.3.1.2, the separation distance shall not be less than one-fourth of the length of the maximum overall diagonal dimension of the area served.

**1010 DOORS, GATES, AND TURNSTILES**

*Insert a new Section 1010.1.9.5.2 into the Fire Code to read as follows:*

**1010.1.9.5.2 Public toilet facility door locking.** Where a *toilet room* is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use *toilet rooms*.

*Strike Section 1010.1.9.7 of the International Fire Code; do not strike Items 1 through 8 of Section 1010.1.9.7. Insert a new Section 1010.1.9.7 into the Fire Code in its place to read as follows:*

**1010.1.9.7 Delayed egress.** Delayed egress locking systems shall be permitted to be installed on doors serving any occupancy except Group A, and H in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke or heat detection system* installed in accordance with Section 907. The locking system shall be installed and operated in accordance with all of the following:

*Insert a new Section 1010.1.9.7.1 in the Fire Code to read as follows:*

**1010.1.9.7.1 Delayed egress.** Delayed egress locking systems shall be permitted to be installed on doors serving Group E in buildings that are equipped throughout with an automatic fire alarm system in accordance with § 907.2.3. The locking system shall be installed and operated in accordance with all of the following:

1. The delay electronics of the delayed egress locking system shall deactivate

upon actuation of the automatic fire alarm system, allowing immediate, free egress.

2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.
3. The delayed egress locking system shall have the capability of being deactivated at the fire command center and other approved locations, if a fire command center is provided.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.

**Exception:** Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.

5. The egress path from any point shall not pass through more than one delayed egress locking system.
6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware:
  - 6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
  - 6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
  - 6.3. The sign shall comply with the visual character requirements in ICC A117.1.
7. Emergency lighting shall be provided on the egress side of the door.
8. The delayed egress locking system units shall be listed in accordance with UL 294.

*Strike Section 1010.1.9.11 of the International Fire Code in its entirety and insert a new Section 1010.1.9.11 into the Fire Code in its place to read as follows:*

**1010.1.9.11 Stairway doors.** Interior *stairway means of egress* doors shall be openable from both sides without the use of a key or special knowledge or effort.

**Exceptions:**

1. *Stairway* discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3 of the *Building Code*.
3. In *stairways* serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the *fire command center*, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.
4. *Stairway* exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single *exit stairway* where permitted in Section 1006.3.2.
5. *Stairway* exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the *dwelling unit* is from a single *exit stairway* where permitted in Section 1006.3.2.
6. In buildings five or more stories in height, including existing buildings without a *fire command center* complying with Section 911, doors are permitted to be locked from the side opposite the egress side, provided they are unlocked without unlatching upon activation of the building's fire alarm system and the stairway is provided with a telephone or other two-way communication system in accordance with Section 403.5.3 of the *Building Code*.

*Insert a new Section 1010.1.9.12 into the Fire Code to read as follows:*

**1010.1.9.12 Elevator lobby doors.** Exit access doors in the elevator lobby serving a single Use Group B occupancy tenant are permitted to be equipped with an approved egress access control system when all of the following conditions are met:

1. The building is equipped throughout with either an *automatic sprinkler system* in accordance with Subsection 903.1.1 or an *approved* automatic smoke or heat detection system installed in accordance with Section 907.



2. The elevator lobby exit access doors shall unlock upon loss of power to the access control system.
3. A readily accessible and visible manual unlocking device is installed 40- to 48-inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) horizontally of the secured doors, identified by a sign with minimum ½-inch inch (12.5 mm) high letters that reads "EMERGENCY DOOR RELEASE – ACTIVATE TO OPEN DOORS". Activation of the device shall unlock the doors for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. Where a manual fire alarm system is required by Subsection 907.2, a manual fire alarm box shall be provided and located within the elevator lobby.

## **1023 EXIT PASSAGEWAYS**

*Insert a new Exception 3 to Section 1023.3.1 to read as follows:*

3. Separation between an interior exit stairway or ramp and the exit passageway extension shall not be required when the interior exit stair and the exit passageway extension are pressurized in accordance with Section 909.20.5.

*Strike Section 1023.9 of the International Fire Code in its entirety and insert a new Section 1023.9 into the Fire Code in its place to read as follows:*

**1023.9 Stairway signage.** Signs shall be provided for all *interior exit stairways* and *ramps* connecting more than three stories, and for all *interior exit stairways* and *ramps* in buildings with three or more *interior exit stairways* or *ramps*.

**1023.9.1 Signs outside stairway.** A sign shall be provided at each entrance to the *exit stairway* and *ramp*, identifying the *stair* or *ramp* with the same designations used for the *stairway* identification signs in Section 1023.9.2.1. The sign also shall state "EXIT" in accordance with Section 1013.4 of the *Fire Code*. The sign shall state the required text in visual characters, in raised characters, and in braille complying with ICC A117.1.

**1023.9.2 Signs inside stairway.** *Stairway* identification signs, floor-level signs, and *exit*

*discharge* signs shall comply with the following requirements:

**1023.9.2.1 Stairway identification signs.** A *stairway* identification sign shall be provided at each floor landing in the *interior exit stairway* and *ramp* designating the floor level, the terminus of the top and bottom of the *interior exit stairway* or *ramp* and the identification of the *stair* or *ramp*. The signage shall also identify the story of, and the direction to, the *exit discharge* and the availability of roof access from the *interior exit stairway* and *ramp* for the fire department. The sign shall be located entirely between 5 feet (1524 mm) and 8 feet (2438 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions and located so that occupants egressing from floors that are more remote from the exit discharge will face the sign frontally at some point in their path of egress.

**Exception:** *Stairway* identification signs are not required to identify the *story* of and direction to the *exit discharge* in *interior exit stairways* and *ramps* that connect less than three stories.

**1023.9.2.1.1 Signage requirements.** *Stairway* identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The word "STAIR" and the *stair* designation or "RAMP" and the *ramp* designation shall consist of numerals and/or capital letters designating the identification of the *interior exit stairway* and *ramp*. The characters shall be a minimum of 1 1/2 inches (38 mm) in height but not greater than one-third (1/3) the height of the floor level identification characters.
3. The numerals or capital letters designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch (25 mm) in height but not greater than the *stair* or *ramp* identification characters.
5. The directional arrow shall be a minimum of 4 inches (102 mm) in length.
6. If the *interior exit stairway* or *ramp* provides access to the roof, the words "FIRE DEPT. ROOF ACCESS" shall be displayed immediately after the *stair* or *ramp* identification.

7. The signs shall identify floor levels, *stairs* and *ramps* by one or more characters, using a designation that is consistent with the floor level, *stair* and *ramp* designations used throughout the building.
8. Characters and their background shall have a non-glare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
9. The sign shall be of an approved design, and shall be durable and of a material that complies with other sections of the *Construction Codes*. Unless painted on the wall, the sign shall be securely fastened to the structure.

**1023.9.2.2 Floor-level signs.** In addition to the *stairway* identification sign, a floor-level sign in visual characters, raised characters and braille complying with ICC A117.1 shall be located at each floor-level landing adjacent to the door leading from the *interior exit stairway* and *ramp* into the *corridor* or other building space to identify the floor level.

**1023.9.2.3 Exit discharge signs.** A sign stating "EXIT" in visual characters, raised characters and braille shall be located adjacent to the door to the *exit discharge* in accordance with Section 1013.4 of the *Fire Code*.

## **1025 LUMINOUS EGRESS PATH MARKINGS**

*Strike Section 1025 of the International Fire Code in its entirety without replacement.*

## CHAPTER 11 CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

## 1101 GENERAL

## 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDINGS

## 1104 MEANS OF EGRESS FOR EXISTING BUILDINGS

## 1101 GENERAL

*Strike Section 1101.2 of the International Fire Code in its entirety and insert a new Section 1101.2 into the Fire Code in its place to read as follows:*

**1101.2 Intent.** The intent of this chapter is to provide a minimum degree of fire and life safety to persons occupying existing buildings by providing minimum construction requirements where such existing buildings do not comply with the minimum requirements of the *Building Code*. Existing buildings shall come into compliance with the requirements of Chapter 11, and shall comply with the requirements of the Building Code that applied at the time of construction and any other D.C. laws or regulations which apply to existing buildings, including, but not limited to, provisions of the *Property Maintenance Code*. If a conflict arises between Chapter 11 of the *Fire Code* and the Building Code that applied at the time of construction the more stringent requirement shall be applicable. Any alterations, additions, or changes in use or occupancy of an existing building shall comply with the *Building Code* or *Existing Building Code* as applicable.

**1101.2.1 Transition Period.** Where an existing building is required to come into compliance with the requirements of Chapter 11 and the work requires a permit from DCRA, the *owner* of the existing building shall have a period of 24 months ~~60 days~~ from the date of adoption of the *Fire Code* to complete and submit to DCRA a permit application and *construction documents* in accordance with Sections 105 and 106 of the *Building Code*, as necessary to comply with this chapter. Failure to submit a complete permit application within the 24-month ~~60-day~~ period required by this section shall be a violation of the *Fire Code*. . Extension of the submission deadline shall be requested in writing to the fire code official and reasonable extensions shall be granted upon good cause shown.

*Strike Section 1101.3 of the International Fire Code in its entirety and insert a new Section 1101.3 into the Fire Code in its place to read as follows:*

**1101.3 Owner notification.** When a building is found to be in noncompliance with this chapter, the *fire code official*, in consultation with the *building code official*, is authorized to issue a notice or order to the *owner* of the building, in accordance with Sections 109.2.1 and 109.2.2, to require the *owner* to bring the building into compliance with the requirements of Chapter 11. Such notice or order shall specify a time schedule for (a) submission to DCRA of a permit application and *construction documents* in accordance with Sections 105 and 106 of the *Building Code*, as necessary to authorize the work required to comply with this chapter; and (b) completion of the work necessary to comply with this chapter. Upon receipt of such notice or order, the *owner* shall, subject to the stated time limits, take necessary actions to comply with the provisions of this chapter.

**1101.3.1 Authority to require life safety evaluation.** When the fire *code official*, in consultation with the building *code official*, deems that an existing or newly presented condition in an existing building has reduced compliance with the minimum degree of fire and life safety required by this chapter, the fire *code official* is authorized to require that a life safety evaluation of that condition be prepared by the *owner*, consistent with the requirements of Section 104.8, provided that such an evaluation is not a prerequisite to the owner notification authorized by Section 1101.4. The life safety evaluation shall identify any changes that are necessary to address the condition and restore compliance with the required minimum degree of fire and life safety. The building shall be modified by the *owner* to comply with the recommendations set forth in the *approved* evaluation; provided, that the modifications required shall not exceed the minimum requirements of the *Existing Building Code*.

**1101.3.2 Extension of time.** The fire *code official* in coordination with the building *code official* is authorized to grant necessary extensions of time for compliance with the time schedule specified in a notice or order pursuant to Section 1101.3 when it can be shown that the specified time periods are not physically practical or pose an undue hardship. The granting of an extension of time for compliance shall be based on the showing of good cause and subject to the filing of an acceptable systematic plan of correction with the fire *code official*.

## 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDINGS

*Strike Section 1103.2 of the International Fire Code in its entirety and insert a new Section 1103.2 in the Fire Code into its place to read as follows:*

**1103.2 Emergency responder radio coverage in existing buildings.** Existing buildings that do not have approved radio coverage for emergency responders within the building, based upon the existing coverage levels of the public safety communication systems of the District of Columbia at the exterior of the building, shall be equipped with such coverage in accordance with Section 510, within the time frame established by the District of Columbia Office of Unified Communications (OUC) and the *fire code official* in the following cases:

1. Where no communication system is installed and operational;
2. Where an existing wired communication system cannot be repaired;
3. Where an existing wired communication system is being replaced; or
4. Where an existing wired communication system was not approved in accordance with Section 510.1, Exception 1.

**Exception:** Where it is determined by the OUC and the *fire code official* that the radio coverage system is not needed.

*Strike Sections 1103.3, 1103.3.1, and 1103.3.2 of the International Fire Code in their entirety and insert new Sections 1103.3, 1103.3.1 and 1103.3.2 into the Fire Code in their place to read as follows:*

**1103.3 Existing elevators.** Existing, elevators, escalators and moving walks shall comply with the requirements of Sections 1103.3.1 and 1103.3.2.

**1103.3.1 Elevators, escalators and moving walks.** Existing elevators, escalators and moving walks in Group I-2 Condition 2 occupancies shall comply with the *Existing Building Code*.

**1103.3.2 Elevator emergency operation.** *Existing* elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building, and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes, shall be provided with emergency operation when required by the *Existing Building Code*. Elimination of previously installed Phase I emergency recall or Phase II emergency in-car systems shall not be permitted.

*Strike Section 1103.5 in the International Fire Code and insert a new Section 1103.5 in its place in the Fire Code to read as follows:*

**1103.5 Sprinkler systems.** An *automatic sprinkler system* shall be provided in existing buildings in accordance with Sections 1103.5.1 through 1103.5.4.

*[Subsections 1103.5.1, 1103.5.2, and 1103.5.3 are unchanged].*

*Insert a new Section 1103.5.4 in the Fire Code to read as follows:*

**1103.5.4 Group A-2.** Where alcoholic beverages are consumed in a Group A-2 occupancy having an occupancy load of 300 or more, the fire area containing the Group A-2 occupancy shall be equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

*Strike Section 1103.6 of the International Fire Code in its entirety and insert a new Section 1103.6 into the Fire Code in its place to read as follows:*

**1103.6 Standpipes.** Existing buildings shall be equipped with standpipe systems installed in accordance with Section 905 where required in Sections 1103.6.1 and 1103.6.2. The *fire code official* is authorized to approve the use of manual standpipe systems to achieve compliance with this section where the responding fire department is capable of providing the required hose flow at the highest standpipe outlet.

**Exception:** Existing buildings that are equipped with existing standpipe systems are not required to upgrade the standpipe systems to comply with the installation requirements of Section 905, where approved by the *fire code official*.

**1103.6.1 Existing multiple-story buildings.** Existing buildings with occupied floors located more than 75 feet (22 860mm) above the lowest level of fire department vehicle access or more than 50 feet (15 240 mm) below the highest level of fire department vehicle access shall be equipped with standpipe systems.

**1103.6.2 Existing helistops and heliports.** Existing buildings with a rooftop helistop or heliport located more than 30 feet (9144 mm) above the lowest level of fire department vehicle access shall be equipped with a standpipe system extended to the roof level on which the helistop or heliport is located in accordance with Section 2007.5.

*Strike Section 1103.9 of the International Fire Code in its entirety and insert a new Section 1103.9 into the Fire Code in its place to read as follows:*

**1103.9 Carbon monoxide alarms.** Existing Group I-1, I-2, I-4 and R occupancies shall be equipped with carbon monoxide alarms in accordance with Sections 908.7 through 908.12, except that the carbon monoxide alarms shall be allowed to be solely battery operated.

#### **1104 MEANS OF EGRESS FOR EXISTING BUILDINGS**

*Strike Section 1104.25, Egress path markings, of the International Fire Code in its entirety without replacement.*

CHAPTER 12 [RESERVED] ~~INTERIOR ENVIRONMENT~~



**CHAPTER 31 ~~TEMPORARY TENTS AND OTHER~~ MEMBRANE STRUCTURES****3103 TEMPORARY TENTS AND MEMBRANE STRUCTURES****3103 TEMPORARY TENTS AND MEMBRANE STRUCTURES**

*Strike Section 3103.1 of the International Fire Code in its entirety and insert a new Section 3103.1 in the Fire Code in its place to read as follows:*

**3103.1 General.** Tents and membrane structures erected for a period of 180 days or less shall comply with this section. Other temporary structures erected for a period of 180 days or less shall comply with Section 3103 of the *Building Code*.

**Exception:** Membrane structures erected on a building, balcony, deck or other structure for any period of time shall comply with Sections 3102.1 through 3102.8 of the *Building Code*.

*Strike Section 3103.2 of the International Fire Code in its entirety and insert a new Section 3103.2 in the Fire Code in its place to read as follows:*

**3103.2 Approval required.** Tents and membrane structures that cover an area of 150 square feet (13.9 m<sup>2</sup>) or greater including connecting areas or spaces with a common *means of egress* or entrance that are used or intended to be used for the gathering together of 10 or more persons, shall not be erected, operated or maintained for any purpose without first obtaining a permit from the *building code official* and, where required, an operational permit from the *fire code official*.

**Exceptions:**

1. Tents used exclusively for recreational camping purposes.
2. Tents open on all sides that comply with all of the following:
  - 2.1 Individual tents having a maximum size of 700 square feet (65 m<sup>2</sup>).
  - 2.2 The aggregate area of multiple tents placed side by side without a fire break clearance of 12 feet (3658 mm), not exceeding 700 square feet (65 m<sup>2</sup>) total.
  - 2.3 A minimum clearance of 12 feet (3658 mm) to all structures and other tents.

*Strike Section 3103.4 of the International Fire Code in its entirety and insert new Section 3103.4 in the Fire Code in its place to read as follows:*

**3103.4 Permits.** Permits shall be required in accordance with Section 105 of the *Building Code*. An operational permit issued by the *fire code official*, pursuant to Section 106, shall also be required where applicable.

**CHAPTER 56           EXPLOSIVES AND FIREWORKS****5609   CONSUMER FIREWORKS**

*Strike Section 5609 of the International Fire Code in its entirety and insert a new Section 5609 into the Fire Code in its place to read as follows:*

**5609           CONSUMER FIREWORKS****5609.1 General**

**5609.1.1 Scope.** The manufacture of fireworks is prohibited in the District of Columbia. The display, sale or discharge of fireworks shall comply with the requirements of this chapter.

**5609.1.1.1 Prohibited fireworks.** The manufacture, possession, storage, display, sale, setting off, or discharge of any fireworks listed below is prohibited in the District of Columbia:

1. Firecrackers of any kind or description;
2. Any fireworks that explodes, such as cherry bombs, salutes, roman candles, floral shells, artillery shells;
3. Any firework intended to move after the piece is placed and fired; such as bottle rockets, parachutes, buzzbombs, pinwheels, helicopters, jumping jacks;
4. Sparklers more than 20 inches (508 mm) in length;
5. Any firework that contains mercury, arsenic tetryl, phosphorous, sulphocyanide, mercury, magnesium, potassium picrate, gallic acid, chlorate compounds, gunpowder, sulphur, chlorate or potash and sugar, or any highly oxidizing agent;
6. Any firework having a side fuse, or a fuse inserted at any point along the length of the firework; and
7. Any firework found by the Fire Chief to be dangerous to the safety of any person or property.

**5609.1.1.2 Permitted fireworks.** The following fireworks are permitted to be stored, displayed, sold, delivered, used and possessed in accordance with the provisions of this chapter:

1. Any firework specifically excepted in this article;

2. Toy paper caps containing not more than twenty-five hundredths (0.25) of a grain of explosive composition per cap;
3. Sparklers not more than 20 inches (508 mm) in length;
4. Torches;
5. Box fire;
6. Fountains;
7. Cones;
8. Non-poisonous snakes;
9. Paper novelty items;
10. Colored lights; and
11. Any other fireworks tested by an approved agency or organization and approved by the code official.

**5609.1.1.3 Labeling.** Each standard retail package or retail item of fireworks stored, kept for sale, sold, or delivered by any person engaged in the business of selling fireworks shall be labeled or marked with the name of the manufacturer, the number and type of the firework, and directions of use.

## **5609.2 Limitations and requirements for permitted fireworks**

**5609.2.1 Prohibitions.** No person shall manufacture, process, package, repackage, store, keep for sale, display, sell or deliver any of the following in the District of Columbia:

1. Any firework which emits flame or sparks to a distance greater than 12 feet (3658 mm);
2. Any imitation or actual firework which resembles a firecracker or cherry bomb;
3. Any firework that has a fuse which is not individually protected by a protective cap or seal approved by the Fire Chief or the designated agent of the Fire Chief; or
4. Any cylindrical tube firework that has a clay choke or other restrictive device which may delay the escape of gases.

**5609.2.2 Cylindrical tube fireworks.** Cylindrical tube fireworks that comply with the following requirements are permitted to be sold or offered for sale in the District of

Columbia:

1. The top surface of the composition load shall be flat (parallel to the plane of the tube end);
2. The space between the top surface and the open end of the tube shall be equal in all diameters to the maximum inside diameter of the tube, without restrictions of any kind;
3. Between the lower end of the composition load and the base of the tube there shall be a solid clay plug with a minimum length of 1 inch (25 mm);
4. The plug shall be formed of clay moistened with oil, dextrine, or other material suitable to give uniform hardness and strength and to ensure positive adhesion to the inside of the tube;
5. There shall be no void between the end of the composition load and the clay plug, or between the clay plug and the handle or spike;
6. The specifications for the manufacture of the firework shall require the clay plug to be loaded into the tube in not less than four (4) increments, each separately loaded and separately pressed;
7. Handles or spikes shall be inserted into the tube a minimum distance of 2 inches (51 mm) or 25 percent of the tube length in tubes less than 5 inches (152 mm) long; and
8. The spike or handle shall be firmly attached to the clay base and to the sides of the tube.

### **5609.3 Required permits and licenses**

**5609.3.1 Firework licenses required.** No *person* shall engage in the business of selling or offering to sell any fireworks, either at wholesale or at retail, until such *person* has obtained a business license from the Department of Consumer and Regulatory Affairs as required by D.C. Official Code § 47-2814 and Title 17, Chapter 5 DCMR. No *person* licensed under this section shall store, keep for sale, deliver, or display any fireworks other than those authorized by this chapter.

**5609.3.2 Operational permit required.** An operational permit is required, in accordance with Section 105.6.15, for the manufacture, storage, handling, sale or use of any quantity of fireworks within the scope of Chapter 56.

**5609.3.2.1 Financial responsibility.** Any *person* applying for a permit for the purposes of storage or retail of fireworks shall file with the Fire Chief or his representative a corporate surety bond in the principal minimum sum of \$100,000

or a public liability insurance policy for the same sum for the purposes of payment of damages to persons or property which arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results. This section shall apply to all permanent and temporary retail establishments.

**5609.3.3 Authority to conduct inspections.** The *fire code official* is authorized to inspect all firework products, and all locations where fireworks are sold or stored, to ensure that such products and locations are in compliance with the requirements of Chapter 56.

**5609.3.3.1 Unloading and reloading of fireworks.** It is the applicant's responsibility to provide sufficient labor to unload and reload fireworks, as shall be required for inspection. The inspectors shall not participate in unloading or reloading fireworks.

**5609.3.3.2 Approved storage location.** All wholesale fireworks that are not stored in an *approved* location are required to be removed from the jurisdiction.

**5609.3.4 Temporary structures and uses.** A permit to construct a temporary *structure* and a certificate of occupancy for temporary use and occupancy of that *structure* shall be obtained from DCRA in accordance with Section 107 of the *Building Code* in connection with the retail sale of fireworks, where applicable.

#### **5609.4 Additional requirements for wholesale and retail sales.**

**5609.4.1 Restrictions on deliveries.** No wholesale licensee shall make deliveries to any retail sale location during rush hour. For the purposes of this section, rush hour shall be defined as the hours between 6:30 a.m. and 9:30 a.m. and between 3:30 p.m. and 6:30 p.m. daily, except Saturdays, Sundays and legal holidays.

**5609.4.2 Vehicle standards.** In the interest of public safety, all vehicles transporting wholesale fireworks shall meet the following standards.

1. All vehicles used to transport or distribute wholesale fireworks shall be placarded to indicate their contents;
2. A 2A20 BC fire extinguisher shall be carried in the cab of each vehicle;

**5609.4.3 Wholesaler's records.** Each wholesaler licensee shall maintain full and complete records of all purchases and sales of fireworks. The Fire Chief is authorized to examine the books and records of any wholesale licensee with respect to purchases and sales of fireworks.

**5609.4.4 Sample required.** Persons engaged in the business of selling or offering to sell fireworks at wholesale shall submit to the Fire Chief at least three (3) samples of each firework proposed to be sold or delivered by the wholesaler, together with complete specifications and a chemical analysis for each firework. These samples shall be submitted to the Office of the Fire Marshal no later than February 1 of each year.

**5609.4.5 Retail sale of fireworks.** All fireworks for retail sale in the District of Columbia shall be purchased in the District of Columbia from a licensed fireworks wholesaler.

**5609.4.6 Minimum age.** No individual shall participate in the retail sale of fireworks unless he/she is 18 years of age or older.

**5609.4.7 Hours of sales operation.** No fireworks product shall be offered for retail sale between the hours of 10:00 PM to 10:00 AM at any location in the District of Columbia.

**5609.4.8 Retailer's records.** Each retail licensee shall maintain full and complete records of all purchases of fireworks.

#### **5609.5 Additional Safety Requirements for Fireworks**

**5609.5.1 Prohibitions near flammable materials.** No *person* shall sell, handle, store, or discharge any fireworks within 50 feet (15240 mm) of any gasoline pump, fill line, vent line, or any building where flammable liquids are stored or handled.

**5609.5.2 Places where discharges are prohibited.** No *person* shall discharge fireworks within 50 feet (15240 mm) of a place where fireworks are stored, handled, or sold.

**5609.5.3 Removal or relocation.** If the Fire Chief finds that fireworks are stored or displayed in any of the following ways, the Fire Chief is authorized to issue written orders to the *owner* of the *premises* where the fireworks are stored or displayed, or to the *person* owning, storing or displaying the fireworks, to remove or relocate that storage or display.

1. In a location that would impede egress from the premises in the event of a fire;
2. In close proximity to a source of possible ignition; or
3. In any other manner that is dangerous to persons or property.

**5609.5.4 No smoking signs.** “No Smoking” signs that comply with Section 3102.3 shall be posted at all retail firework stands.

**5609.5.5 Fire extinguishers.** At least one fire extinguisher with a minimum rating of 2A shall be installed in each retail fireworks stand. The fire extinguisher shall be maintained in accordance with NFPA 10.

#### **5609.6 Seizure of Fireworks**

**5609.6.1 Fireworks subject to seizure.** All fireworks sold, offered for sale, stored, processed, or transported in violation of this chapter shall be subject to seizure by the Fire Chief.

**5609.6.2 Impounding.** The Fire Chief shall impound all seized fireworks in a place under such conditions that will reduce as much as reasonably possible any threat from those impounded fireworks to the safety of any person or property.

**5609.6.3 Notice to destroy or transport.** At the time of seizure, the Fire Chief shall issue a written notice to the owner of the fireworks or the owner's agent stating that all seized fireworks shall be destroyed 30 days from the date of the notice. All seized fireworks approved for sale in the District of Columbia may be returned provided the owner of the fireworks or the owner's agent can make arrangements satisfactory to the Fire Chief within 30 days from the date of the notice to properly transport the permitted fireworks to an approved location.

**5609.6.4 Destruction of fireworks.** If the arrangements required under Section 5609.6.3 are not made within 30 days from the date on which written notice is given by the Fire Chief to the owner of the fireworks or the owner's agent, the Fire Chief shall destroy or order the destruction of the seized fireworks in a manner that reasonably avoids danger to any person or property.

**CHAPTER 61 LIQUEFIED PETROLEUM GASES****6101 GENERAL****6101 GENERAL**

*Strike Section 6101.2 of the International Fire Code in its entirety and insert a new Section 6101.2 into the Fire Code in its place to the read as follows:*

**6101.2 Permits.** An operational permit for storage and/or use of LP-gas is required in accordance with Section 105.6.28, and an installation permit is required in accordance with Section 105.7.6 for installation of or modification to an LP-gas system. Distributors shall not fill an LP-gas container for which a permit is required unless a permit for installation has been issued for that location by the fire *code official*.

**6101.2.1 Empty Containers:** Empty or partially filled containers which have been used in LP-gas service shall be considered as full containers.

*Insert a new Section 6101.4 into the Fire Code to read as follows:*

**6101.4 Natural Gas:** The use of liquefied petroleum gas is prohibited wherever natural gas is available except where permitted by the *code official*.



**APPENDIX B      FIRE-FLOW REQUIREMENTS FOR BUILDINGS**

*The provisions of Appendix B, Fire-Flow Requirements, in the International Fire Code are hereby adopted in their entirety as Appendix B to the Fire Code.*

**APPENDIX C      FIRE HYDRANT LOCATIONS AND DISTRIBUTION**

*The provisions of Appendix C, Fire Hydrant Locations and Distribution, in the International Fire Code are hereby adopted in their entirety as Appendix C to the Fire Code.*

**APPENDIX D      FIRE APPARATUS ACCESS ROADS**

*The provisions of Appendix D, Fire Apparatus Access Roads, in the International Fire Code are hereby adopted in their entirety as Appendix D to the Fire Code.*

**APPENDIX H      HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP)  
AND HAZARDOUS MATERIALS INVENTORY STATEMENT  
(HMIS) INSTRUCTIONS**

*The provisions of Appendix H, Hazardous Materials Management Plan (HMMP) and Hazardous Materials Inventory Statement (HMIS) Instructions, in the International Fire Code are hereby adopted in their entirety as Appendix H to the Fire Code.*

*Insert a new Appendix N Home Day Care into the Fire Code to read as follows:*

## APPENDIX N HOME DAY CARE

### N101 GENERAL

### N102 DEFINITIONS

### N103 MEANS OF EGRESS

### N104 SMOKE DETECTION

### N105 CARBON MONOXIDE DETECTION

### N106 OCCUPANT LOAD

### N107 FIRE EXTINGUISHERS

### N108 FIRE SAFETY AND EVACUATION PLANS

### N109 INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS

## N101 GENERAL

### N101.1 General.

This appendix shall apply to home day care facilities (a) operated in *dwelling units* within existing detached one and two-family *dwelling*s and townhouses within the scope of the *Residential Code* and within R-3 *dwelling*s, and (b) occupied by persons of any age who receive custodial care for less than 24 hours by individuals other than parents or guardians or relatives by blood, marriage, or adoption, and in a place other than the home of the person cared for. Appendix N does not apply to the following:

1. Day care facilities that are classified as Group E or Group I-4 under the *Building Code*.
2. Adult day care where any of the clients are *incapable of self-preservation*, unless such persons are cared for in rooms located on a *level of exit discharge* serving such rooms and each room has an *exit* door directly to the exterior.
3. A child day care facility within a *dwelling unit* that is located in a multi-family building classified as an R-2 occupancy.

**N101.2 Number of occupants.** For purposes of this Appendix, the number of occupants of a *dwelling unit* used for home day care shall include care receivers, caregivers, residents and guests. Where a provision of this Appendix expressly refers to a number of children, children residing in the *dwelling unit* shall be included in the calculation total.

**N101.3 Other requirements.** The requirements of this Appendix N shall not abrogate, or be deemed to abrogate, any other applicable legal requirements imposed on owners and operators of home day care facilities, including but not limited to the *Zoning Regulations* (Title 11 DCMR), the District of Columbia Department of Health Child Development Facility Regulations, (Title 29 DCMR), and Title III of the Americans with Disabilities Act of 1990, 42 USC § 12101 *et seq.*

**N101.4 Sprinkler requirements.** Home day care facilities located in *existing dwelling units that are not protected by an automatic sprinkler system* and that meet the requirements of Appendix N are not required to be protected by an *automatic sprinkler system* in accordance with Section R313 of the *Residential Code* and Section 903.2.8 of the *Fire Code* as applicable.

## N102 DEFINITIONS

**EXIT.** That portion of a means of egress system between the *exit access* and the *exit* discharge or public way. *Exit* components include exterior *exit* doors at the *level of exit discharge*, interior *exit* stairways, interior *exit* ramps, *exit* passageways, exterior *exit* stairways and exterior *exit* ramps and horizontal *exits*.

**EXIT ACCESS.** That portion of a *means of egress* system that leads from any occupied point in a *building* or *structure* to an *exit*.

**EXIT DISCHARGE, LEVEL OF.** The story at the point at which the *exit* terminates and the *exit* discharge begins.

**MEANS OF EGRESS.** A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to the exterior at grade. A means of egress consists of three separate and distinct parts: the *exit access*, the *exit* and the *exit* discharge.

## N103 MEANS OF EGRESS

**N103.1 Means of egress.** The means of egress from each level of the one or two family *dwelling unit* used as a home day care occupancy shall comply with this section.

**N103.1.1 Below grade level, any number of occupants.** Below grade levels shall be provided with two means of egress, one of which shall consist of an *exit* door that provides direct access to the exterior.

**Exception:** One and two family *dwelling units* used as a home day care occupancy where the occupancy is equipped throughout with an automatic sprinkler system in accordance with Section R313 of the *Residential Code* or Section 903.2.8 of the *Fire Code*, as applicable, need only provide an *exit* door that provides direct access to the exterior.

**N103.1.2 At grade level, 9 occupants or less.** At grade levels with an occupant load of 9 or less shall be provided with an *exit* door that provides direct access to the exterior and a means of escape in compliance with Section R310 of the *Residential Code*.

**Exception:** One and two family *dwelling units* used as a home day care occupancy equipped with an automatic sprinkler system in accordance with Section R313 of the *Residential Code* or Section 903.2.8 of the *Fire Code*, as applicable, need only provide an *exit* door that provides direct access to the exterior.

**N103.1.3 At grade level, more than 9 occupants.** At grade levels with an occupant load of more than 9 shall be provided with two *means of egress*, one of which shall be an *exit* door that provides direct access to the exterior.

**N103.1.4 Second story, 9 occupants or less.** The second story with an occupant load of 9 or less shall be provided with a means of *exit access* and a means of escape in compliance with Section R310 of the *Residential Code*.

**N103.1.5 Second story, more than 9 occupants.** The second story with an occupant load of more than 9 shall be provided with two *means of egress*, one of which shall be an *exit* door that provides direct access to the exterior.

**Exception:** One and two family *dwelling units* used as a home day care occupancy equipped with an automatic sprinkler system in accordance with Section R313 of the *Residential Code* or Section 903.2.8 of the *Fire Code*, as applicable, need only provide a means of *exit access* and a means of escape in compliance with Section R310 of the *Residential Code*.

**N103.1.6 Dwellings with three or more stories, any number of occupants.** Home day care shall not be provided above the second story in *dwellings* with three or more stories.

**Exception:** The third story is allowed to be used for home day care where the *dwelling* is equipped throughout with an automatic sprinkler system in accordance with Section R313 of the *Residential Code* or Section 903.2.8 of the *Fire Code*, as applicable, and where the third story is provided with a means of *exit access* and a means of escape in compliance with Section R310 of the *Residential Code*.

**N103.2 Yards.** If the *yard* is to be used as part of the home day care operation it shall be fenced in accordance with N103.2.

**N103.2.1 Type of fence and hardware.** The fence shall be of durable materials and be at least 6 feet (1529 mm) tall, completely enclosing the area used for the day care operations. Each opening shall be a gate or door equipped with a self-closing and self-latching device to be installed at a minimum of 5 feet (1528 mm) above the ground.

**Exception:** The door of any *dwelling* which forms part of the enclosure need not be equipped with self-closing and self-latching devices.

**N103.2.2 Construction of fence.** Openings in the fence, wall or enclosure required by this section shall have intermediate rails or an ornamental pattern that do not allow a sphere 4 inches (102 mm) in diameter to pass through. In addition, the following criteria must be met:

1. The maximum vertical clearance between *grade* and the bottom of the fence, wall or enclosure shall be 2 inches (51 mm).

2. Solid walls or enclosures that do not have openings, such as masonry or stone walls, shall not contain indentations or protrusions, except for tooled masonry joints.
3. Maximum mesh size for chain link fences shall be  $1\frac{1}{4}$  inches (32 mm) square, unless the fence has slats at the top or bottom which reduce the opening to no more than  $1\frac{3}{4}$  inches (44 mm). The wire shall not be less than 9 gauge 0.148 inch (3.8 mm).

**N103.2.3. Decks.** Decks that are more than 12 inches (305 mm) above *grade* shall have a guard in compliance with Section R312 of the *Residential Code*.

**N103.3 Type of lock and latches for exits.** Regardless of the occupant load served, *exit* doors shall be capable of being opened from the inside without the use of a key or any special knowledge or effort. When the occupant load is 10 or less, a night latch, dead bolt or security chain may be used, provided such devices are capable of being opened from the inside without the use of a key or tool, and mounted at a height not to exceed 48 inches (1219 mm) above the finished floor.

**N103.4 Landings.** Landings for stairways and doors shall comply with Section R311 of the *Residential Code*, except that landings shall be required for the exterior side of a sliding door when a home day care is being operated in a Group R-3 occupancy.

## **N104 SMOKE DETECTION**

**N104.1 General.** Smoke alarms shall be installed in all home day care occupancies. Smoke alarms shall be installed in accordance with Section R313 of the *Residential Code* or Section 907.2.11.2 of the *Fire Code* as applicable. In addition to the locations required by Section R313 of the *Residential Code* or Section 907.2.11.2, smoke alarms shall be installed in all areas used for napping.

## **N105 CARBON MONOXIDE DETECTION**

**N105.1 General.** Carbon monoxide alarms shall be installed in all home day care occupancies equipped with a fuel burning appliance or an attached garage. Carbon monoxide alarms shall be installed in accordance with Section R315 of the *Residential Code* or Section 908.7 of the *Fire Code* as applicable.

## **N106 OCCUPANT LOAD**

**N106.1 Maximum number of occupants.** The maximum number of occupants allowed in a home day care facility shall be determined by the square footage of those portions of the *dwelling unit* legally used for home day care activities. The occupant load factor shall be 35 square feet net per occupant, provided that, regardless of square footage, the maximum number



of clients served in home day care shall not exceed 12 persons.

**N106.2 Infants.** The minimum staff-to-client ratio for children age two or younger (referred to herein as “infants”) shall be 1:2, provided that the number of infants shall not, under any circumstances, exceed six. Where children of various ages are present in a home day care facility, including the caregiver’s children, the caregiver/child ration shall comply with Table N106.2 following table shall apply:

**TABLE K 106.2 HOME DAY CARE CAREGIVER/CHILD RATIO**

Age of children <sup>1</sup>	Adult /Child Ratio	Maximum Group size
1 infant and between 1 and 11 children over 2 years of age	1:6	12
2 infants and between 1 and 4 children over 2 years of age	1:6	6
3 infants and between 1 and 6 children over 2 years of age	1:3 (but at least 2 caregivers)	9
4 infants and between 1 and 8 children over 2 years of age	1:3 (but at least 2 caregivers)	12
5 infants and between 1 and 4 children over 2 years of age	3 caregivers	9
6 infants and between 1 and 3 children over 2 years of age	3 caregivers	9

<sup>1</sup> A child who is non-ambulatory will be treated the same as an infant for purposes of the caregiver/child ratio,

**N106.4 Adults.** The minimum staff-to-client ratio for adults in *dwellings* used for home day care operations shall be as follows:

1. One caregiver for every two adult occupants *incapable of self-preservation* shall be maintained at all times in *dwellings* not protected with automatic sprinklers in accordance with Section R313;
2. One caregiver for every six adult occupants *incapable of self-preservation* shall be maintained at all times in *dwellings* protected with automatic sprinklers in accordance with Section R313 of the *Residential Code* or Section 907.2.11.2 of the *Fire Code* as applicable;
3. One caregiver for every six adult occupants capable of self-preservation shall be maintained at all times in *dwellings* used for home day care operations.

**N107 FIRE EXTINGUISHERS**

**N107.1 General.** Multi-purpose fire extinguishers of a type approved for use in residences must be maintained in good working condition and installed in the kitchen and outside the furnace room of the *dwelling*. The caregivers must know how to use the fire extinguishers installed in a home day care. Fire extinguishers with gauges must show a full charge. Fire extinguishers with seals must have unbroken seals.

**N108 FIRE SAFETY AND EVACUATION PLANS**

**N108.1 General.** An *approved* fire safety and evacuation plan shall be prepared and maintained by the home day care provider, and available on the premises for reference and review by employees and by the parents and guardians of the persons in care. The plan must be posted in a conspicuous place in the home day care or filed in a place in the home day care which is available to the parents or guardians of the persons in care. The fire safety and evacuation plan shall be furnished to the *fire code official* for review upon request. Fire safety and evacuation plans shall be reviewed and updated annually or as necessitated by changes in staff assignments, occupancy or the physical arrangement of the building.

**N108.2 Contents.** The fire safety and evacuation plan shall include the following:

1. How children and adults will be made aware of an emergency;
2. Primary and secondary evacuation routes;
3. Floor plans identifying the location of the evacuation routes and other *means of egress*, and the location of portable fire extinguishers;
4. Methods of evacuation, including the meeting place where children and adults will meet after evacuating the home, and how attendance will be taken to determine if all occupants have been successfully evacuated or have been accounted for;
5. The procedure for notification of authorities and the parents/guardians of the persons in care;
6. Procedures and record for emergency evacuation drills and employee training that complies with N108.3; and
7. Such other information as the *code official* shall require.

**N108.3 Emergency evacuation drills; employee training and response procedures.** Emergency evacuation drills shall be conducted at least monthly. Drills should be conducted in exactly the same manner as an actual emergency (except for notifying emergency personnel). The home day care provider shall keep a written record of monthly evacuation drills. The record must include total egress time from the time the alarm sounds until everyone reaches the meeting place.

The record must also list the number of children in care and adults present, and the *exit* that was used. The record shall be available for review by the *code official* upon request. Employees shall be trained in the fire emergency procedures described in the fire safety and emergency evacuation plan as part of new employee orientation.

**N108.4 Matters not provided for.** Home day care providers shall comply with any requirements that are deemed essential for the safety of the occupants of the day care home by the *fire code official*.

## **N109 INTERIOR FINISH, DECORATIVE MATERIALS AND FURNISHINGS**

**N109.1 General.** The selected interior finishes, decorative materials, and furnishings for home day care facilities shall comply with Chapter 8.

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov). Comments on this Notice of Second Proposed Rulemaking must be received no later than thirty (30) days after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-I[CE] and 12-I[RE] DCMR - ENERGY CONSERVATION CODE  
SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia adopts ANSI/ASHRAE/IES 90.1-2013, Energy Standard for Buildings Except Low-Rise Residential Buildings (ASHRAE 90.1) as the *Energy Conservation Code-Commercial Provisions*, and the *Residential Provisions* of the 2015 edition of the *International Energy Conservation Code* (IECC) as the *Energy Conservation Code-Residential Provisions*, as amended by this Supplement.

**ENERGY CONSERVATION CODE SUPPLEMENT OF 2017 – COMMERCIAL  
PROVISIONS (12-I[CE] DCMR)**

***[Commercial Provisions]***

**ASHRAE 90.1 SECTIONS AMENDED OR NEWLY CREATED IN THIS  
SUPPLEMENT:**

SECTION 1	<u>PURPOSE</u> <del>GENERAL</del>
SECTION 2	SCOPE
SECTION 3	DEFINITIONS, ABBREVIATIONS, AND ACRONYMS
SECTION 4	ADMINISTRATION AND ENFORCEMENT
SECTION 5	BUILDING ENVELOPE
SECTION 6	HEATING, VENTILATING, AND AIR CONDITIONING
SECTION 7	SERVICE WATER HEATING
SECTION 8	POWER
SECTION 9	LIGHTING
SECTION 10	OTHER EQUIPMENT
SECTION 11	CONSTRUCTION AND PLANS FOR OPERATION
SECTION 12	NORMATIVE REFERENCES
SECTION 13	RENEWABLE ENERGY
	NORMATIVE APPENDIX A [ASHRAE 90.1] RATED R-VALUE OF INSULATION AND ASSEMBLY U-FACTOR, C-FACTOR AND F-FACTOR DETERMINATIONS
	NORMATIVE APPENDIX B [ASHRAE 90.1] BUILDING ENVELOPE CLIMATE CRITERIA
	NORMATIVE APPENDIX C [ASHRAE 90.1] METHODOLOGY FOR BUILDING

<sup>1</sup> The *District of Columbia Energy Conservation Code (2017)*, referred to as the “Energy Conservation Code,” consists of ANSI/ASHRAE/IES 90.1-2013, Energy Standard for Buildings Except Low-Rise Residential Buildings (ASHRAE 90.1) and substantial portions of Chapter 7 of ANSI/ASHREA/IES 189.1-2014, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings (ASHRAE 189.1), published by the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE), and the Residential Provisions of the 2015 edition of the International Energy Conservation Code (International Energy Conservation Code), published by the International Code Council (ICC), as amended by the *Energy Conservation Code Supplement of 2017 – Commercial Provisions* (12-I[CE] DCMR) and the *Energy Conservation Code Supplement of 2017 – Residential Provisions* (12-I[RE] DCMR). The International Energy Conservation Code is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be obtained at: <https://codes.iccsafe.org/public/document/IECC2015>. ASHRAE 90.1 is copyrighted by ASHRAE and therefore is not republished here. However, the text of ASHRAE 90.1 may be reviewed at: <https://www.ashrae.org/standards-research-technology>. Portions of Chapter 7 of ASHRAE 189.1 are reprinted in the District of Columbia Energy Conservation Code Supplement by permission of ASHRAE and ICC.

ENVELOPE TRADE-OFF OPTION IN SECTION 5.6  
 NORMATIVE APPENDIX D [ASHRAE 90.1] CLIMATIC DATA  
 INFORMATIVE APPENDIX E [ASHRAE 90.1] INFORMATIVE REFERENCES  
 INFORMATIVE APPENDIX F [ASHRAE 90.1] ADDENDA DESCRIPTION  
 INFORMATION  
 NORMATIVE APPENDIX G [ASHRAE 90.1] PERFORMANCE RATING METHOD  
 APPENDIX Z NET-ZERO ENERGY COMPLIANCE PATH

**ENERGY CONSERVATION CODE SUPPLEMENT OF 2017 – RESIDENTIAL  
 PROVISIONS (12-I[RE] DCMR)**

*[Residential Provisions]*

**IECC SECTIONS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

- CHAPTER 1 [RE] SCOPE AND ADMINISTRATION
- CHAPTER 2[RE] DEFINITIONS
- CHAPTER 3 [RE] GENERAL REQUIREMENTS
- CHAPTER 4 [RE] RESIDENTIAL ENERGY EFFICIENCY
- CHAPTER 5[RE] EXISTING BUILDINGS
- CHAPTER 6[RE] REFERENCED STANDARDS
- APPENDIX RA RECOMMENDED PROCEDURE FOR WORST-CASE TESTING OF  
ATMOSPHERIC VENTING SYSTEMS
- APPENDIX RB SOLAR-READY PROVISIONS

**ENERGY CONSERVATION CODE SUPPLEMENT OF 2017 – COMMERCIAL PROVISIONS (12-I[CE] DCMR)**

**ASHRAE 90.1 SECTIONS AMENDED BY THIS SUPPLEMENT**

- SECTION 1 ~~PURPOSE GENERAL~~
- SECTION 2 SCOPE
- SECTION 3 DEFINITIONS, ABBREVIATIONS, AND ACRONYMS
- SECTION 4 ADMINISTRATION AND ENFORCEMENT
- SECTION 5 BUILDING ENVELOPE
- SECTION 6 HEATING, VENTILATING, AND AIR CONDITIONING
- SECTION 7 SERVICE WATER HEATING
- SECTION 8 POWER
- SECTION 9 LIGHTING
- SECTION 10 OTHER EQUIPMENT
- SECTION 11 ENERGY COST BUDGET METHOD
- SECTION 12 NORMATIVE REFERENCES
- ~~SECTION 13 RENEWABLE ENERGY~~
- NORMATIVE APPENDIX A [ASHRAE 90.1] RATED R-VALUE OF INSULATION AND ASSEMBLY U-FACTOR, C-FACTOR AND F-FACTOR DETERMINATIONS
- NORMATIVE B [ASHRAE 90.1] BUILDING ENVELOPE CLIMATE CRITERIA
- NORMATIVE C [ASHRAE 90.1] METHODOLOGY FOR BUILDING ENVELOPE TRADE-OFF OPTION IN SECTION 5.6
- NORMATIVE D [ASHRAE 90.1] CLIMATIC DATA
- INFORMATIVE APPENDIX E [ASHRAE 90.1] INFORMATIVE REFERENCES
- INFORMATIVE APPENDIX F [ASHRAE 90.1] ADDENDA DESCRIPTION INFORMATION
- NORMATIVE APPENDIX G [ASHRAE 90.1] PERFORMANCE RATING METHOD
- APPENDIX Z NET ZERO ENERGY COMPLIANCE PATH

*Strike Section 1 of ASHRAE 90.1 in its entirety and insert a new Section 1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**SECTION 1            PURPOSE**

**1.1    INTENT**

**1.1 INTENT.** The intent of the *Energy Conservation Code-Commercial Provisions* shall be as defined in Chapter 1 of Title 12-A DCMR.

*Strike Section 2 of ASHRAE 90.1 in its entirety and insert a new Section 2 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**SECTION 2           SCOPE**

**2.1    SCOPE**

**2.1 SCOPE.** The scope of the *Energy Conservation Code-Commercial Provisions* shall be as defined in Chapter 1 of Title 12-A DCMR.



**SECTION 3 DEFINITIONS, ABBREVIATIONS, AND ACRONYMS****3.1 GENERAL****3.2 DEFINITIONS****3.3 ABBREVIATIONS AND ACRONYMS**

*Strike Section 3.1 in ASHRAE 90.1 and insert new Section 3.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**3.1 GENERAL.** Certain terms, abbreviations, and acronyms are defined in this section solely for the purposes of the *District of Columbia Energy Conservation Code-Commercial Provisions* (the “ECC(C)”). These definitions are solely applicable to all sections of the ECC(C), and not to any other International Codes adopted by the District of Columbia. Terms that are not defined shall have their ordinarily accepted meanings within the context in which they are used.

**3.2 DEFINITIONS**

*Insert the following new definition in Section 3.2 of ASHRAE 90.1 to read as follows:*

***airflow, minimum outdoor:*** the outdoor airflow provided by a ventilation system to meet requirements for indoor air quality, excluding any additional outdoor air intake to reduce or eliminate the need for mechanical cooling.

*Strike the definitions of “baseline building design” and “baseline building performance” in ASHRAE 90.1 and insert new definitions in their place in the Energy Conservation Code-Commercial Provisions to read as follows:*

***baseline building design:*** a computer representation of a hypothetical design based on the proposed building project. This representation is used as the basis for calculating the baseline building performance for rating above-standard design or when using the performance rating method as an alternative path for minimum standard compliance in accordance with Section 4.2.1.1.

***baseline building performance:*** the annual energy cost for a building design intended for use as a baseline for rating above-standard design or when using the performance rating method as an alternative path for minimum standard compliance in accordance with Section 4.2.1.1.

*Insert the following new definitions in Section 3.2 of ASHRAE 90.1 in the Energy Conservation Code-Commercial Provisions to read as follows:*

***building project:*** a building, or group of buildings, and site that utilize a single submittal for a construction permit or that are within the boundary of contiguous properties under single ownership or effective control. Phased development that is permitted over a period of five years for the same building shall be considered a single project.

***classroom:*** a space primarily used for scheduled instructional activities.

***climate zone:*** see Section 5.1.4.

**commissioning authority (CxA):** an entity identified by the *owner* who leads, plans, schedules, and coordinates the commissioning team to implement the building *commissioning process*. (See *commissioning [Cx] process*.)

**commissioning (Cx) plan:** a document that outlines the organization, schedule, allocation of resources, and documentation requirements of the building *commissioning process*. (See *commissioning [Cx] process*.)

**commissioning (Cx) process:** a quality-focused process for enhancing the delivery of a project. The process focuses upon verifying and documenting that the facility and all of its systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the *owner's project requirements*. (See *owner's project requirements*.)

**daylight area:**

*Strike the definition of "primary sidelighted area" and "secondary sidelighted area" under "daylight area" in ASHRAE 90.1 and the associated Figures 3.2-3 and 3.2 without replacement.*

*Insert a new definition of "sidelighted area" under "daylight area" in the Energy Conservation Code-Commercial Provisions to read as follows:*

**sidelighted area:** Each sidelighted area is directly adjacent to vertical fenestration below the ceiling .

- a. The sidelighted area width is the width of the vertical fenestration plus, on each side, the smaller of:
  1. 3 ft., or
  2. the distance to any 5 ft. or higher opaque vertical obstruction.
- b. The sidelighted area depth is the horizontal distance perpendicular to the vertical fenestration which is the smaller of:
  1. 15 ft., or
  2. the distance to any 5 ft. or higher opaque vertical obstruction.

*Insert the following new definitions in Section 3.2 of ASHRAE 90.1 in the Energy Conservation Code-Commercial Provisions to read as follows:*

**daylight hours:** the period from 30 minutes after sunrise to 30 minutes before sunset.

**densely occupied space:** those *spaces* with a design occupant density greater than or equal to 25 people per 1000 ft.<sup>2</sup> (100 m<sup>2</sup>).

**electronics:** computers and accessories; monitors; printers; and other equipment, such as scanners, fax machines, electric typewriters, cell phones, telephones, answering machines, shredders, postage machines, televisions, VHS/DVD players, portable cassette/CD players with radio devices, and stereo equipment.

***geothermal energy:*** heat extracted from the Earth’s interior and used to produce electricity or mechanical power or provide thermal energy for heating buildings or processes. *Geo- thermal energy* does not include systems such as heat pumps that use energy independent of the geothermal source to raise the temperature of the extracted heat.

***high efficacy lamps.*** *LEDs, Compact fluorescent lamps, T-5 or smaller diameter linear fluorescent lamps, or lamps with a minimum efficacy of:*

1. *60 lumens per watt for lamps over 40 watts,*
2. *50 lumens per watt for lamps over 15 watts to 40 watts, and*
3. *40 lumens per watt for lamps 15 watts or less.*

***high-speed door:*** a non-swinging door used primarily to facilitate vehicular access or material transportation, and having an *automatic* closing device with an opening rate of not less than 32 in./s (810 mm/s) and a closing rate of not less than 24 in./s (610 mm/s).

***lighting zone (LZ):*** an area defining limitations for outdoor lighting.

***LZ0:*** undeveloped areas within national parks, state parks, *forest land*, rural areas, and other undeveloped areas as defined by the *AHJ*.

***LZ1:*** developed areas of national parks, state parks, *forest land*, and rural areas.

***LZ2:*** areas predominantly consisting of *residential* zoning, neighborhood business districts, light industrial with limited night time use, and *residential* mixed-use areas.

***LZ3:*** all areas not included in *LZ0, LZ1, LZ2, or LZ4*.

***LZ4:*** high-activity commercial districts in major metropolitan areas as designated by the local jurisdiction.

***networked guest-room control system:*** an energy management control system, accessible from the hotel/motel front desk or other central location, that is capable of identifying reserved rooms according to a timed schedule and is capable of controlling each hotel/motel guest room separately.

***on-site renewable energy system:*** photovoltaic, solar thermal, *geothermal energy*, biogas, wastewater thermal and wind systems used to generate energy and located on the *building project*.

***owner:*** as term is defined in Section 202, Title 12-A DCMR.

***owner’s project requirements (OPR):*** a written document that details the functional requirements of a project and the expectations of how it will be used and operated. These include project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.

*Strike the definitions of “performance rating method” and “rating authority” in ASHRAE 90.1 and insert new definitions in their place in the Energy Conservation Code-Commercial Provisions to read as follows:*

***performance rating method:*** a calculation procedure that generates an index of merit for the performance of building designs that substantially exceeds the energy efficiency levels required by this standard or when using the performance rating method as an alternative path for minimum

standard compliance in accordance with Section 4.2.1.1.

**rating authority:** the organization, building official, or agency that adopts, enforces, or sanctions use of this rating methodology.

*Insert the following new definitions in Section 3.2 of ASHRAE 90.1 in the Energy Conservation Code-Commercial Provisions to read as follows:*

**thermal barrier:** the boundary between conditioned and unconditioned space which does not contain *thermal bridges*.

**thermal bridge:** part of a building's conditioned envelope which spans between the conditioned and unconditioned space, has an R-value of 1.5 per inch or less, and is not otherwise insulated along the one-dimensional conductive heat transfer pathway of less than R-3/inch for 1 inch. For the purposes of this definition, fenestration is not counted as a thermal bridge.

**water factor (WF):**

- a. **clothes washer (residential and commercial):** the quantity of water in gallons (liters) used to wash each cubic foot (cubic meter) of machine capacity.
- b. **residential dishwasher:** the quantity of water use in gallons (liters) per full machine wash and rinse cycle.

### 3.3 ABBREVIATIONS AND ACRONYMS

*Insert a new abbreviation into Section 3.3 of ASHRAE 90.1 in the Energy Conservation Code-Commercial Provisions to read as follows:*

**CxA**            *commissioning authority*

*Strike Section 4 of ASHRAE 90.1 in its entirety and insert a new Section 4 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**SECTION 4                    ADMINISTRATION AND ENFORCEMENT**

**4.1        ADMINISTRATION AND ENFORCEMENT**

**4.1        ADMINISTRATION AND ENFORCEMENT.** Administration and enforcement of the *Energy Conservation Code-Commercial Provisions* shall be governed by Chapter 1, Title 12-A DCMR.

## SECTION 5 BUILDING ENVELOPE

### 5.1 GENERAL

### 5.2 COMPLIANCE PATHS

### 5.4 MANDATORY PROVISIONS

### 5.5 PRESCRIPTIVE BUILDING ENVELOPE OPTION

### 5.1 GENERAL

*Strike Section 5.1.3 of ASHRAE 90.1 in its entirety and insert a new Section 5.1.3 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**5.1.3 Envelope Alterations.** Alterations to the building envelope shall comply with the requirements of Section 5 for insulation, air leakage, and fenestration applicable to those specific portions of the building that are being altered.

**Exceptions:** The following alterations need not comply with these requirements, provided such alterations will not increase the energy usage of the building:

1. Installation of storm windows or glazing panels over existing glazing, provided the storm window or glazing panel contains a low-emissivity coating. However, a low-emissivity coating is not required where the existing glazing already has a low-emissivity coating. Installation is permitted to be either on the inside or outside of the existing glazing.
2. Replacement of glazing in existing sash and frame due to individual broken panes and considered repair only, provided the U-factor and SHGC will be equal to or lower than before the glass replacement.
3. Alterations to roof/ceiling, wall, or floor cavities that are insulated to full depth with insulation having a minimum nominal value of R-3.0/in.
4. Alterations to walls and floors, where the existing structure is without framing cavities and no new framing cavities are created.
5. *Roof recovering.*
6. Replacement of existing doors that separate a conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided that an existing vestibule that separates a conditioned space from the exterior shall not be removed.

### 5.2 COMPLIANCE PATHS

*Strike Section 5.2.2 of ASHRAE 90.1 in its entirety and insert a new Section 5.2.2 in the Energy Conservation Code-Commercial Provisions to read as follows:*

**5.2.2** Projects using the Performance Method (See ~~Section~~ Appendix G) ~~must~~ shall comply with Section 5.4, the mandatory provisions of this section, as a portion of that compliance path.

## 5.4 MANDATORY PROVISIONS

*Insert a new Section 5.4.1.1 in in the Energy Conservation Code-Commercial Provisions to read as follows:*

~~**5.4.1.1 Continuous Thermal Barrier.** The entire building envelope shall be designed and constructed with a continuous *thermal barrier*. This includes, but is not limited to parapet walls, intersections between conditioned walls and roof, intersections between conditioned walls and unconditioned floors, common walls/ceilings, floors adjacent to other buildings, and wall/roof/flooring framing members. Where structural elements limit the ability of a continuous *thermal barrier*, the applicant is authorized to extend a minimum of R-8 continuous insulation on one side of the thermal bypass for 24 inches. The opposite side of the thermal bypass must shall meet the insulation requirements of Table 5.5. For the purposes of modeling via Appendix G or Section 5.6, applicants shall not include the additional R-8 as part of the insulated assembly U-value, but are allowed to represent the reference energy model to include no thermal bypasses, and maintain the full R value or U-value of the primary assembly. The thermal performance of the building assemblies shall be calculated in accordance with Appendix A.~~

### **Exceptions:**

- ~~1. Electrical wiring used for transmission of energy.~~
- ~~2. Plumbing penetrations.~~
- ~~3. Flashing requirements for moisture management.~~
- ~~4. Wall insulation extending past the slab on grade into the ground shall use the slab edge insulation requirements on one side of the footing per Table 5.5-4. The full depth of the slab does not have to be insulated provided that the project complies with Table 5.5-4.~~
- ~~5. Slabs below grade where the adjacent wall is between conditioned space and the ground.~~
- ~~6. Bypasses protected by the minimum continuous insulation requirement.~~
- ~~7. Metal framed or metal building components insulated to  $\geq$  R-10 continuous.~~
- ~~8. Wood framing components summing less than 5% of gross envelope area.~~
- ~~9. Wood framing components insulated with  $\geq$  R-3 continuous.~~
- ~~10. In existing buildings, at specific locations where application of Section 5.4.1.1 would conflict with the Zoning Regulations, cause an encroachment into adjoining premises, cause an unacceptable projection in the public space, cause an increase of fire resistance rating requirements, result in a reduction of allowable openings for the affected walls, or create a conflict with other provisions of the *Construction Codes*.~~

**5.4.1.1 Accounting for Thermal Conduction Components.** Where a component of the building envelope assembly reduces the overall U-value of the rest of the assembly, that component shall be thermally represented and integrated into the area-weighted U-value as described by the following default methodology. This default methodology shall be used in all energy compliance pathways including: Prescriptive U-value compliance, Section 5.6 Trade-off, and Appendix G energy model. Prescriptive R-value compliance with Table 5.5-4 and the energy model baseline shall assume Default Cladding Attachment Coefficients = 1 from Table 5.4.1.1(1) and no Linear Anomalies as described in Table 5.4.1.1(2). Tables 5.4.1.1(1) and 5.4.1.1(2) shall be used in conjunction with Equation 5.4.1.1 and associated default calculation methodology to account for common thermal conduction situations not currently described in Appendix A. In lieu of the equation and methodology the project team may demonstrate to the authority having jurisdiction two dimensional heat flow modeling, three dimensional heat flow modeling, linear transmission calculations per ASHRAE D RP-1365, or hot box-testing results showing the resultant area-weighted U-value as acceptable to the authority having jurisdiction. If using this alternate methodology, all thermal bridges described by ASHRAE D RP-1365 shall be represented.

**Exceptions:**

1. Electrical wiring used for transmission of energy
2. Plumbing penetrations complying with prescriptive insulation requirements of section 7.
3. Mechanical penetrations complying with prescriptive insulation requirements of section 6.
4. Non-metal flashing for moisture management.

Equation 5.4.1.1: 
$$U\text{-value}_{(\text{Overall including Thermal Bridges})} = \frac{1}{\left(\frac{1}{U_{bw}} + (Re * Cac)\right) * Wac}$$

Where:

U<sub>bw</sub> = “Overall U-Factor for Entire Base Wall Assembly” (such as from ASHRAE Table A3.3, A3.4 – Insulation in stud cavity, plus gypsum, thermal boundary layers)

Re = Nominal Exterior insulation R-value (From Project Design)

Cac = Cladding Attachment Coefficient (from Table 5.4.1.1(1))

Wac = Wall Anomaly Coefficient (from Table 5.4.1.1(2))

Default Methodologies:

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Option A – Specification Approach:

- 1) If complying with the Prescriptive R-value requirements per Table 5.5-4 the project must have:
  - a. No Linear Anomalies for Vertical Assemblies as described in Table 5.4.1.1
  - b. For projects using exterior insulation “Materials and/or Orientations” identified in Table 5.4.1.1(1) with Cladding Attachment Coefficients (Cac) of



1 shall be explicitly specified in the drawings and/or specifications.

Option B – Simplified Approach:

- 1) Find the lowest Default Linear Anomaly for Vertical Assembly applicable to the proposed design. Use this value to include in Equation 5.4.1.1
- 2) Determine the Default Cladding Attachment Coefficient for the proposed design
- 3) Use equation 5.4.1.1 to determine U-value<sub>(Overall including Thermal Bridges)</sub> for vertical walls
- 4) Use the calculated U-value<sub>(Overall including Thermal Bridges)</sub> for compliance with prescriptive U-value compliance per Table 5.5-4, Trade off method section 5.6 (via COMCheck), or the proposed energy model via Appendix G.
- 5) Calculations and assumptions shall be presented to the authority having jurisdiction

Option C – Detailed Approach:

- 1) Define a new rectangular vertical wall area associated with one Default Linear Anomaly per story, or part of a story (includes stories below grade)
- 2) If there is more than one Default Linear Anomaly per vertical, rectangular wall section (for example such as a wall with both a concrete balcony and a parapet), select the lowest Default Linear Anomaly Coefficient for Vertical Assembly and use that for Equation 5.4.1.1
- 3) Determine the Default Cladding Attachment Coefficient for the proposed design wall section.
- 4) Use equation 5.4.1.1 to determine U-value<sub>(Overall including Thermal Bridges)</sub>
- 5) Use the calculated U-value<sub>(Overall including Thermal Bridges)</sub> for compliance with prescriptive U-value compliance per Table 5.5-4, Trade off method section 5.6 (via COMCheck), or the proposed energy model via Appendix G.
- 6) Each unique vertical wall assembly shall be evaluated and/or included for the compliance Options C step 5
- 7) Calculations and assumptions shall be presented to the authority having jurisdiction

See following Tables:

<b>Table 5.4.1.1(1) - Default Cladding Attachment Coefficient</b>		
<b><u>Attachment type through Rigid Insulation</u></b>	<b><u>Material and/or Orientation</u></b>	<b><u>Cladding Attachment Coefficient, Cac</u></b>
<u>Girts</u>	<u>Metal Vertical girt (Detail 1*)</u>	<u>53%</u>
	<u>Horizontal Metal girt (Detail 2*)</u>	<u>62%</u>
	<u>Horizontal Non-Metal girt</u>	<u>100%</u>
<u>Clips</u>	<u>Metal Clips</u>	<u>75%</u>
	<u>Stainless Steel Clips</u>	<u>85%</u>
	<u>Thermal Stop Clips</u>	<u>90%</u>
	<u>Fiberglass Clip</u>	<u>100%</u>
<u>Brick Ties</u>	<u>Steel Brick Ties</u>	<u>78%</u>
	<u>Stainless Steel Brick Ties</u>	<u>90%</u>
	<u>Thermal Break Brick Ties</u>	<u>100%</u>
<u>Long Screws</u>	<u>Galvanized Long Screws</u>	<u>80%</u>
	<u>Stainless Long Screws</u>	<u>100%</u>

\*Detail Associated with ASHRAE D RP-1365

**Table 5.4.1.1(2) - Default Linear Anomaly Coefficient for Vertical Assembly**

<u>Construction Type</u>	<u>Wall Linear Anomaly</u>	<u>Insulation Placement</u>	<u>ASHRAE D RP -1365 Detail #</u>	<u>Wall Anomaly Coefficient, Wac</u>
<u>All Wall Facades</u>	<u>Concrete Balcony or Concrete Floor</u>	<u>Uninsulated at top and bottom, exterior and in stud cavity insulation</u>	<u>5</u>	<u>36%</u>
	<u>Concrete Balcony or Concrete Floor</u>	<u>Insulated at top of slab, exterior and in stud cavity insulation</u>	<u>5</u>	<u>39%</u>
	<u>Concrete Balcony or Concrete Floor</u>	<u>insulated at top and bottom of slab, exterior and in stud cavity insulation</u>	<u>5a</u>	<u>42%</u>
<u>All Facades with Structural Steel</u>	<u>Steel Support for Floor</u>	<u>Interior Insulated Wall</u>	<u>16</u>	<u>64%</u>
	<u>Steel Support for Floor</u>	<u>Exterior &amp; Interior Insulated</u>	<u>17</u>	<u>80%</u>
	<u>Metal or Masonry Parapet</u>	<u>Exterior Rigid and Interior Framed</u>	<u>10</u>	<u>72%</u>
<u>Brick Facade</u>	<u>Concrete Slab with Standard Metal Shelf Angle or Metal Flashing</u>	<u>Exterior Rigid and Interior Framed</u>	<u>14</u>	<u>54%</u>
	<u>Concrete Slab with Reduced-Contact Metal Shelf Angle</u>	<u>Exterior Rigid and Interior Framed</u>	<u>15</u>	<u>65%</u>
	<u>Metal or Masonry Parapet</u>	<u>Both sides insulated with rigid, with Roof insulation</u>	<u>9</u>	<u>100%</u>
	<u>Metal or Masonry Parapet</u>	<u>Interior wall metal framed insulation with roof insulation</u>	<u>20</u>	<u>65%</u>
<u>Spandrel Panels</u>	<u>Slab Intersection</u>	<u>No Stud Insulation and Back Pan Insulation</u>	<u>22</u>	<u>34%</u>
	<u>Slab Intersection</u>	<u>Stud Insulation and Back Pan Insulation</u>	<u>23</u>	<u>44%</u>
	<u>Metal or Masonry Parapet</u>	<u>Stud Insulation and Back Pan Insulation</u>	<u>25</u>	<u>41%</u>
<u>Precast Walls</u>	<u>Slab Intersection</u>	<u>Interior Metal Framed Insulation</u>	<u>29</u>	<u>73%</u>
	<u>Metal or Masonry Parapet</u>	<u>Exterior Metal Framed Insulation</u>	<u>30</u>	<u>76%</u>
	<u>Slab Intersection</u>	<u>Sandwich Panel, at slab intersection</u>	<u>32</u>	<u>63%</u>
	<u>Metal or Masonry Parapet</u>	<u>Sandwich Panel, at roof intersection</u>	<u>33</u>	<u>65%</u>
<u>Concrete Block With Exterior Rigid Insulation</u>	<u>Metal Shelf Angle</u>	<u>Exterior Rigid and Metal Shelf Angle</u>	<u>35</u>	<u>62%</u>
	<u>Reduced Contact Shelf Angle</u>	<u>Exterior Rigid and Reduced Contact Shelf Angle</u>	<u>36</u>	<u>70%</u>
	<u>Metal or Masonry Parapet</u>	<u>Brick Ties at Parapet and Roof</u>	<u>37</u>	<u>69%</u>

<p><u>No Linear Anomalies as Described Above</u></p>	<p><u>All</u></p>	<p><u>All</u></p>	<p><u>=</u></p>	<p><u>100%</u></p>
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*Strike Exception 2 to Section 5.4.3.2 of ASHRAE 90.1 in its entirety without substitution:*

*Strike Section 5.4.3.4 of ASHRAE 90.1 in its entirety and insert a new Section 5.4.3.4 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**5.4.3.4 Vestibules.** *Building entrances* that separate conditioned space from the exterior shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time. Interior and exterior doors shall have a minimum distance between them of not less than 7 ft. when in the closed position. The floor area of each vestibule shall not exceed the greater of 50 ft.<sup>2</sup> or 2% of the gross conditioned floor area for that level of the building. The exterior envelope of conditioned vestibules shall comply with the requirements for a conditioned space. The interior and exterior envelope of unconditioned vestibules shall comply with the requirements for a semiheated space.

**Exceptions:**

1. Revolving doors
2. Doors not intended to be used as a building entrance, including service entrance doors
3. Doors opening directly from a dwelling unit
4. Doors that open directly from a space that is less than 3,000 ft.<sup>2</sup> in area
5. Semiheated spaces
6. Enclosed elevator lobbies for building entrances directly from parking garages

**[No change to Section 5.4.3.4.1 ]**

*Insert a new Section 5.4.4 in ASHRAE 90.1 to read as follows:*

**5.4.4 On-Site Renewable Energy Systems.** *Building project design* shall show allocated space and pathways for future installation of *on-site renewable energy systems* and associated infrastructure to cover no less than 25% of horizontal projection of the *gross roof area*.

**Exceptions:**

1. *Building* projects that have an annual daily average incident solar radiation available to a flat plate collector oriented due south at an angle from horizontal equal to the latitude of the collector location less than 1.2 kBtu/ft.<sup>2</sup>·day (4.0 kWh/m<sup>2</sup>·day), accounting for existing buildings, permanent infrastructure that is not part of the building project, topography, or trees.

2. Building projects that comply with Section 13.1.

**5.5 PRESCRIPTIVE BUILDING ENVELOPE OPTION**

Strike Section 5.5.1 of ASHRAE 90.1 in its entirety and insert a new Section 5.5.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:

**5.5.1** For a conditioned space, the exterior building envelope shall comply with either the nonresidential or residential requirements in Tables 5.5.

Strike Section 5.5.2 of ASHRAE 90.1 in its entirety and insert a new Section 5.5.2 in its place to read as follows:

**5.5.2** If a building contains any semiheated space or unconditioned space, then the semi-exterior building envelope shall comply with the requirements for semiheated space in Table-5.5. (See Figure 5.5.2.)

Strike Tables 5.5-1 through 5.5-8 of ASHRAE 90.1 and insert a new Table 5.5 in their place in the Energy Conservation Code-Commercial Provisions to read as follows:

**TABLE 5.5 BUILDING ENVELOPE REQUIREMENTS FOR CLIMATE ZONE 4 (A,B,C)\***

Opaque Elements	Nonresidential		Residential		Semiheated	
	Assembly Maximum	Insulation Min. R-Value	Assembly Maximum	Insulation Min. R-Value	Assembly Maximum	Insulation Min. R-Value
<i>Roofs</i>						
Insulation Entirely						
Insulation entirely above Deck	U-0.048	R-20 e.i.	U-0.039	R-25 e.i.	U-0.218	R-3.8 e.i.
Metal Building <sup>a</sup>	U-0.041	R-10 + R-19 FC	U-0.041	R-10 + R-19 FC	U-0.115	R-10
Attic and Other	U-0.027	R-38	U-0.027	R-38	U-0.081	R-13
<i>Walls, above Grade</i>						
Mass	U-0.580	NR	U-0.151 <sup>b</sup>	R-5.7 e.i. <sup>b</sup>	U-0.580	NR
Metal Building	U-0.094	R-0 + R-9.8 e.i.	U-0.094	R-0 + R-9.8 e.i.	U-0.352	NR
Steel Framed	U-0.124	R-13	U-0.124	R-13	U-0.352	NR
Wood Framed and Other	U-0.089	R-13	U-0.089	R-13	U-0.292	NR
<i>Wall, below Grade</i>						
Below Grade Wall	C-1.140	NR	C-1.140	NR	C-1.140	NR
<i>Floors</i>						
Mass	U-0.322	NR	U-0.322	NR	U-0.322	NR
Steel Joist	U-0.350	NR	U-0.350	NR	U-0.350	NR

Wood Framed and  
Other

U 0.282	NR	U 0.282	NR	U 0.282	NR
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*Slab-on-Grade Floors*

Unheated	F 0.730	NR	F 0.730	NR	F 0.730	NR
Heated	F 1.020	R 7.5 for 12 in.	F 1.020	R 7.5 for 12 in.	F 1.020	R 7.5 for 12 in.

*Opaque Doors*

Swinging	U 0.700	U 0.500	U 0.700
Nonswinging	U 1.450	U 0.500	U 1.450

Fenestration	Assembly	Assembly	Assembly	Assembly	Assembly	Assembly	Assembly	Assembly	Assembly
	Max.	Max.	Min.	Max.	Max.	Min.	Max.	Max.	Min.
	U	SHGC	VT/SHGC	U	SHGC	VT/SHGC	U	SHGC	VT/SHGC

*Vertical Fenestration, 0% - 10% of Wall* (for all frame types) (for all frame types) (for all frame types)

Nonmetal framing, all	U 0.50 <sup>e</sup>	U 0.50 <sup>e</sup>	U 0.93
Metal framing, fixed	U 0.57 <sup>e</sup>	U 0.57 <sup>e</sup>	U 1.20
Metal framing,	SHGC 0.25 - 1.10	SHGC 0.25 - 1.10	NR - NR

operable	U-0.65 <sup>e</sup>		U-0.65 <sup>e</sup>		U-1.20	
Metal framing, entrance door	U-1.10 <sup>e</sup>		U-1.10 <sup>e</sup>		U-1.10 <sup>e</sup>	
<i>Skylight, 0% - 3% of Roof</i>						
All types	U-0.75	SHGC-0.35	NR	U-0.75	SHGC-0.35	NR
	<b>Nonresidential</b>		<b>Residential</b>		<b>Semiheated</b>	
<b>Opaque Elements</b>	<b>Assembly Maximum</b>	<b>Insulation Min. R-Value</b>	<b>Assembly Maximum</b>	<b>Insulation Min. R-Value</b>	<b>Assembly Maximum</b>	<b>Insulation Min. R-Value</b>
<i>Roofs</i>						
Insulation Entirely above Deck	U-0.028	R-33 c.i.	U-0.028	R-33 c.i.	U-0.093	R-10 c.i.
Metal Building <sup>a</sup>	U-0.033	R-21 + R-12 Ls or R-28 + R-9 Ls	U-0.033	R-21 + R-12 Ls or R-28 + R-9 Ls	U-0.082	R-19
Attic and Other	U-0.0189	R- 54	U-0.0189	R-54	U-0.034	R-30
<i>Walls, above Grade</i>						
Mass	U-0.094	R-11 c.i.	U-0.081	R-12.5 c.i.	U-0.580	NR
Metal Building	U-0.054	R-0 + R-17.5 c.i.	U-0.045	R-0 + R-21 c.i.	U-0.162	R-13
Steel Framed	U-0.058	R-15 + R-8 c.i.	U-0.058	R-15 + R-8 c.i.	U-0.124	R-13
Wood Framed and Other	U-0.058	R-15 + R-4.1 c.i.	U-0.058	R-15 + R-4.1 c.i.	U-0.089	R-13
<i>Wall, below Grade</i>						
Below Grade Wall	C-0.119	R- 8 c.i.	C-0.092	R-11 c.i.	C-1.	
<i>Floors</i>						
Mass	U- 0.051	R- 16 c.i.	U- 0.046	R-18.4 c.i.	U-0.107	R-6.3 c.i.
Steel Joist	U- 0.035	R- 33	U- 0.034	R- 33	U-0.052	R-19
Wood Framed and Other	U- 0.030	R- 33	U- 0.030	R- 33	U-0.051	R-19
<i>Slab-on-Grade Floors</i>						
Unheated	F-0.520	R-20 for 24 in.	F-0.520	R-20 for 24 in.	F-0.730	NR
Heated	F-0.843	R-25 for 24 in.	F-0.688	R-25 for 48 in.	F-0.900	R-10 for 24 in.
<i>Opaque Doors</i>						
Swinging	U- 0.45		U-0.45		U-0.700	
Nonswinging	U-0.45		U-0.45		U-1.450	

**Fenestration**

*Vertical Fenestration, 0%–40% of Wall*      *(for all frame types)*      *(for all frame types)*      *(for all frame types)*

*Nonmetal framing, all*      *U-0.33*      *U-0.33*      *U-0.51*

<i>Metal framing, fixed</i> <i>U-0.38</i>	<i>U-0.38</i>	<i>U-0.</i>	<b>Assembly</b>	<b>Assembly</b>	<b>Assembly</b>	<b>Assembly</b>	<b>Assembly</b>	<b>Assembly</b>	<b>Assembly</b>	<b>Assembly</b>
			<b>Max. U</b>	<b>Max.</b>	<b>Min.</b>	<b>Max. U</b>	<b>Max.</b>	<b>Min.</b>	<b>Max. U</b>	<b>Max.</b>
			<b>SHGC</b>	<b>VT/SHGC</b>		<b>SHGC</b>	<b>VT/SHGC</b>		<b>SHGC</b>	<b>VT/SHG</b>

Metal framing,

SHGC-0.36

SHGC-0.36

NR NR

operable U- 0.45 U- 0.45 U-0.81

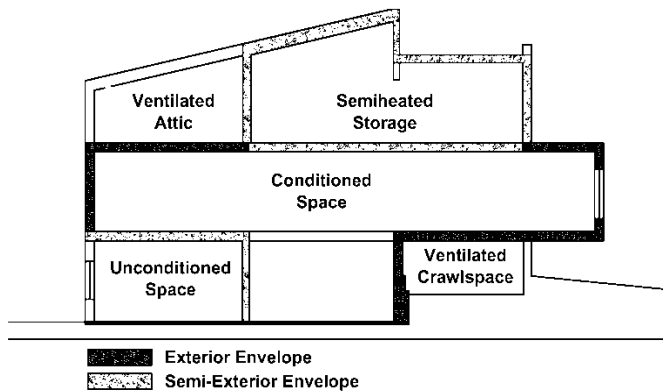
Metal framing, U- 0.69 U- 0.61 U-0.77  
entrance door

*Skylight, 0%–3% of Roof*

All types	U-0.45	SHGC- 0.36	NR	U-0.45	SHGC-0.36	NR	U-1.15	NR	NR
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\* The following definitions apply: c.i. = continuous insulation (see Section 3.2), FC = filled cavity (see Section A2.3.2.5), Ls = liner system (see Section A2.3.2.4), NR = no (insulation) requirement.

a. When using the R-value compliance method for metal building roofs, a thermal spacer



**Figure 5.5.2. Exterior and semiexterior building envelope.**

*Strike Sections 5.5.3.1 through 5.5.3.6 of ASHRAE 90.1 in their entirety and insert new Sections 5.5.3.1 through 5.5.3.6 in their place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**5.5.3.1 Roof Insulation.** All roofs shall comply with the insulation values specified in Table 5.5. Sky-light curbs shall be insulated to the level of roofs with insulation entirely above deck or R-5.0, whichever is less.

**5.5.3.1.1 Roof Solar Reflectance and Thermal Emittance.** Roofs in Climate Zone 4 shall have one of the following:

1. A minimum three-year-aged solar reflectance of 0.55 and a minimum three-year-aged thermal emittance of 0.75 when tested in accordance with CRRC-1 Standard.
2. A minimum initial Solar Reflectance Index of 82 64 for roofs 2:12 or less and 39 for



roofs greater than 2:12 in slope, when determined in accordance with the Solar Reflectance Index method in ASTM E1980 using a convection coefficient of 2.1 Btu/h·ft<sup>2</sup>·°F, based on three-year-aged solar reflectance and three-year-aged thermal emittance tested in accordance with CRRC-1 Standard.

**Exceptions:**

1. Ballasted roofs with a minimum stone ballast of 17 lb/ft.<sup>2</sup> or 23 lb/ft.<sup>2</sup> pavers.
2. Vegetated roof systems that contain a minimum thickness of 2.5 in. of growing medium and covering a minimum of 75% of the roof area with durable plantings.
3. Roofs where a minimum of 75% of the roof area
  - a. is shaded during the peak sun angle on June 21 by permanent components or features of the building; or
  - b. is permitted using a combination of 1 and 2 above.
4. Decks constructed using wood or an *approved* bio-based decking material.

The values for three-year-aged solar reflectance and three-year-aged thermal emittance shall be determined by a laboratory accredited by a nationally recognized accreditation organization and shall be labeled and certified by the manufacturer.

**5.5.3.2 Above-Grade Wall Insulation.** All above-grade walls shall comply with the insulation values specified in Table 5.5.

**Exception:** Alternatively, for mass walls, where the requirement in Table 5.5 is for a maximum assembly U-0.151 followed by footnote “b,” ASTM C90 concrete block walls, ungrouted or partially grouted at 32 in. or less on center vertically and 48 in. or less on center horizontally, shall have ungrouted cores filled with material having a maximum thermal conductivity of 0.44 Btu·in./h·ft<sup>2</sup>·°F. Other mass walls with integral insulation shall meet the criteria when their U-factors are equal to or less than those for the appropriate thickness and density in the “Partly Grouted, Cells Insulated” column of Table A3.1-3. When a wall consists of both above-grade and below-grade portions, the entire wall for that story shall be insulated on either the exterior or the interior or be integral.

1. If insulated on the interior, the wall shall be insulated to the above-grade wall requirements.
2. If insulated on the exterior or integral, the below-grade wall portion shall be insulated to the below-grade wall requirements, and the above-grade wall portion shall be insulated to the above-grade wall requirements.

**5.5.3.3 Below-Grade Wall Insulation.** Below-grade walls shall have a rated R-value of insulation no less than the insulation values specified in Tables 5.5.

**Exception:** Where framing, including metal and wood studs, is used, compliance shall be based on the maximum assembly C-factor.

**5.5.3.4 Floor Insulation.** All floors shall comply with the insulation values specified in Tables 5.5.

**5.5.3.5 Slab-on-Grade Floor Insulation.** All slab-on-grade floors, including heated slab-on-grade floors and unheated slab-on-grade floors, shall comply with the insulation values specified in Tables 5.5.

**5.5.3.6 Opaque Doors.** All opaque doors shall have a U- factor not greater than that specified in Tables 5.5.

*Insert a new Section 5.5.3.7 in the Energy Conservation Code-Commercial Provisions to read as follows:*

**5.5.3.7 High-Speed Doors.** *High-speed doors* that are intended to operate on average at least 75 cycles per day shall not exceed a maximum U-factor of 1.20 Btu/hr·ft<sup>2</sup>·°F (6.81 W/m<sup>2</sup>·K). Opening rate, closing rate, and average cycles per day shall be included in construction drawings. Sections 5.5.3.6 and 5.5.4.3 shall not apply for *high-speed doors* complying with all criteria in this section.

*Strike Table 5.5.3.1.1 of ASHRAE 90.1 in its entirety without substitution.*

#### **5.5.4.2 Fenestration Area**

*Strike Sections 5.5.4.2.1 and 5.5.4.2.2 of ASHRAE 90.1 in their entirety and insert new Sections 5.5.4.2.1 and 5.5.4.2.2 in their place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**5.5.4.2.1 Vertical Fenestration Area.** The total vertical fenestration area shall not be greater than that specified in Tables 5.5.

**Exception:** Vertical fenestration complying with Exception (3) to Section 5.5.4.4.1.

**5.5.4.2.2 Maximum Skylight Fenestration Area.** The total skylight area shall not be greater than that specified in Table 5.5.

**Exception:** The total skylight area is permitted to be increased to no greater than 6% of the gross roof area, provided the skylights meet all of the criteria in Exception (1) to Section 5.5.4.4.2 and the total daylight area under skylights is a minimum of half the floor area of the space.

*Strike Section 5.5.4.3 of ASHRAE 90.1 in its entirety and insert a new Section 5.5.4.3 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**5.5.4.3 Fenestration U-Factor.** Fenestration shall have a U-factor not greater than that specified in Tables 5.5. However, for locations in Climate Zone 1 with a cooling design temperature of 95°F and greater, the maximum allowed U-factors for vertical fenestration for all conditioned spaces, nonresidential and residential, are U-0.32 for non-metal framing, U-0.50 for fixed metal framing, U-0.65 for operable metal framing, and U-0.83 for entrance door metal framing.

**Exception:** The U-factor for skylights is permitted to be increased to no greater than 0.90 Btu/h·ft<sup>2</sup>·°F in Climate Zones 1 through 3 and 0.75 Btu/h·ft<sup>2</sup>·°F in Climate Zones 4 through 8, provided the skylights meet all of the criteria in Exception (1) to Section 5.5.4.4.2.

*Strike Table 5.5.4.4.1 of ASHRAE 90.1 in its entirety and substitute a new Table 5.5.4.4.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**TABLE 5.5.4.4.1 SHGC MULTIPLIERS FOR PERMANENT PROJECTIONS**

<b>Projection Factor</b>	<b>SHGC Multiplier (all Other Orientations)</b>	<b>SHGC Multiplier (North-Oriented)</b>
0–0.60	1.00	1.00
>0.60–0.70	0.92	0.96
>0.70–0.80	0.84	0.94
>0.80–0.90	0.77	0.93
>0.90–1.00	0.72	0.90

## SECTION 6 HEATING, VENTILATING, AND AIR CONDITIONING

### 6.3 SIMPLIFIED APPROACH OPTION FOR HVAC SYSTEMS

#### 6.4 MANDATORY PROVISIONS

#### 6.5 PRESCRIPTIVE PATH

#### 6.8 MINIMUM EQUIPMENT EFFICIENCY TABLES

### 6.3 SIMPLIFIED APPROACH OPTION FOR HVAC SYSTEMS

*Strike criteria c. in Section 6.3.2 of ASHRAE 90.1 in its entirety and insert a new criteria c in Section 6.3.2 in the Energy Conservation Code Commercial Provisions in its place to read as follows:*

**6.3.2 Criteria.** The HVAC system ~~must~~shall meet all of the following criteria:

*[no change to criteria a. and b.]*

- c. Cooling (if any) shall be provided by a unitary packaged or split-system air conditioner that is either air cooled or evaporatively cooled, with efficiency meeting the requirements shown in Table 6.8.1-1 (air conditioners), Table 6.8.1-2 (heat pumps), or Table 6.8.1-4 (packaged terminal and room air conditioners and heat pumps) for the applicable equipment category. All *building projects* complying with the Alternate Renewables Approach in Section 13.1.1.2 shall comply with the equipment efficiency requirements in Section 13.1.1.2 in place of Tables 6.8.1-1 through 6.8.1-11 and shall comply with the applicable ENERGY STAR heating and cooling requirements in Section 10.11.2.

*[no change to criteria d. through r.]*

### 6.4 MANDATORY PROVISIONS

*Insert new Sections 6.4.1.1.1 and 6.4.1.1.2 in ASHRAE 90.1 in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.4.1.1.1 Higher-Efficiency Requirements.** All *building projects* complying with the Alternate Renewables Approach in **Section 13.1.1.2** shall comply with the equipment efficiency requirements in Section 13.1.1.2 in place of Tables 6.8.1-1 through 6.8.1-11 and shall comply with the applicable ENERGY STAR heating and cooling requirements in Section 10.11.2.

**6.4.1.1.2 Heat Pump Requirement.** For spaces which are both heated and cooled using unitary ~~cooled~~ systems per Tables 6.8.1-1 through 6.8.1-2, and Table 6.8.1-4, heating shall also include use of a heat pump for primary heating. Packaged systems shall not include electric resistance heating unless used as back-up heat and controlled per Section 6.4.3.5.

#### **Exceptions:**

- a. Water cooled systems in Tables 6.8.1-1 and 6.8.1-2 where no additional water heating is provided during the heating season.

- b. In retrofit applications and additions, where the use of a central heating system is already being used such as hydronic heating or central forced air furnace.

*Strike Section 6.4.3.8 of ASHRAE 90.1 in its entirety and insert new Sections 6.4.3.8 and 6.4.3.8.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.4.3.8 Ventilation Controls for High-Occupancy Areas.** *Demand control ventilation (DCV) shall be provided for densely occupied spaces served by systems with one or more of the following:*

- a. Air-side economizer.
- b. Automatic modulating control of outdoor air dampers.
- c. Design outdoor airflow greater than 1000 cfm.

**Exceptions to Section 6.4.3.8:**

1. Systems with the exhaust air energy recovery complying with Section 6.5.6.1.
2. Systems with a design outdoor airflow less than 750 cfm (375 L/s).
- ~~3. 750 cfm (375 L/s).~~
4. 3. Spaces where more than 75% of the *space* design *outdoor airflow* is utilized as *makeup air* or *transfer air* to provide *makeup air* for other *space(s)*.
- ~~5. 4. Spaces~~ with one of the following occupancy categories as defined in ASHRAE Standard 62.1: cells in correctional facilities; daycare sickrooms; science laboratories; barbers; beauty and nail salons; and bowling alleys.

**6.4.3.8.1 Design of DCV System.** The DCV system shall be designed to be in compliance with Section 6.2.7 of ANSI/ASHRAE Standard 62.1-2013. Occupancy assumptions shall be shown in the design documents for spaces provided with DCV. All CO<sub>2</sub> sensors used as part of a DCV system or any other system that dynamically controls outdoor air shall meet the following requirements:

- a. *Spaces* with CO<sub>2</sub> sensors or air-sampling probes leading to a central CO<sub>2</sub> monitoring station shall be provided with at least one sensor or probe for each 10,000 ft.<sup>2</sup> (1000 m<sup>2</sup>) of floor *space*. Sensors or probes shall be installed between 3 and 6 ft. (1 and 2 m) above the floor.
- b. CO<sub>2</sub> sensors ~~must~~shall be accurate to ±50 ppm at 1000 ppm.

- c. *Outdoor air* CO<sub>2</sub> concentrations shall be determined one of the following:
1. *Outdoor air* CO<sub>2</sub> concentrations shall be dynamically measured using a CO<sub>2</sub> sensor.
  2. When documented statistical data are available on the local ambient CO<sub>2</sub> concentrations, a fixed value typical of the location where the building is located shall be allowed in lieu of an outdoor sensor.
- d. Occupant CO<sub>2</sub> generation rate assumptions shall be shown in the design documents.

*Strike Section 6.4.4.1.2 of ASHRAE 90.1 in its entirety and insert a new Section 6.4.4.1.2 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.4.4.1.2 Duct and Plenum Insulation.** All supply and return ducts and plenums installed as part of an HVAC air distribution system shall be thermally insulated in accordance with Tables 6.8.2-1 and 6.8.2-2. Projects complying with Chapter 13 shall instead reference Tables 13-16 and 13-17.

**Exceptions:**

1. Factory-installed plenums, casings, or ductwork furnished as a part of HVAC equipment tested and rated in accordance with Section 6.4.1.
2. Ducts or plenums located in ~~heated spaces, semiheated spaces, or cooled spaces~~ conditioned spaces.
3. For runouts less than 10 ft. in length to air terminals or air outlets, the rated R-value of insulation need not exceed R 3.5.
4. Backs of ~~air outlets and outlet~~ plenums exposed to unconditioned or indirectly conditioned spaces with face areas exceeding 5 ft.2 need not exceed R-2; those 5 ft.2 or smaller need not be insulated.

*Strike Section 6.4.4.1.3 of ASHRAE 90.1 in its entirety and insert a new Section 6.4.4.1.3 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.4.4.1.3 Piping Insulation.** Piping, including but not limited to, all branch piping and piping components, shall be thermally insulated in accordance with Tables 6.8.3-1 and 6.8.3-2.

**Exceptions:**

1. Factory-installed piping within HVAC equipment tested and rated in accordance with Section 6.4.1.
2. Piping that conveys fluids having a design operating temperature range between 60°F and 105°F, inclusive.
3. Piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electricity (such as roof and condensate drains, domestic cold-water

supply, natural-gas piping).

4. Where heat gain or heat loss will not increase energy usage (such as liquid refrigerant piping)

5. In piping 1 inch (2.54 cm). or less, insulation is not required for strainers, control valves, and balancing valves.

*Strike Table 6.5.1-1 and 6.5.1-2 of ASHRAE 90.1 in their entirety and insert new Table 6.5.1-1 in the Energy Conservation Code to read as follows:*

**TABLE 6.5.1-1 Minimum Fan-Cooling Unit Size for which an Economizer is Required for Comfort Cooling**

Climate Zones	Cooling Capacity for Which an Economizer is Required
1a, 1b	No economizer requirement
2a, 2b, 3a, 4a, 5a, 6a 3b, 3c, 4b, 4c, 5b, 5c, 6b, 7, 8	≥ 33,000 Btu/h <sup>a</sup>

a. Where economizers are required, the total capacity of all systems without economizers shall not exceed 480,000 Btu/h (140 kW) per building or 10% of the building's installed cooling capacity, whichever is greater.

**6.5 PRESCRIPTIVE PATH**

*Strike Section 6.5.1 of ASHRAE 90.1 in its entirety and insert a new Section 6.5.1 Code in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.1 Economizers.** Each cooling system that has a fan shall include either an air or water economizer meeting the requirements of Sections 6.5.1.1 through 6.5.1.5.

- a. The minimum size requirements for economizers for comfort cooling and for computer rooms are defined in Table 6.5.1-1.
- b. Air-cooled packaged units with a capacity of less than 54,000 Btu/h (16 kW) shall have two stages of capacity control, with the first stage controlling the economizer and the second stage controlling mechanical cooling. Units with a capacity equal to or greater than 54,000 Btu/h (16 kW) shall comply with the staging requirements defined in Section 6.5.3.1
- c. For systems that control to a fixed leaving air temperature (*i.e.*, variable-air-volume [VAV] systems), the system shall be capable of resetting the supply air temperature up at least 5°F (3°C) during economizer operation.

**Exceptions:** Economizers are not required for the following systems:

- 1. Individual fan-cooling units with a supply capacity less than the minimum listed in Table 6.5.1-1 for comfort cooling applications and Table 6.5.1-2 for computer room

applications.

2. Systems that include nonparticulate air treatment as required by Section 6.2.1 in Standard 62.1.
3. In hospitals and ambulatory surgery centers, where more than 75% of the air designed to be supplied by the system is to spaces that are required to be humidified above 35°F dew-point temperature to comply with applicable codes or accreditation standards; in all other buildings, where more than 25% of the air designed to be supplied by the system is to spaces that are designed to be humidified above 35°F dew-point temperature to satisfy process needs. This exception does not apply to computer rooms.
4. Systems that include a condenser heat recovery system with a minimum capacity as defined in Section 6.5.6.2.2.
5. Systems that serve residential spaces where the system capacity is less than five times the requirement listed in Table 6.5.1-1.
6. Systems that serve spaces whose sensible cooling load at design conditions, excluding transmission and infiltration loads, is less than or equal to transmission and infiltration losses at an outdoor temperature of 60°F.
7. Systems expected to operate less than 20 hours per week.
8. Where the use of outdoor air for cooling will affect supermarket open refrigerated casework systems.
9. For comfort cooling where the cooling efficiency meets or exceeds the efficiency improvement requirements in Table 6.5.1-3.
  - a. Where the reduced renewable approach defined in Section 13.1.1.2 is used, Exception (9) shall be permitted to eliminate the economizer requirement, provided the requirements in Table 6.5.1-3 are applied to the efficiency requirements required by Section 13.1.1.2. If the standard renewable approach is chosen as defined in Section 13.1.1.1 then the requirements in Table 6.5.1-3 shall be applied to the efficiency requirements in Tables 6.8.1-1 through 6.8.1-11.
10. Systems primarily serving computer rooms where:
  - a. The total design cooling load of all computer rooms in the building is less than 3,000,000 Btu/h and the building in which they are located is not served by a centralized chilled water plant;
  - b. The room total design cooling load is less than 600,000 Btu/h and the building in which they are located is served by a centralized chilled water plant;
  - c. The local water authority does not allow cooling towers; or



- d. Less than 600,000 Btu/h of computer-room cooling equipment capacity is being added to an existing building.
11. For water-cooled units with a capacity less than 54,000 Btu/h (16 kW) that are used in systems where heating and cooling loads are transferred within the building (i.e., water-source heat pump systems), the requirement for an air or water economizer can be eliminated if the condenser-water temperature controls are capable of being set to maintain full-load heat rejection capacity down to a 55°F (12°C) condenser-water supply temperature, and the HVAC equipment is capable of operating with a 55°F (12°C) condenser-water supply temperature.
12. Variable refrigerant volume with energy recovery or variable refrigerant flow with energy recovery systems. (VRV/VRF).

*Strike Section 6.5.2.1 of ASHRAE 90.1 in its entirety and insert a new Section 6.5.2.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.2.1 Zone Controls.** Zone thermostatic controls shall prevent:

- a. Reheating;
- b. Recooling;
- c. Mixing or simultaneously supplying air that has been previously mechanically heated and air that has been previously cooled, either by mechanical cooling or by economizer systems; and
- d. Other simultaneous operation of heating and cooling systems to the same zone.

**Exceptions:**

1. Commercial kitchens.
2. Zones with DDC that comply with all of the following:
  - a. The airflow rate in dead band between heating and cooling does not exceed the larger of the following:
    - (i) 20% of the zone design peak supply rate.
    - (ii) The design *outdoor airflow* rate for the zone.
    - (iii) Any higher rate that can be demonstrated, to the satisfaction of the authority having jurisdiction, to reduce overall system annual energy usage by offsetting reheat/ recool energy losses through a reduction in outdoor air intake.
    - (iv) The airflow rate required to comply with applicable codes or accreditation standards, such as pressure relationships or minimum

air change rates.

- b. The airflow rate that is reheated, recooled, or mixed shall be less than 50% of the zone design peak supply rate.
  - c. The first stage of heating consists of modulating the zone supply air temperature setpoint up to a maximum setpoint while the airflow is maintained at the dead band flow rate.
  - d. The second stage of heating consists of modulating the airflow rate from the dead band flow rate up to the heating maximum flow rate.
3. Laboratory exhaust systems that comply with Section 6.5.7.2.
  4. Zones where at least 75% of the energy for reheating or for providing warm air in mixing systems is provided from a site-recovered (including condenser heat) or site-solar energy source.

*Strike Section 6.5.3 of ASHRAE 90.1 in its entirety and insert a new Section 6.5.3 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.3 Air System Design and Control.** Each HVAC system having a total fan system motor nameplate hp exceeding 5 hp shall meet the provisions of Sections 6.5.3.1 through 6.5.3.5. Hotels and motels with more than 50 guest rooms shall comply with Section 6.5.12.

*Strike Table 6.5.3.1-1 of ASHRAE 90.1 in its entirety and insert a new Table 6.5.3.1-1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**TABLE 6.5.3.1-1 FAN POWER LIMITATION<sup>a</sup>**

	<b>Limit</b>	<b>Constant Volume</b>	<b>Variable Volume</b>
Option 1: Fan system motor nameplate hp	Allowable nameplate motor hp	$hp \leq cfm_S \cdot 0.00099$	$hp \leq cfm_S \cdot 0.00135$
Option 2: Fan system bhp	Allowable fan system bhp	$bhp \leq cfm_S \cdot 0.00084 + A$	$bhp \leq cfm_S \cdot 0.00117 + A$

a. where:

$cfm_S$  = maximum design supply airflow rate to conditioned spaces served by the system in cubic feet per minute  
 $hp$  = maximum combined motor nameplate horsepower

$hp$  = maximum combined fanbrake horsepower

$A$  = sum of  $(PD \times cfm_D) / 4131$

where:

PD= each applicable pressure drop adjustment from Table 6.5.3.1-2 in in. wc

cfm<sub>D</sub>=the design airflow through each applicable device from Table 6.5.3.1-2 in cubic feet per minute

*Strike Section 6.5.3.1.3 of ASHRAE 90.1 in its entirety and insert a new Section 6.5.3.1.3 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.3.1.3 Fan Efficiency.** Fans shall have a fan efficiency grade (FEG) of 67 or higher based on manufacturers' certified data, as defined by AMCA 205. The total efficiency of the fan at the design point of operation shall be within 10 percentage points of the maximum total efficiency of the fan.

**Exceptions:**

1. Single fans with a motor nameplate kilowatts of 5 hp or less.
2. Multiple fans in series or parallel (*e.g.*, fan arrays) that have a combined motor nameplate kilowatts of 5 hp or less and are operated as the functional equivalent of a single fan.
3. Fans that are part of equipment listed under Section 6.4.1.1.
4. Fans included in equipment bearing a third- party-certified seal for air or energy performance of the equipment package.
5. Powered wall/roof ventilators (PRV).
6. Fans outside the scope of AMCA 205.
7. Fans that are intended to only operate during emergency conditions.

**6.5.6 Energy Recovery**

*Strike Section 6.5.6.1 of ASHRAE 90.1 in its entirety and insert a new Section 6.5.6.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.6.1 Exhaust Air Energy Recovery.** Each fan system shall have an energy recovery system when the system's supply airflow rate exceeds the value listed in Tables 6.5.6.1-1 and 6.5.6.1-2, based on the climate zone and percentage of outdoor airflow rate at design conditions. Table 6.5.6.1-1 shall be used for all ventilation systems that operate less than 8000 hours per year, and Table 6.5.6.1-2 shall be used for all ventilation systems that operate 8000 or more hours per year.

Energy recovery systems required by this section shall have at least 60% energy recovery effectiveness. Sixty percent energy recovery effectiveness shall mean a change in the enthalpy of the outdoor air supply equal to 60% of the difference between the outdoor air and return air enthalpies at design conditions. Provision shall be made to bypass or control the energy recovery system to permit air economizer operation as required by Section 6.5.1.1.

**Exceptions:**

1. Laboratory systems meeting Section 6.5.7.2.
2. Systems serving spaces that are not cooled and that are heated to less than 60°F.
3. Systems exhausting toxic, flammable, paint, or corrosive fumes or dust.
4. Commercial kitchen hoods used for collecting and removing grease vapors and smoke.
5. Where more than 60% of the outdoor air heating energy is provided from site-recovered or site solar energy.
6. Where the largest source of air exhausted at a single location at the building exterior is less than 75% of the design outdoor airflow rate.
7. Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
8. Systems expected to operate less than 20 hours per week at the outdoor air percentage covered by Table 6.5.6.1-1.

*Insert a new Section 6.5.6.3 in in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.6.3 Supermarket Heat Recovery.** Supermarkets with a floor area of 25,000 ft.<sup>2</sup> (2500 m<sup>2</sup>) or greater shall recover waste heat from the condenser heat rejection on *permanently installed* refrigeration and/or HVAC equipment meeting one of the following criteria:

- a. 25% of the refrigeration system full-load total heat rejection.
- b. 80% of the *space* heat, *service water heating*, and dehumidification reheat.

If a recovery system is used that is installed in the refrigeration system, the system shall not increase the saturated condensing temperature at design conditions by more than 5°F (3°C) and shall not impair other head pressure control/energy reduction strategies.

**6.5.7.1 Kitchen Exhaust Systems**

*Strike Section 6.5.7.1.3 of ASHRAE 90.1 in its entirety and insert a new Section 6.5.7.1.3 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.7.1.3** For kitchen/dining facilities with total kitchen hood exhaust airflow rate greater than 2000 cfm, the maximum exhaust flow rate for each hood shall be determined in accordance with Table 6.5.7.1.3 For single hoods, or hood sections installed over appliances with different duty ratings, the maximum allowable exhaust flow rate for the hood or hood section shall be determined in accordance with Table 6.5.7.1.3 for the highest appliance duty rating under the hood or hood section. Refer to ASHRAE Standard 154 for definitions of hood type, appliance duty, and net exhaust flow rate.

**Exception:** When at least 75% of all the replacement air is *transfer air* that would otherwise be exhausted.

*Strike Section 6.5.7.1.4 of ASHRAE 90.1 in its entirety and insert new Section 6.5.7.1.4 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.7.1.4** Kitchen/dining facilities with total kitchen hood exhaust airflow rate greater than 2000 cfm shall comply with at least one of the following:

- a. At least 50% of all replacement air ~~must~~shall be *transfer air* that would otherwise be exhausted.
- b. At least 75% of kitchen hood exhaust air shall be controlled by a demand ventilation system(s), which shall:
  1. be capable of reducing exhaust and replacement air system airflow rates by no more than the larger of:
    - i. 50% of total design exhaust and replacement air system airflow rate or
    - ii. the outdoor airflow and exhaust rates required to meet the ventilation and exhaust requirements of Sections 6.2 and 6.5 of ANSI/ASHRAE Standard 62.1 for the zone.
  2. include controls to modulate airflow in response to appliance operation and to maintain full capture and containment of smoke, effluent, and combustion products during cooking and idle;
  3. include controls that result in full flow when the demand ventilation system(s) fail to modulate airflow in response to appliance operation; and
  4. allow occupants to temporarily override the system(s) to full flow.

*Insert a new Section 6.5.12 in the in the Energy Conservation Code-Commercial Provisions to read as follows:*

**6.5.12 Automatic Control of HVAC in Hotel/Motel Guest Rooms.** In hotels and motels with more than 50 guest rooms, *automatic* controls of HVAC equipment serving each guest room shall be configured according to the following requirements.

**6.5.12.1 HVAC Setpoint Control.** Within 30 minutes of all occupants leaving the guest room, HVAC setpoints shall be automatically raised by at least 5°F (3°C) from the occupant setpoint in the cooling mode and automatically lowered by at least 5°F (3°C) from the occupant setpoint in the heating mode. When the guest room is unrented and unoccupied, HVAC setpoints shall be automatically reset to 80°F (27°C) or higher in the cooling mode and to 60°F (16°C) or lower in the heating mode. Unrented and unoccupied guest rooms shall be determined by either of the following criteria:

- a. The guest room has been continuously unoccupied for up to 16 hours.
- b. A *networked guest-room control system* indicates the guest room is unrented and the guest room is unoccupied for no more than 30 minutes.

**Exception to 6.5.12.1:**

1. A *networked guest-room control system* may return the thermostat setpoints to their default setpoints 60 minutes prior to the time the room is scheduled to be occupied.
2. Cooling for humidity control shall be permitted during unoccupied periods.

**6.5.12.2 Ventilation Control.** Within 30 minutes of all occupants leaving the guest room, ventilation and exhaust fans shall be automatically turned off, or *isolation devices* serving each guest room shall automatically shut off the supply of *outdoor air* to the room and shut off exhaust air from the guest room.

**Exception:** Central exhaust systems for bathrooms.

**6.8 MINIMUM EQUIPMENT EFFICIENCY TABLES**

*Strike Tables 6.8.1-1, 6.8.2-1, and 6.8.2-2 of ASHRAE 90.1 in their entirety.*

Insert a new Table 6.8.1-1 in in the Energy Conservation Code-Commercial Provisions to read as follows:

Minimum Efficiency Requirements

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure <sup>a</sup>
Air conditioners, air cooled	<65,000 Btu/h <sup>b</sup>	All	Split system	13.0 SEER	AHRI 210/240
			Single package	<del>13.0 SEER</del> (before 1/20/15) 14 SEER (as of 1/1/2015)	
Through the wall, air cooled	≤30,000 Btu/h <sup>b</sup>	All	Split system	12.0 SEER	AHRI 210/240
			Single package	12.0 SEER	
Small duct high velocity, air cooled	<65,000 Btu/h <sup>b</sup>	All	Split System	11.0 SEER	AHRI 340/360
			Electric resistance (or none)	Split system and single package	
All other	Split system and single package	11.0 EER <del>11.2 IEER</del> (before 1/1/2016) 12.7 IEER (as of 1/1/2016)			
		Electric resistance (or none)	Split system and single package	11.0 EER <del>11.2 IEER</del> (before 1/1/2016) 12.4 IEER (as of 1/1/2016)	
All other	Split system and single package			10.8 EER <del>11.0 IEER</del> (before 1/1/2016) 12.2 IEER (as of 1/1/2016)	
		Electric resistance (or none)	Split system and single package	10.0 EER <del>10.1 IEER</del> (before 1/1/2016) 11.6 IEER (as of 1/1/2016)	
All other	Split system and single package			9.8 EER <del>9.9 IEER</del> (before 1/1/2016) 11.4 IEER (as of 1/1/2016)	
		Electric resistance (or none)	Split system and single package	9.7 EER <del>9.8 IEER</del> (before 1/1/2016) 11.2 IEER (as of 1/1/2016)	
All other	Split system and single package			9.5 EER <del>9.6 IEER</del> (before 1/1/2016) 11.0 IEER (as of 1/1/2016)	

- a. Section 12 contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.
- b. Single-phase, air-cooled air conditioners <65,000 Btu/h are regulated by NAECA. SEER values are those set by NAECA.

**TABLE 6.8.1-1 Electrically Operated Unitary Air Conditioners and Condensing Units— Minimum Efficiency Requirements (Continued)**

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure <sup>a</sup>
Air conditioners, water cooled	<65,000 Btu/h	All	Split system and single package	12.1 EER	AHRI 210/240
				12.3 IEER	
	≥65,000 Btu/h and <135,000 Btu/h	Electric resistance (or none)	Split system and single package	12.1 EER	AHRI 340/360
				<del>12.3 IEER</del> (before 1/1/2016)	
		13.9 IEER			
		<del>12.3 IEER</del> (as of 1/1/2016)			
	All other	Split system and single package	11.9 EER	AHRI 340/360	
			<del>12.1 IEER</del> (before 1/1/2016)		
	≥135,000 Btu/h and <240,000 Btu/h	Electric resistance (or none)	Split system and single package	13.7 IEER	AHRI 340/360
				<del>12.5 IEER</del> (before 1/1/2016)	
All other	Split system and single package	12.5 EER	AHRI 340/360		
		<del>12.5 IEER</del> (before 1/1/2016)			
≥240,000 Btu/h and <760,000 Btu/h	Electric resistance (or none)	Split system and single package	13.9 IEER	AHRI 340/360	
			<del>12.3 IEER</del> (before 1/1/2016)		
All other	Split system and single package	12.3 EER	AHRI 340/360		
		<del>12.5 IEER</del> (before 1/1/2016)			
≥760,000 Btu/h	Electric resistance (or none)	Split system and single package	13.7 IEER	AHRI 340/360	
			<del>12.4 IEER</del> (before 1/1/2016)		
All other	Split system and single package	12.4 EER	AHRI 340/360		
		<del>12.6 IEER</del> (before 1/1/2016)			
≥240,000 Btu/h and <760,000 Btu/h	Electric resistance (or none)	Split system and single package	13.6 IEER	AHRI 340/360	
			<del>12.4 IEER</del> (before 1/1/2016)		
All other	Split system and single package	12.2 EER	AHRI 340/360		
		<del>12.4 IEER</del> (before 1/1/2016)			
≥760,000 Btu/h	Electric resistance (or none)	Split system and single package	13.4 IEER	AHRI 340/360	
			<del>12.2 IEER</del> (before 1/1/2016)		
All other	Split system and single package	12.2 EER	AHRI 340/360		
		<del>12.4 IEER</del> (before 1/1/2016)			
≥760,000 Btu/h	Electric resistance (or none)	Split system and single package	13.5 IEER	AHRI 340/360	
			<del>12.2 IEER</del> (before 1/1/2016)		
All other	Split system and single package	12.0 EER	AHRI 340/360		
		<del>12.4 IEER</del> (before 1/1/2016)			
≥760,000 Btu/h	Electric resistance (or none)	Split system and single package	13.3 IEER	AHRI 340/360	
			<del>12.2 IEER</del> (before 1/1/2016)		
All other	Split system and single package	13.3 IEER	AHRI 340/360		
		<del>12.2 IEER</del> (before 1/1/2016)			



- a. Section 12 contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.
- b. Single-phase, air-cooled air conditioners <65,000 Btu/h are regulated by NAECA. SEER values are those set by NAECA.

Minimum Efficiency Requirements (Continued)

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure <sup>a</sup>
Air conditioners, evaporatively cooled	<65,000 Btu/h <sup>b</sup>	All	Split system and single package	12.1 EER	AHRI 210/240
				12.3 IEER	
	≥65,000 Btu/h and <135,000 Btu/h	Electric resistance (or none)	Split system and single package	12.1 EER	
		All other	Split system and single package	11.9 EER 12.1 IEER	
	≥135,000 Btu/h and <240,000 Btu/h	Electric resistance (or none)	Split system and single package	12.0 EER 12.2 IEER	
		All other	Split system and single package	11.8 EER 12.0 IEER	
	≥240,000 Btu/h and <760,000 Btu/h	Electric resistance (or none)	Split system and single package	11.9 EER 12.1 IEER	
		All other	Split system and single package	11.7 EER 11.9 IEER	
	≥760,000 Btu/h	Electric resistance (or none)	Split system and single package	11.7 EER 11.9 IEER	
		All other	Split system and single package	11.5 EER 11.7 IEER	
Condensing units, air cooled	≥135,000 Btu/h			10.5 EER 11.8 IEER	
Condensing units, water cooled	≥135,000 Btu/h			13.5 EER 14.0 IEER	AHRI 365
Condensing units, evaporatively cooled	≥135,000 Btu/h			13.5 EER 14.0 IEER	

- a. Section 12 contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.
- b. Single-phase, air-cooled air conditioners <65,000 Btu/h are regulated by NAECA. SEER values are those set by NAECA.

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure <sup>a</sup>
Air cooled (cooling mode)	<65,000 Btu/h <sup>b</sup>	Heat Pump with Elec. Backup, Gas <u>Heat Pump with Elec. Backup, Gas</u>	Split system	14 SEER	AHRI 210/240
			Single package	14 SEER	
Through the wall, air cooled (cooling mode)	≤30,000 Btu/h <sup>b</sup>	Heat Pump with Elec. Backup, Gas	Split system	12.0 SEER	AHRI 210/240
			Single package	12.0 SEER	
Small duct high velocity, air cooled	<65,000 Btu/h <sup>b</sup>		Split System	11.0 SEER	
		None	Split system and single package	11.0 EER 12.2 IEER	
	≥65,000 Btu/h and <135,000 Btu/h	Heat Pump with Elec. Backup, Gas <u>Heat Pump with Elec. Backup, Gas</u>	Split system and single package	10.8 EER 12.0 IEER	
		None	Split system and single package	10.6 EER 11.6 IEER	
Air cooled (cooling mode)	≥135,000 Btu/h and <240,000 Btu/h	Heat Pump with Elec. Backup, Gas <u>Heat Pump with Elec. Backup, Gas</u>	Split system and single package	10.4 EER 11.4 IEER	AHRI 340/360
		None	Split system and single package	9.5 EER 10.6 IEER	
	≥240,000 Btu/h	<u>Heat Pump with Elec. Backup, Gas</u>	Split system and single package	9.3 EER 10.4 IEER	

a. Section 12 contains a complete specification of the referenced test procedure, including the referenced year version of the test procedure.

b. Single-phase, air-cooled air conditioners <65,000 Btu/h are regulated by NAECA. SEER values are those set by NAECA.

## SECTION 7 SERVICE WATER HEATING

### 7.4 MANDATORY PROVISIONS

#### 7.4 MANDATORY PROVISIONS

*Strike Section 7.4.2 of ASHRAE 90.1 in its entirety and insert a new Section 7.4.2 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**7.4.2 Equipment Efficiency.** All water heating equipment, hot-water supply boilers used solely for heating potable water, pool heaters, and hot-water storage tanks shall meet the criteria listed in Table 7.8, except for projects complying with the Alternate Renewables Approach in Section 13.1.1.2, which shall comply with Table 13-9 and the ENERGY STAR requirements in Section 10.11.2. Where multiple criteria are listed, all criteria shall be met. Omission of minimum performance requirements for certain classes of equipment does not preclude use of such equipment where appropriate. Equipment not listed in Table 7.8 has no minimum performance requirements.

**Exceptions:** All water heaters and hot-water supply boilers having more than 140 gal of storage capacity are not required to meet the standby loss (SL) requirements of Table 7.8 when:

- a. the tank surface is thermally insulated to R-12.5,
- b. a standing pilot light is not installed, and
- c. gas- or oil-fired storage water heaters have a flue damper or fan-assisted combustion.

*Insert a new Section 7.4.5.2.1 in in the Energy Conservation Code-Commercial Provisions to read as follows:*

**7.4.5.2.1 Insulation for Spas and Pools.** Spas and pools heated to more than 90°F (32°C) shall also have side and bottom surfaces insulated on the exterior with a minimum insulation value of R-12.

## SECTION 8 POWER

### 8.1 GENERAL

#### 8.4 MANDATORY PROVISIONS

#### 8.5 PRESCRIPTIVE PATH

### 8.1 GENERAL

*Insert a new Section 8.1.5 into the Energy Conservation Code-Commercial Provisions to read as follows:*

**8.1.5 Establishing an open and interoperable automated demand response (Auto-DR) infrastructure.** Buildings that contain heating, ventilation, or air conditioning (HVAC) systems shall comply with Sections 8.1.5.1 through 8.1.5.3. Actual participation in demand response programs is not required.

**Exceptions:** Auto-DR infrastructure is not required for the following:

1. Buildings located where the electric utility or regional Independent System Operator (ISO) or Regional Transmission Operator (RTO) does not offer a demand response program to buildings regulated by this code.
2. Buildings with a peak electric demand not greater than 0.75 times that of the standard reference design.
3. Buildings that have incorporated on-site renewable energy generation to provide 20 percent or more of the building's energy demand.

**8.1.5.1 Software clients.** Demand response automation software clients shall be capable of communicating with a demand response automation server via the Internet or other communication relay.

**8.1.5.2 Heating, ventilating and air-conditioning (HVAC) systems.** The Auto-DR strategy for HVAC systems shall be capable of reducing the building peak cooling or heating HVAC demand by not less than 10 percent when signaled from the electric utility, regional independent system operator (ISO) or regional transmission operator (RTO), through any combination of the strategies and systemic adjustments, including, but not limited to the following:

**Exceptions:** The Auto-DR strategy is not required to include the following buildings and systems:

1. Hospitals and critical emergency response facilities.
2. Ventilation and exhaust systems required by Chapter 5 of the *Mechanical Code* for the control or removal of dust, particles, odors, fumes, spray, gas, smoke or other hazardous materials, considered to be irritating or injurious to health or

safety, and produced by or involved in operations or processes, including hazardous materials storage.

3. Manufacturing process systems.
4. Group R occupancies.

**8.1.5.2.1 Rebound avoidance.** The Auto-DR strategy shall include logic to prevent a rebound peak. When the signal for Auto-DR is ended, a gradual return to normal heating, ventilation and air-conditioning (HVAC) equipment operations shall be part of the Auto-DR strategy, through any combination of the strategies and systemic adjustments, including, but not limited to the following:

1. Where close to the unoccupied period, the Auto-DR period shall be extended using rebound avoidance, extended Auto-DR control strategy until the initiation of the unoccupied period.
2. Rebound avoidance, slow recovery control strategies, gradually increasing or decreasing space temperature setpoints or a variance in the timing by cooling or heating zone.
3. Rebound avoidance, slow recovery control strategies, gradually increasing or decreasing zone supply air temperatures.
4. Rebound avoidance, slow recovery control strategies, gradually increasing or decreasing chilled water temperatures or decreasing hot water temperatures.
5. Rebound avoidance, sequential equipment recovery strategies, gradually restoring demand limited equipment capacity.
6. Rebound avoidance, sequential equipment recovery strategies, gradually restoring equipment that was turned off during the Auto-DR period.
7. Rebound avoidance, slow recovery control strategies, gradually increasing capacity for air moving and pumping systems.
8. Rebound avoidance, sequential equipment recovery or rebound avoidance, slow recovery control where chilled water or hot water and other capacity control valves are sequentially or gradually allowed to return to normal operation, respectively.

## 8.4 MANDATORY PROVISIONS

*Strike Section 8.4.2 of ASHRAE 90.1 in its entirety and insert a new Section 8.4.2 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**8.4.2 Automatic Receptacle Control.** The following shall be automatically controlled:

1. One (1) 125-volt 15- and 20-amp duplex receptacles in each private offices, and individual workstation to be located at the desk area and 50% of 125-volt 15- and 20-amp duplex receptacles in, conference rooms, rooms used primarily for printing and/or copying functions, break rooms, and classrooms.
2. Twenty-five percent (25%) of the circuits feeding each base feed point of modular furniture or a minimum of one (1) circuit.

This control shall function using one of the following methods:

- a. A scheduled basis using a time-of-day operated control device that turns receptacles off at specific programmed times—an independent program schedule shall be provided for controlled areas of no more than 5000 ft.<sup>2</sup> and not more than one floor (the occupant shall be able to manually override the control device for up to two hours),
- b. An occupant sensor that shall turn receptacles off within 20 minutes of all occupants leaving a space, or
- c. An automated signal from another control or alarm system that shall turn receptacles off within 20 minutes after determining that the area is unoccupied.

All controlled receptacles shall be permanently marked to visually differentiate them from uncontrolled receptacles and are to be uniformly distributed throughout the space.

Plug-in devices shall not be used to comply with Section 8.4.2.

**Exceptions:** Receptacles for the following shall not require an automatic control device:

1. Receptacles specifically designated for equipment requiring continuous operation (24 hours/day, 365 days/year).
2. Spaces where an automatic control would endanger the safety or security of the room or building occupant(s).

*Strike Section 8.4.3 of ASHRAE 90.1 in its entirety and insert a new Section 8.4.3 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**8.4.3 Energy Metering, Monitoring and Reporting.** The provisions of Section 8.4.3 shall only apply to new construction and projects that are undertaking a complete electrical system replacement. Section 8.4.3 shall not apply to Group R occupancies, other than Group R-1 occupancies.

**8.4.3.1 Purpose.** The purpose of this section is to provide requirements that will ensure that projects are constructed or altered in a way that will provide the capability for their

energy use, production and reclamation to be measured, monitored and reported. This includes the design of energy distribution systems so as to isolate load types, the installation of or ability to install in the future meters, devices and a data acquisition system, and the installation of, or the ability to provide, energy displays and other appropriate reporting mechanisms in the future.

All forms of energy delivered to the building and building site, produced on the building site or in the building, and reclaimed at the building site or in the building shall be metered and all energy load types measured in accordance with this section.

**8.4.3.1.1 Buildings with tenants within the scope of Section 8.4.3.** The metering required by Section 8.4.3 shall be collected for the entire building and for each floor in the building. Tenants within the scope of Section 8.4.3 shall have access to all data collected for the floors in which they have occupancy. Means of access shall be left to the discretion of the owner.

**8.4.3.2 Energy distribution design requirements and load type isolation in buildings.** Energy distribution systems within, on or adjacent to and serving a building shall be designed such that each primary circuit, panel, feeder, piping system or supply mechanism supplies only one energy use type as defined in Sections 8.4.3.2.1 through 8.4.3.2.5. The energy use type served by each distribution system shall be clearly designated on the energy distribution system with the use served, and adequate space shall be provided for installation of metering equipment or other data collection devices, temporary or permanent, to measure their energy use. The energy distribution system shall be designed to facilitate the collection of data for each of the building energy use categories in Section 8.4.3.4 and for each of the end use categories listed in Sections 8.4.3.2.1 through 8.4.3.2.5. Where there are multiple buildings on a building site, each building shall comply separately with the provisions of Section 8.4.3.

**Exception:** Buildings designed and constructed such that the total usage of each of the load types described in Sections 8.4.3.2.1 through 8.4.3.2.5 shall be permitted to be measured through the use of installed sub-meters or other equivalent methods as approved.

**8.4.3.2.1 HVAC system total energy use.** The HVAC system total energy use category shall include all energy used to heat, cool, and provide ventilation to the building including, but not limited to, fans, pumps, boiler energy, chiller energy and hot water.

**8.4.3.2.2 Lighting system total energy use.** The lighting system total energy use category shall include all interior and exterior lighting used in occupant spaces and common areas.

**8.4.3.2.3 Plug loads.** The plug loads energy use category shall include all energy use by devices, appliances and equipment connected to convenience receptacle outlets.

**8.4.3.2.4 Process loads.** The process loads energy use category shall include the energy used by any single load associated with activities within the building, such as, but not limited to, data centers, manufacturing equipment and commercial kitchens, that exceeds 5 percent of the peak connected load of the whole building.

**8.4.3.2.5 Energy used for building operations loads and other miscellaneous loads.** The category of energy used for building operations loads and other miscellaneous loads shall include all vertical transportation systems, automatic doors, motorized shading systems, ornamental fountains and fireplaces, swimming pools, inground spas, snow-melt systems, exterior lighting that is mounted on the building or used to illuminate building facades and the use of any miscellaneous loads in the building not specified in Sections 8.4.3.2.1 through 8.4.3.2.4.

**8.4.3.3 Energy-type metering.** Buildings shall be provided with the capability to determine energy use and peak demand as provided in this section for each of the energy types specified in Sections 8.4.3.3.1 through 8.4.3.3.7. Utility energy meters or supplemental sub-meters are permitted to be used to collect whole building data, and shall be equipped with a local data port connected to a data acquisition system in accordance with Section 8.4.3.5.

**8.4.3.3.1 Gaseous fuels.** Gaseous fuels including, but not limited to, natural gas, LP gas, coal gas, hydrogen, landfill gas, digester gas and biogas shall be capable of being metered at the building site to determine the gross consumption and peak demand of each different gaseous fuel by each building on a building site. The installation of gas meters and related piping shall be in accordance with the *Fuel Gas Code*.

**8.4.3.3.2 Liquid fuels.** Liquid fuels including, but not limited, to fuel oil, petroleum-based diesel, kerosene, gasoline, bio diesel, methanol, ethanol and butane shall be capable of being metered at the building site to allow a determination of the gross consumption and peak demand of each liquid fuel use by each building on a building site. The installation of meters and related piping shall be in accordance with the *Mechanical Code*.

**8.4.3.3.3 Solid fuels.** Solid fuels including, but not limited to, coal, charcoal, peat, wood products, grains, and municipal waste shall be capable of having their use determined at the building site to allow a determination of the gross consumption and peak demand of each solid fuel use by each building on a building site.

**8.4.3.3.4 Electric power.** Electric power shall be capable of being metered at the building site to allow a determination of the gross consumption and peak demand by each building on a building site. The installation of electric meters and related wiring shall be in accordance with NFPA 70.

**8.4.3.3.5 District heating and cooling.** Hot water, steam, chilled water, and brine



shall be capable of being metered at the building site, or where produced on the building site, to allow a determination of the gross consumption of heating and cooling energy by each building on a building site. Energy use associated with the production of hot water, steam, chilled water or brine shall be determined based on the fuel used.

**8.4.3.3.6 Combined heat and power.** Equipment and systems with a connected load greater than 125,000 Btu/hr (36.63 kW) providing combined heat and power (CHP) shall be capable of being metered to allow a determination of the gross consumption of each form of delivered energy to the equipment. The output of CHP shall be metered in accordance with the applicable portions of Section 8.4.3 based on the forms of output from the CHP.

**8.4.3.3.7 Renewable energy.** Equipment and systems providing energy from renewable energy sources which is included in the determination of the building zEPI, shall be capable of being metered to allow a determination of the output of equipment and systems in accordance with Sections 8.4.3.3.7.1 through 8.4.3.3.7.3.

**8.4.3.3.7.1 Solar electric.** Equipment and systems providing electric power through conversion of solar energy directly to electric power shall be capable of being metered so that the peak electric power (kW) provided to the building and its systems or to off-site entities can be determined at 15-minute intervals, and the amount of electric power (kWh) provided to the building and its systems can be determined at intervals of one hour or less.

**8.4.3.3.7.2 Wind power systems.** Equipment and systems providing electric power through conversion of wind energy directly to electric power shall be capable of being metered so that the peak electric power (kW) provided to the building and its systems or to off-site entities can be determined at 15-minute intervals, and the amount of electric power (kWh) provided to the building and its systems can be determined at intervals of one hour or less.

**8.4.3.3.7.3 Other renewable energy electric production systems.** Equipment and systems providing electric power through conversion of other forms of renewable energy directly to electric power shall be capable of being metered so that the peak electric power (kW) provided to the building and its systems or to off-site entities can be determined at 15-minute intervals, and the amount of electric power (kWh) provided to the building and its systems can be determined at intervals of one hour or less.

**8.4.3.4 Energy load type sub-metering.** For projects that are 25,000 square feet (2323 m<sup>2</sup>) or larger in total floor area, the energy use of the categories specified in Section 8.4.3.2 shall be metered through the use of sub-meters or other approved equivalent

methods meeting the capability requirements of Section 8.4.3.3.

**8.4.3.4.1 Projects less than 25,000 square feet.** For projects that are less than 25,000 square feet (2323 m<sup>2</sup>) in total floor area, and encompass at least one entire floor, the energy distribution system shall be designed and constructed to accommodate the future installation of sub-meters and other approved devices in accordance with Section 8.4.3.4. This includes, but is not limited to, providing access to distribution lines and ensuring adequate space for the installation of submeters and other approved devices.

**8.4.3.5 Minimum energy measurement and verification.** Meters, sub-meters, and other approved devices installed in compliance with Sections 8.4.3.3 and 8.4.3.4 shall be connected to a data acquisition and management system capable of storing not less than 36 months' worth of data collected by all meters and other approved devices.

*Strike Section 8.5 of ASHRAE 90.1 in its entirety and insert a new Section 8.5 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

## **8.5 PRESCRIPTIVE PATH**

**8.5.1 Automatic Control of Equipment in Hotel/Motel Guest Rooms.** In hotels and motels with more than 50 guest rooms, *automatic* controls for switched outlets and televisions serving each guest room shall be configured according to the following requirements.

**8.5.1.1 Switched Outlet Control.** Within 30 minutes of all occupants leaving the guest room, power for lighting and switched outlets shall be automatically turned off.

**8.5.1.2 Television Control.** Within 30 minutes of all occupants leaving the guest room, televisions shall be automatically turned off or placed in sleep or standby mode.

**SECTION 9 LIGHTING****9.1 GENERAL****9.4 MANDATORY PROVISIONS****9.5 BUILDING AREA METHOD COMPLIANCE PATH****9.6 ALTERNATIVE COMPLIANCE PATH: SPACE-BY-SPACE METHOD****9.1 GENERAL**

*Strike Section 9.1.1 of ASHRAE 90.1 in its entirety and insert a new Section 9.1.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**9.1.1 Scope.** This section shall apply to the following:

- a. Interior spaces of buildings.
- b. Exterior building features, including façades, illuminated roofs, architectural features, entrances, exits, loading docks, and illuminated canopies.
- c. Exterior building grounds lighting provided through the building's electrical service.

**Exceptions:**

1. Emergency lighting that is automatically off during normal building operation.
2. Lighting within dwelling units provided that 85% of the lamps in permanently installed luminaires are *high efficacy*.
3. Lighting that is specifically designated as required by a health or life safety statute, ordinance, or regulation.
4. Decorative gas lighting systems.

*Strike Section 9.1.2 of ASHRAE 90.1 in its entirety and insert a new Section 9.1.2 in its place to read as follows:*

**9.1.2 Lighting Alterations.** For the alteration of any lighting system in an interior space, that space shall comply with the lighting power density (LPD) requirements of Section 9 applicable to that space and the automatic shutoff requirements of Section 9.4.1.1. For the alteration of any lighting system in an exterior building application, that lighting system shall comply with the lighting power density (LPD) requirements of Section 9 applicable to the area illuminated by that lighting system and the applicable control requirements of Sections 9.4.1.4(a) and 9.4.1.4(b). Such alterations shall include all luminaires that are added, replaced or removed. This requirement shall also be met for alterations that involve only the replacement of lamps plus ballasts. Alterations do not include routine maintenance or repair situations.

**Exception:** Alterations that involve replacing less than 50% of the connected lighting load

in a space or area need not comply with these requirements, provided that such alterations do not increase the installed LPD.

*Strike Section 9.1.4 of ASHRAE 90.1 in its entirety and insert a new Section 9.1.4 in its place to read as follows:*

**9.1.4 Interior and Exterior Luminaire Wattage.** Luminaire wattage, when used to calculate either installed interior lighting power or installed exterior lighting power, shall be determined in accordance with the following criteria:

- a. The wattage of line-voltage luminaires not containing permanently installed ballasts, transformers, or similar devices shall be the manufacturers' labeled maximum wattage of the luminaire.

**Exception:** Where lighting is connected to a current limiter and containing *high efficacy* lamping shall be designed to use the wattage of the current limiter.

- b. The wattage of luminaires with permanently installed or remote ballasts, transformers, or similar devices shall be the operating input wattage of the maximum lamp/auxiliary combination based on values from the auxiliary manufacturers' literature or recognized testing laboratories or shall be the maximum labeled wattage of the luminaire.

**Exception:** Lighting power calculations for ballasts with adjustable ballast factors shall be based on the ballast factor that will be used in the space, provided that the ballast factor is not user changeable.

- c. For line-voltage lighting track and plug-in busway designed to allow the addition and/or relocation of luminaires without altering the wiring of the system, the wattage shall be
  1. The specified wattage of the luminaires included in the system with a minimum of 30 W/lin ft.,
  2. The wattage limit of the system's circuit breaker or
  3. The wattage limit of other permanent current-limiting device(s) on the system.
- d. The wattage of low-voltage lighting track, cable conductor, rail conductor, and other flexible lighting systems that allow the addition and/or relocation of luminaires without altering the wiring of the system shall be the specified wattage of the transformer supplying the system.
- e. The wattage of all other miscellaneous lighting equipment shall be the specified wattage of the lighting equipment.

## 9.4 MANDATORY PROVISIONS

*Strike Section 9.4.1.1 of ASHRAE 90.1 in its entirety and insert a new Section 9.4.1.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**9.4.1.1 Interior Lighting Controls.** For each space in the building, all of the lighting control functions indicated in Table 9.6.1, for the appropriate space type in column A, and as described below, shall be implemented. All control functions labeled with an “REQ” are mandatory and shall be implemented. If a space type has control functions labeled “ADD1” then at least one of those functions indicated as “ADD1” shall be implemented. If a space type has control functions labeled “ADD2” then at least one of those functions indicated as “ADD2” shall be implemented. For space types not listed, select a reasonably equivalent type.

If using the Space-by-Space Method for LPD requirements, the space type used for determining control requirements shall be the same space type used to determine the LPD.

- a. *Local control:* There shall be one or more manual lighting controls in the space that controls all of the lighting in the space. Each control device shall control an area (1) no larger than 2500 ft<sup>2</sup> (232.25 m<sup>2</sup>) if the space is 10,000 ft<sup>2</sup> (929.03 m<sup>2</sup>), and (2) no larger than 10,000 ft<sup>2</sup> (929.03 m<sup>2</sup>) otherwise. The device installed to comply with this provision shall be readily accessible and located so that the occupants can see the controlled lighting when using the control device.

**Exception:** Remote location of this local control device or devices shall be permitted for reasons of safety or security when each remote control device has an indicator pilot light as part of or next to the control device and the light is clearly labeled to identify the controlled lighting.

- b. *Restricted to manual ON:* None of the lighting shall be automatically turned on.

**Exception:** Manual ON is not required where manual ON operation of the general lighting would endanger the safety or security of the room or building occupants.

- c. *Restricted to partial automatic ON:* No more than 50% of the lighting power for the general lighting shall be allowed to be automatically turned on, and none of the remaining lighting shall be automatically turned on.
- d. *Bilevel lighting control:* The general lighting in the space shall be controlled so as to provide at least one intermediate step in lighting power or continuous dimming in addition to full ON and full OFF. At least one intermediate step shall be between 30% and 70% (inclusive) of full lighting power.

**Exception:** Existing and/or renovation spaces shall not be required to provide bi-level lighting control in areas where no work is to be performed or where only the existing light switch is being relocated due to door relocations.

- e. *Automatic daylight responsive controls for sidelighting:* In any space where the combined input power of all general lighting completely or partially within the primary side- lighted areas is 150 W or greater, the general lighting in the primary sidelighted areas shall be controlled by photocontrols.

The control system shall have the following characteristics:

1. The calibration adjustments shall be readily accessible.
2. The photocontrol shall reduce electric lighting in response to available daylight using continuous dimming or with at least one control point between 50% and 70% of design lighting power, a second control point between 20% and 40% of design lighting power or the lowest dimming level the technology allows, and a third control point that turns off all the controlled lighting.

**Exceptions:** The following areas are exempted from Section 9.4.1.1(e):

1. Primary sidelighted areas where the top of any existing adjacent structure is twice as high above the windows as its distance away from the windows.
  2. Sidelighted areas where the total glazing area is less than 20 ft.<sup>2</sup>
  3. Retail spaces.
  4. Where the total interior lighting power (watts) of the building is no more than 80 percent of the interior lighting power allowance calculated by the Building Area Method in Section 9.5, or no more than 80 percent of the interior lighting power allowance calculated by the Space by-Space Method in Section 9.6.
- f. *Automatic daylight responsive controls for toplighting:* In any space where the combined input power for all general lighting completely or partially within daylight areas under skylights and daylight areas under roof monitors is 105 W or greater, general lighting in the daylight area shall be controlled by photocontrols having the following characteristics:

1. The calibration adjustments shall be readily accessible.
2. The photocontrol shall reduce electric lighting in response to available daylight using continuous dimming or with at least one control point that is between 50% and 70% of design lighting power, a second control point between 20% and 40% of design lighting power or the lowest dimming level the technology allows, and a third control point that turns off all the controlled lighting.
3. General lighting in overlapping toplighted and side- lighted daylight areas shall be controlled together with general lighting in the daylight area under sky- lights or daylight areas under roof monitors.

**Exceptions:** The following areas are exempted from Section 9.4.1.1(f):

1. Daylight areas under skylights where it is documented that existing adjacent structures or natural objects block direct sunlight for more than 1500 daytime hours per year between 8 a.m. and 4 p.m.
  2. Daylight areas where the skylight visual transmittance (VT) is less than 0.4.
  3. In each space within buildings in Climate Zone 8 where the input power of the general lighting within daylight areas is less than 200 W.
  4. Where the total interior lighting power (watts) of the building is no more than 80 percent of the interior lighting power allowance calculated by the Building Area Method in Section 9.5, or no more than 80 percent of the interior lighting power allowance calculated by the Space-by-Space Method in Section 9.6.
- g. *Automatic partial OFF (full OFF complies)*: The general lighting power in the space shall be automatically reduced by at least 50% within 20 minutes of all occupants leaving the space.

**Exceptions:** This requirement does not have to be complied with in spaces that meet all three of the following requirements:

1. The space has an LPD of no more than 0.80 W/ft.<sup>2</sup>
  2. The space is lighted by HID.
  3. The general lighting power in the space is automatically reduced by at least 30% within 20 minutes of all occupants leaving the space.
- h. *Automatic full OFF*: All lighting shall be automatically shut off within 20 minutes of all occupants leaving the space, except for restrooms, which shall be set to a maximum of 30 minutes. A control device meeting this requirement shall control no more than 5000 ft.<sup>2</sup>.

**Exceptions:** The following lighting is not required to be automatically shut off:

1. General lighting and task lighting in shop and laboratory classrooms.
  2. General lighting and task lighting in spaces where automatic shutoff would endanger the safety or security of room or building occupants.
  3. Lighting required for 24/7 operation or emergency lighting.
- i. *Scheduled shutoff*: All lighting in the space not exempted by Exception (1) to Section 9.1.1 shall be automatically shut off during periods when the space is scheduled to be unoccupied using either (1) a time-of-day operated control device that automatically turns the lighting off at specific programmed times or (2) a signal from another automatic control device or alarm/security system. The control device or system shall provide independent control sequences that (1) control the lighting for an area of no more than 25,000 ft.<sup>2</sup>, (2) include no more than one floor, and (3) shall be programmed to account for weekends and holidays. Any

manual control installed to provide override of the scheduled shutoff control shall not turn the lighting on for more than two hours per activation during scheduled off periods and shall not control more than 5000 ft.<sup>2</sup>.

**Exceptions:** The following lighting is not required to be on scheduled shutoff:

1. Lighting in spaces where lighting is required for 24/7 continuous operation or emergency lighting.
2. Lighting in spaces where patient care is rendered.
3. Lighting in spaces where automatic shutoff would endanger the safety or security of the room or building occupants.

*Strike Section 9.4.1.4 of ASHRAE 90.1 in its entirety and insert a new Section 9.4.1.4 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**9.4.1.4 Exterior Lighting Control.** Lighting for exterior applications not exempted in Section 9.1 shall meet the following requirements:

- a. Lighting shall be controlled by a device that automatically turns off the lighting when sufficient daylight is available.
- b. All building façade and landscape lighting shall be automatically shut off between midnight or business closing, whichever is later, and 6 a.m. or business opening, whichever comes first, or between times established by the authority having jurisdiction.
- c. Lighting not specified in Section 9.4.1.4(b) and lighting for signage shall be controlled by a device that automatically reduces the connected lighting power by at least 30% for at least one of the following conditions:
  1. From 12 midnight or within one (1) hour of the end of business operations, whichever is later, until 6 a.m. or business opening, whichever is earlier.
  2. During any period when no activity has been detected for a time of no longer than 15 minutes.

All time switches shall be capable of retaining programming and the time setting during loss of power for a period of at least ten hours.

**Exceptions:**

1. Lighting for covered vehicle entrances or exits from buildings or parking structures where required for safety, security, or eye adaptation.
2. Lighting that is integral to signage and installed in the signage by the manufacturer.



**9.4.1.4.1 Parking Lighting.** This section supersedes Section 9.4.1.4 for lighting serving uncovered parking areas. Outdoor luminaires serving uncovered parking areas shall be controlled by all of the following:

- a. Luminaires shall be controlled by a device that automatically turns off the luminaire during *daylight hours*.
- b. Luminaires shall be controlled by a timeclock or other control that automatically turns off the luminaire according to a timed schedule.
- c. For luminaires having a rated input wattage of more than 50 W and where the bottom of the luminaire is mounted 24 ft. (7.3 m) or less above the ground, the luminaires shall be controlled by one or more devices that automatically reduce lighting power of each luminaire by a minimum of 40% when there is no activity detected in the controlled zone for a period no longer than 15 minutes. No more than 1500 input watts of lighting power shall be controlled together.

**Exceptions to 9.4.1.4.1(c):**

- 1. Lighting serving uncovered parking areas does not include lighting for outdoor sales, including vehicle sales lots.
- 2. Lighting for covered vehicle entrances or exits from buildings or parking structures where required for safety, security, or eye adaptation.

**TABLE 9.4.2-2 INDIVIDUAL LIGHTING POWER ALLOWANCES FOR BUILDING EXTERIORS**

	<b>Zone 0</b>	<b>Zone 1</b>	<b>Zone 2</b>	<b>Zone 3</b>	<b>Zone 4</b>
<b>Base Site Allowance</b> (base allowance may be used in tradable or non-tradable surfaces) No base site in Zone 0					
		500 W	600 W	750 W	1300 W
<b>Tradable Surfaces</b> (LPDs for uncovered parking areas, building grounds, building entrances, exits and loading docks, canopies and overhangs, and outdoor sales areas may be traded.)					
<b>Uncovered Parking Areas</b>					
Parking areas and drives	No allowance	0.03 W/ft <sup>2</sup>	0.05 W/ft <sup>2</sup>	0.09 W/ft <sup>2</sup>	0.12 W/ft <sup>2</sup>
<b>Building Grounds</b>					
Walkways less than 10 ft wide	No allowance	0.63 W/linear foot	0.63 W/linear foot	0.76 W/linear foot	.95 W/linear foot
Walkways 10 ft wide or greater Plaza areas Special feature areas	No allowance	0.12 W/ft <sup>2</sup>	0.12 W/ft <sup>2</sup>	0.15 W/ft <sup>2</sup>	0.19 W/ft <sup>2</sup>
Stairways	No allowance	0.67 W/ft <sup>2</sup>	0.9 W/ft <sup>2</sup>	0.95 W/ft <sup>2</sup>	0.95 W/ft <sup>2</sup>

Pedestrian tunnels	No allowance	0.13 W/ft <sup>2</sup>	0.13 W/ft <sup>2</sup>	0.19 W/ft <sup>2</sup>	0.28 W/ft <sup>2</sup>
Landscaping	No allowance	0.03 W/ft <sup>2</sup>	0.04 W/ft <sup>2</sup>	0.04 W/ft <sup>2</sup>	0.04 W/ft <sup>2</sup>

**Building Entrances, Exits, and Loading Docks**

Main entries width	No allowance	18 W/lin ft of door width	18 W/lin ft of door width	28.5 W/lin ft of door width	28.5 W/lin ft of door width
Other doors	No allowance	18 W/lin ft of door width	18 W/lin ft of door width	19 W/lin ft of door width	19 W/lin ft of door width
Entry canopies	No allowance	0.22 W/ft <sup>2</sup>	0.22 W/ft <sup>2</sup>	0.38 W/ft <sup>2</sup>	0.38 W/ft <sup>2</sup>
Loading docks	No allowance	0.45 W/ft <sup>2</sup>	0.45 W/ft <sup>2</sup>	0.47 W/ft <sup>2</sup>	0.47 W/ft <sup>2</sup>

**Sales Canopies**

Free standing and attached	No allowance	0.54 W/ft <sup>2</sup>	0.54 W/ft <sup>2</sup>	0.76 W/ft <sup>2</sup>	0.95 W/ft <sup>2</sup>
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**Outdoor Sales**

Open areas (including vehicle sales lots)	No allowance	0.22 W/ft <sup>2</sup>	0.22 W/ft <sup>2</sup>	0.47 W/ft <sup>2</sup>	0.66 W/ft <sup>2</sup>
Street frontage for vehicle sales lots in addition to "open area" allowance	No allowance	No allowance	9 W/linear foot	9.5 W/linear foot	28.5 W/linear foot

**Nontradable Surfaces**

(LPD calculations for the following applications can be used only for the specific application and cannot be traded between surfaces or with other exterior lighting. The following allowances are in addition to any allowance otherwise permitted in the "Tradable Surfaces" section of this table.)

Building facades	No allowance	No allowance	0.09 W/ft <sup>2</sup> for each illuminated wall or surface or 2.37 W/linear foot for each illuminated wall or surface length	0.14 W/ft <sup>2</sup> for each illuminated wall or surface or 3.56 W/linear foot for each illuminated wall or surface length	0.19 W/ft <sup>2</sup> for each illuminated wall or surface or 4.75 W/linear foot for each illuminated wall or surface length
Automated teller machines and night depositories	No allowance	256.5 W per location plus 85.5 W per additional ATM per location	256.5 W per location plus 85.5 W per additional ATM per location	256.5 W per location plus 85.5 W per additional ATM per location	256.5 W per location plus 85.5 W per additional ATM per location

**TABLE 9.4.2-2 INDIVIDUAL LIGHTING POWER ALLOWANCES FOR BUILDING EXTERIORS (CONTINUED)**

	Zone 0	Zone 1	Zone 2	Zone 3	Zone 4
Entrances and gatehouse inspection stations at guarded facilities	No allowance	0.71 W/ft. <sup>2</sup> of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)	0.71 W/ft. <sup>2</sup> of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)	0.71 W/ft. <sup>2</sup> of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)	0.71 W/ft. <sup>2</sup> of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)
Loading areas for law enforcement, fire, ambulance, and other emergency service vehicles	No allowance	0.47 W/ft. <sup>2</sup> of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)	0.47 W/ft. <sup>2</sup> of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)	0.47 W/ft. <sup>2</sup> of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)	0.47 W/ft. <sup>2</sup> of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)
Drive-through windows/doors	No allowance	380 W per drive-through	380 W per drive-through	380 W per drive-through	380 W per drive-through
Parking near 24-hour retail entrances	No allowance	760 W per main entry	760 W per main entry	760 W per main entry	760 W per main entry
Roadway/parking entry, trail head, and toilet facility, or other locations approved by the authority having jurisdiction.	A single luminaire of 60 W or less may be installed for each roadway/parking entry, trail head, and toilet facility, or other locations approved by the authority having jurisdiction	No allowance	No allowance	No allowance	No allowance

**9.5 BUILDING AREA METHOD COMPLIANCE PATH**

**9.5.1 Building Area Method Compliance Path**

*Strike Table 9.5.1 in ASHRAE 90.1 in its entirety and insert new Table 9.5.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**TABLE 9.5.1 LIGHTING POWER DENSITIES USING THE BUILDING AREA METHOD**

Building Area Type <sup>a</sup>	LPD, W/ft. <sup>2</sup>
Automotive facility	0.80
Convention center	1.01
Courthouse	0.95

Dining: Bar lounge/leisure	1.01
Dining: Cafeteria/fast food	0.85
Dining: Family	0.90
Dormitory	0.54
Exercise center	0.79
Fire station	0.67
Gymnasium	0.94
Health-care clinic	0.85
Hospital	0.99
Hotel/Motel	0.87
Library	1.13
Manufacturing facility	1.17
Motion picture theater	0.76
Multifamily	0.48
Museum	1.02
Office	0.77
Parking garage	0.21
Penitentiary	0.76
Performing arts theater	1.39
Police station	0.82
Post office	0.87
Religious building	0.95
Retail	1.26
School/university	0.78
Sports arena	0.91
Town hall	0.84
Transportation	0.66
Warehouse	0.66
Workshop	1.19

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a. In cases where both a general building area type and a specific building area type are listed, the specific building area type shall apply.

- a. For spaces in which lighting is specified to be installed in addition to the general lighting for the purpose of decorative appearance or for highlighting art or exhibits, provided that the additional lighting power shall not exceed 5% of the lighting power allowance across the entire project space permitted in Sections 9.5.1 or 9.6.1.

- b. For lighting equipment installed in sales areas and specifically designed and directed to highlight merchandise, calculate the additional lighting power as follows:

$$\text{Additional Interior Lighting Power Allowance} = 1000 \text{ W} + (\text{For Retail Area 1, 10\% base power allowance for the sales area per Table 9.5.1 or Table 9.6.1})$$

*Insert a new Section 9.5.2 in the Energy Conservation Code-Commercial Provisions to read as follows:*

## **9.5.2 Prescriptive Control Requirements**

**9.5.2.1 Automatic Control of Lights in Group R-1 Occupancies.** In Group R-1 occupancies with more than 50 guest rooms, *automatic controls* for the lighting shall be configured according to the following requirements.

**9.5.2.1.1 Lighting and Switched Outlet Control.** Within 30 minutes of all occupants leaving the guest room, power for lighting shall be automatically turned off.

**9.5.2.2 Occupancy Sensor Controls with Multilevel Switching or Dimming.** The lighting in commercial and industrial storage stack areas shall be controlled by an occupant sensor with multilevel switching or dimming system that reduces lighting power a minimum of 50% within 20 minutes of all occupants leaving the stack area.

**Exception:** Storage stack areas illuminated by high-intensity discharge (HID) lighting with a lighting power density of  $0.8 \text{ W/ft.}^2$  ( $8.6 \text{ W/m}^2$ ) or less.

**9.5.2.3 Automatic Controls for Egress and Security Lighting.** Lighting in any area within a building that is required to be continuously illuminated for reasons of building security or emergency egress shall not exceed  $0.1 \text{ W/ft.}^2$  ( $1 \text{ W/m}^2$ ). Additional egress and security lighting shall be allowed, provided it is controlled by an *automatic* control device that turns off the additional lighting.

**9.5.2.4 Controls for Exterior Sign Lighting.** All exterior sign lighting, including internally illuminated signs and lighting on externally illuminated signs, shall comply with the requirements of Sections 9.5.2.4.1 or 9.5.2.4.2.

### **Exceptions:**

1. Sign lighting that is specifically required by a health or life safety statute, ordinance, or regulation.
2. Signs in tunnels.

**9.5.2.4.1** All sign lighting that operates more than one hour per day during *daylight hours* shall include controls to automatically reduce the input power to a maximum of 35% of full power for a period from one hour after sunset to one hour before sunrise.

**Exception:** Sign lighting using metal halide, high-pressure sodium, induction, cold cathode, or neon lamps that includes controls to automatically reduce the input power

to a maximum of 70% of full power for a period from one hour after sunset to one hour before sunrise.

9.5.2.4.2 All other sign lighting shall include the following:

- a. Controls to automatically reduce the input power to a maximum of 70% of full power for a period from mid- night or within one hour of the end of business operations, whichever is later, until 6:00 am or business opening, which- ever is earlier.
- b. Controls to automatically turn off during *daylight hours*.

**9.6 ALTERNATIVE COMPLIANCE PATH: SPACE-BY-SPACE METHOD**

**TABLE 9.6.1 LIGHTING POWER DENSITY ALLOWANCES USING THE SPACE-BY-SPACE METHOD AND MINIMUM CONTROL REQUIREMENTS USING EITHER METHOD**

*Strike TABLE 9.6.1 Lighting Power Density Allowances Using the Space-by-Space Method and Minimum Control Requirements Using Either Method, in ASHRAE 90.1 and insert new Table 9.6.1 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

*Strike Section 9.6.2 of ASHRAE 90.1 in its entirety and insert a new Section 9.6.2 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

~~**9.6.2 Additional Interior Lighting Power.** When using the Space-by-Space Method, an increase in the interior lighting power allowance is allowed for specific lighting functions. Additional power shall be allowed only if the specified lighting is installed and automatically controlled, separately from the general lighting, to be turned off during nonbusiness hours. This additional power shall be used only for the specified luminaires and shall not be used for any other purpose unless otherwise indicated.~~

~~An increase in the interior lighting power allowance is permitted in the following cases:~~

TABLE 9.6.1 Lighting Power Density Allowances Using the Space-by-Space Method and Minimum Control Requirements Using Either Method

The control functions below shall be implemented in accordance with the descriptions found in the referenced paragraphs within Section 9.4.1.1. For each space type:

(1) All REQs shall be implemented.

(2) At least one ADD1 (when present) shall be implemented.

(3) At least one ADD2 (when present) shall be implemented.

*Informative Note:* This table is divided into two sections; this first section covers space types that can be commonly found in multiple building types. The second part of this table covers space types that are typically found in a single building type.

Common Space Types <sup>1</sup>	LPD, W/ft <sup>2</sup>	RCR Threshold	a	b	c	d	e	f	g	h	i
<b>Electrical/Mechanical Room<sup>7</sup></b>	0.42	6	REQ				REQ	REQ			
<b>Emergency Vehicle Garage</b>	0.56	4	REQ	ADD1	ADD1		REQ	REQ		ADD2	ADD2
<b>Food Preparation Area</b>	1.21	6	REQ	ADD1	ADD1	REQ	REQ	REQ		ADD2	ADD2
<b>Guest Room</b>	0.91	6					See Section 9.4.1.3b.				
<b>Laboratory</b>											
... in or as a classroom	1.43	6	REQ	ADD1	ADD1	REQ	REQ	REQ	REQ	ADD2	ADD2
... all other laboratories	1.81	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Laundry/Washing Area</b>	0.60	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Loading Dock, Interior</b>	0.47	6	REQ	ADD1	ADD1	—	REQ	REQ	—	ADD2	ADD2
<b>Lobby</b>											
... in a facility for the visually impaired (and not used primarily by the staff) <sup>3</sup>	1.80	4	REQ	—	—	—	REQ	REQ	REQ	ADD2	ADD2
... for an elevator	0.64	6	REQ	—	—	—	REQ	REQ	—	ADD2	ADD2
... in a hotel	1.06	4	REQ	—	—	—	REQ	REQ	—	ADD2	ADD2
... in a motion picture theater	0.59	4	REQ	—	—	—	REQ	REQ	—	ADD2	ADD2
... in a performing arts theater	2.00	6	REQ	—	—	—	REQ	REQ	REQ	ADD2	ADD2
... all other lobbies	0.90	4	REQ	—	—	—	REQ	REQ	REQ	ADD2	ADD2
<b>Locker Room</b>	0.75	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—
<b>Lounge/Breakroom</b>											
... in a healthcare facility	0.92	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—
... all other lounges/breakrooms	0.73	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—

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<u>Atrium</u>											
... that is <20 ft in height	0.03/ft total height	NA	REQ	ADD1	ADD1	=	REQ	REQ	=	ADD2	ADD2
... that is ≥20 ft and ≤40 ft in height	0.03/ft total height	NA	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
... that is >40 ft in height	0. 0 + 0.02/ft total	NA	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
<u>Audience Seating Area</u>											
... in an auditorium	0.63	6	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
... in a convention center	0.82	4	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
... in a gymnasium	0.65	6	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
... in a motion picture theater	1.14	4	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
... in a penitentiary	0.28	4	REQ	ADD1	ADD1	=	REQ	REQ	=	ADD2	ADD2
... in a performing arts theater	2.43	8	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
... in a religious building	1.53	4	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
... in a sports arena	0.43	4	REQ	ADD1	ADD1	=	REQ	REQ	=	ADD2	ADD2
... all other audience seating areas	0.43	4	REQ	ADD1	ADD1	=	REQ	REQ	=	ADD2	ADD2
<b>Banking Activity Area</b>	1.01	6	REQ	ADD1	ADD1	REQ	REQ	REQ	=	ADD2	ADD2
<u>Breakroom</u> (See Lounge/Breakroom)											
<u>Classroom/Lecture Hall/Training Room</u>											
... in a penitentiary	1.34	4	REQ	ADD1	ADD1	REQ	REQ	REQ	=	REQ	=
... all other classrooms/lecture halls/ training rooms	1.24	4	REQ	ADD1	ADD1	REQ	REQ	REQ	=	REQ	=



The control functions below shall be implemented in accordance with the descriptions found in the referenced paragraphs within

Section 9.4.1.1. For each space type:

(1) All REQs shall be implemented.

(2) At least one ADD1 (when present) shall be implemented.

(3) At least one ADD2 (when present) shall be implemented.

*Informative Note:* This table is divided into two sections; this first section covers space types that can be commonly found in multiple building types. The second part of this table covers space types that are typically found in a single building type.

Common Space Types <sup>1</sup>	LPD, W/ft. <sup>2</sup>	RCR Threshold	Local Control	Restricted to	Restricted to	Bilevel	Daylight	Daylight	Automatic	Automatic	Scheduled
			(See Section 9.4.1.1[a])	Manual ON (See Section 9.4.1.1[b])	Partial Automatic ON (See Section 9.4.1.1[c])	Lighting Control (See Section 9.4.1.1[d])	Responsive Controls for Sidelighting (See Section 9.4.1.1[e] <sup>6</sup> )	Responsive Controls for Toplighting (See Section 9.4.1.1[f] <sup>6</sup> )	Partial OFF (See Section 9.4.1.1[g] [Full Off complies])	Automatic Full OFF (See Section 9.4.1.1[h])	Shutoff (See Section 9.4.1.1[i])
			a	b	c	d	e	f	g	h	i
<b>Conference/Meeting/Multipurpose Room</b>	1.10	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—
<b>Confinement Cells</b>	0.81	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Copy/Print Room</b>	0.72	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—
<b>Corridor<sup>2</sup></b>											
... in a facility for the visually impaired (and not used primarily by the staff) <sup>3</sup>	0.92	width <8 ft.	REQ	—	—	—	REQ	REQ	REQ	ADD2	ADD2
... in a hospital	0.99	width <8 ft.	REQ	—	—	—	REQ	REQ	ADD2	ADD2	ADD2
... in a manufacturing facility	0.41	width <8 ft.	REQ	—	—	—	REQ	REQ	—	ADD2	ADD2
all other corridors	0.56	width <8 ft.	REQ	—	—	—	REQ	REQ	REQ	ADD2	ADD2
<b>Courtroom</b>	1.46	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Computer Room</b>	1.71	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Dining Area</b>											
... in a penitentiary	0.96	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in a facility for the visually impaired (and not used primarily by staff) <sup>3</sup>	2.65	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in bar/lounge or leisure dining	1.07	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in cafeteria or fast food dining	0.65	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in family dining	0.75	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
all other dining areas	0.58	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2

1. In cases where both a common space type and a building area specific space type are listed, the building area specific space type shall apply.  
 2. In corridors, the extra lighting power density allowance is permitted when the width of the corridor is less than 8 ft. and is not based on the RCR.  
 3. A "Facility for the Visually Impaired" is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and is licensed or will be licensed by local/state authorities for either senior long-term care, adult daycare, senior support and/or people with special visual needs.  
 4. For accent lighting, see Section 9.6.2(b).  
 5. Sometimes referred to as a "Picking Area."  
 6. Automatic daylight responsive controls are mandatory only if the requirements of the specified sections are present.  
 7. An additional 0.53 w/ft.<sup>2</sup> shall be allowed, provided that the additional lighting is controlled separately from the base allowance of 0.42 W/ft.<sup>2</sup>. The additional 0.53 w/ft.<sup>2</sup> allowance shall not be used for any other purpose.

The control functions below shall be implemented in accordance with the descriptions found in the referenced paragraphs within

Section 9.4.1.1. For each space type:

(1) All REQs shall be implemented.

(2) At least one ADD1 (when present) shall be implemented.

(3) At least one ADD2 (when present) shall be implemented.

*Informative Note:* This table is divided into two sections; this first section covers space types that can be commonly found

in multiple building types. The second part of this table covers space types that are typically found in a single building type.

Common Space Types <sup>1</sup>	LPD, W/ft. <sup>2</sup>	RCR Threshold	Local Control	Restricted to	Restricted to	Bilevel	Daylight	Daylight	Automatic	Automatic	Automatic	Scheduled
			(See Section 9.4.1.1[a])	Manual ON (See Section 9.4.1.1[b])	Partial Automatic ON (See Section 9.4.1.1[c])	Lighting Control (See Section 9.4.1.1[d])	Responsive Controls for Sidelighting (See Section 9.4.1.1[e] <sup>6</sup> )	Responsive Controls for Toplighting (See Section 9.4.1.1[f] <sup>6</sup> )	Partial OFF (See Section 9.4.1.1[g] [Full Off complies])	Full OFF (See Section 9.4.1.1[h])	Shutoff (See Section 9.4.1.1[i])	
			a	b	c	d	e	f	g	h	i	
Electrical/Mechanical Room <sup>7</sup>	0.42	6	REQ	—	—	—	REQ	REQ	—	—	—	—
Emergency Vehicle Garage	0.56	4	REQ	ADD1	ADD1	—	REQ	REQ	—	ADD2	ADD2	ADD2
Food Preparation Area	1.21	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2	ADD2
Guest Room	0.91	6										
Laboratory												
... in or as a classroom	1.43	6	REQ	ADD1	ADD1	REQ	REQ	REQ	REQ	ADD2	ADD2	ADD2
... all other laboratories	1.71	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2	ADD2
Laundry/Washing Area	0.57	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2	ADD2
Loading Dock, Interior	0.47	6	REQ	ADD1	ADD1	—	REQ	REQ	—	ADD2	ADD2	ADD2
Lobby												
... in a facility for the visually impaired (and not used primarily by the staff) <sup>3</sup>	1.80	4	REQ	—	—	—	REQ	REQ	REQ	ADD2	ADD2	ADD2
... for an elevator	0.54	6	REQ	—	—	—	REQ	REQ	—	ADD2	ADD2	ADD2
... in a hotel	1.06	4	REQ	—	—	—	REQ	REQ	—	ADD2	ADD2	ADD2
... in a motion picture theater	0.56	4	REQ	—	—	—	REQ	REQ	—	ADD2	ADD2	ADD2
... in a performing arts theater	2.00	6	REQ	—	—	—	REQ	REQ	REQ	ADD2	ADD2	ADD2
... all other lobbies	0.85	4	REQ	—	—	—	REQ	REQ	REQ	ADD2	ADD2	ADD2

See Section 9.4.1.3b.

<b>Locker Room</b>	0.75	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—
<b>Lounge/Breakroom</b>											
... in a healthcare facility	0.78	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—
... all other lounges/breakrooms	0.62	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—

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The control functions below shall be implemented in accordance with the descriptions found in the referenced paragraphs within Section 9.4.1.1. For each space type:  
 (1) All REQs shall be implemented.  
 (2) At least one ADD1 (when present) shall be implemented.  
 (3) At least one ADD2 (when present) shall be implemented.

*Informative Note:* This table is divided into two sections; this first section covers space types that can be commonly found in multiple building types. The second part of this table covers space types that are typically found in a single building type.

Common Space Types <sup>1</sup>	LPD, W/ft. <sup>2</sup>	RCR Threshold	Local Control (See Section 9.4.1.1[a])	Restricted to Manual ON (See Section 9.4.1.1[b])	Restricted to Partial Automatic ON (See Section 9.4.1.1[c])	Bilevel Lighting Control (See Section 9.4.1.1[d])	Automatic Daylight Responsive Controls for Sidelighting (See Section 9.4.1.1[e] <sup>6</sup> )	Automatic Daylight Responsive Controls for Toplighting (See Section 9.4.1.1[f] <sup>6</sup> )	Automatic Partial OFF (See Section 9.4.1.1[g] [Full Off complies])	Automatic Full OFF (See Section 9.4.1.1[h])	Scheduled Shutoff (See Section 9.4.1.1[i])
a	b	c	d	e	f	g	h	i			
<b>Office</b>											
... enclosed and ≤250 ft. <sup>2</sup>	1.05	8	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—
... enclosed and >250 ft. <sup>2</sup>	1.05	8	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... open plan	0.93	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Parking Area, Interior</b>	0.19	4	See Section 9.4.1.2.								
<b>Pharmacy Area</b>	1.68	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Restroom</b>											
... in a facility for the visually impaired (and not used primarily by the staff) <sup>3</sup>	1.21	8	REQ	—	—	—	REQ	REQ	—	REQ	—
... all other restrooms	0.98	8	REQ	—	—	—	REQ	REQ	—	REQ	—
<b>Sales Area<sup>4</sup></b>	1.36	6	REQ	ADD1	ADD1	REQ	—	REQ	—	ADD2	ADD2
<b>Seating Area, General</b>	0.54	4	REQ	ADD1	ADD1	—	REQ	REQ	—	ADD2	ADD2
<b>Stairway</b>											
The space containing the stairway shall determine the LPD and control requirements for the stairway.											
<b>Stairwell</b>	0.69	10	REQ	—	—	REQ	REQ	REQ	REQ	ADD2	ADD2
<b>Storage Room</b>											
... <50 ft. <sup>2</sup>	1.24	6	REQ	—	—	—	—	—	—	ADD2	ADD2
... ≥50 ft. <sup>2</sup> and ≤ 1000 ft. <sup>2</sup>	0.63	6	REQ	ADD1	ADD1	—	REQ	REQ	—	REQ	—
... all other storage rooms	0.63	6	REQ	ADD1	ADD1	—	REQ	REQ	REQ	ADD2	ADD2
<b>Vehicular Maintenance Area</b>	0.67	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Workshop</b>	1.59	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2

1. In cases where both a common space type and a building area specific space type are listed, the building area specific space type shall apply.  
 2. In corridors, the extra lighting power density allowance is permitted when the width of the corridor is less than 8 ft. and is not based on the RCR.  
 3. A "Facility for the Visually Impaired" is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and is licensed or will be licensed by local/state authorities for either senior long-term care, adult daycare, senior support and/or people with special visual needs.  
 4. For accent lighting, see Section 9.6.2(b).  
 5. Sometimes referred to as a "Picking Area."  
 6. Automatic daylight responsive controls are mandatory only if the requirements of the specified sections are present.  
 7. An additional 0.53 w/ft.<sup>2</sup> shall be allowed, provided that the additional lighting is controlled separately from the base allowance of 0.42 W/ft.<sup>2</sup>. The additional 0.53 w/ft.<sup>2</sup> allowance shall not be used for any other purpose.

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The control functions below shall be implemented in accordance with the descriptions found in the referenced paragraphs within Section 9.4.1.1. For each space type:  
 (1) All REQs shall be implemented.  
 (2) At least one ADD1 (when present) shall be implemented.  
 (3) At least one ADD2 (when present) shall be implemented.

*Informative Note:* This table is divided into two sections; this first section covers space types that can be commonly found in multiple building types. The second part of this table covers space types that are typically found in a single building type.

Building Type Specific/Space Types <sup>1</sup>	LPD W/ft. <sup>2</sup>	RCR Threshold	Local Control (See Section 9.4.1.1[a])	Restricted to Manual ON (See Section 9.4.1.1[b])	Restricted to Partial Automatic ON (See Section 9.4.1.1[c])	Bilevel Lighting Control (See Section 9.4.1.1[d])	Automatic Daylight Responsive Controls for Sidelighting (See Section 9.4.1.1[e] <sup>6</sup> )	Automatic Daylight Responsive Controls for Toplighting (See Section 9.4.1.1[f] <sup>6</sup> )	Automatic Partial OFF (See Section 9.4.1.1[g] [Full Off complies])	Automatic Full OFF (See Section 9.4.1.1[h])	Scheduled Shutoff (See Section 9.4.1.1[i])
			a	b	c	d	e	f	g	h	i
<b>Facility for the Visually Impaired<sup>3</sup></b>											
... in a chapel (used primarily by residents)	2.21	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in a recreation room/common living room (and not used primarily by staff)	2.41	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Automotive (See “Vehicular Maintenance Area”)</b>											
<b>Convention Center—Exhibit Space</b>	1.23	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Dormitory—Living Quarters Fire Station—Sleeping Quarters Facility for the Visually Impaired<sup>3</sup></b>	0.38	8	REQ	—	—	—	—	—	—	—	—
<b>Gymnasium/Fitness Center</b>	0.22	6	REQ	—	—	—	—	—	—	—	—
... in an exercise area	0.61	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in a playing area	1.20	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Healthcare Facility</b>											
... in an exam/treatment room	1.41	8	REQ	—	—	REQ	REQ	REQ	—	ADD2	ADD2
... in an imaging room	1.51	6	REQ	—	—	REQ	—	—	—	ADD2	ADD2
...in a medical supply room	0.66	6									
... in a nursery	0.74	6	REQ	—	—	REQ	REQ	REQ	—	ADD2	ADD2

1. In cases where both a common space type and a building area specific space type are listed, the building area specific space type shall apply  
 2. In corridors, the extra lighting power density allowance is permitted when the width of the corridor is less than 8 ft. and is not based on the RCR.  
 3. A “Facility for the Visually Impaired” is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and is licensed or will be licensed by local/state authorities for either senior long-term care, adult daycare, senior support and/or people with special visual needs.  
 4. For accent lighting, see Section 9.6.2(b).  
 5. Sometimes referred to as a “Picking Area.”  
 6. Automatic daylight responsive controls are mandatory only if the requirements of the specified sections are present.  
 7. An additional 0.53 w/ft.<sup>2</sup> shall be allowed, provided that the additional lighting is controlled separately from the base allowance of 0.42 W/ft.<sup>2</sup>. The additional 0.53 w/ft.<sup>2</sup> allowance shall not be used for any other purpose.

The control functions below shall be implemented in accordance with the descriptions found in the referenced paragraphs within Section 9.4.1.1. For each space type:

- (1) All REQs shall be implemented.
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Building Type Specific/Space Types <sup>1</sup>	LPD W/ft. <sup>2</sup>	RCR Threshold	Local Control	Restricted to	Restricted to	Bilevel	Automatic	Automatic	Automatic	Automatic	Scheduled
			(See Section 9.4.1.1[a])	Manual ON (See Section 9.4.1.1[b])	Partial Automatic ON (See Section 9.4.1.1[c])	Lighting Control (See Section 9.4.1.1[d])	Daylight Responsive Controls for Sidelighting (See Section 9.4.1.1[e] <sup>6</sup> )	Daylight Responsive Controls for Toplighting (See Section 9.4.1.1[f] <sup>6</sup> )	Partial OFF (See Section 9.4.1.1[g] [Full Off complies])	Full OFF (See Section 9.4.1.1[h])	Shutoff (See Section 9.4.1.1[i])
			a	b	c	d	e	f	g	h	i
... in a nurse's station	0.63	6	REQ	—	—	REQ	REQ	REQ	—	ADD2	ADD2
... in an operating room	2.48	6	REQ	—	—	REQ	—	—	—	ADD2	ADD2
... in a patient room	0.55	6	REQ	—	—	REQ	REQ	REQ	—	ADD2	ADD2
... in a physical therapy room	0.77	6	REQ	—	—	REQ	REQ	REQ	—	ADD2	ADD2
... in a recovery room	1.15	6	REQ	—	—	REQ	REQ	REQ	—	ADD2	ADD2
<b>Library</b>											
... in a reading area	1.06	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in the stacks	1.62	4	REQ	ADD1	ADD1	REQ	REQ	REQ	REQ	ADD2	ADD2
<b>Manufacturing Facility</b>											
... in a detailed manufacturing area	1.29	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in an equipment room	0.74	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in an extra high bay area (>50 ft. floor-to-ceiling height)	1.05	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in a high bay area (25–50 ft. floor-to-ceiling height)	1.04	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in a low bay area (<25 ft. floor-to-ceiling height)	1.01	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Museum</b>											
... in a general exhibition area	1.05	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in a restoration room	1.02	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Performing Arts Theater—Dressing Room</b>	0.61	6	REQ	ADD1	ADD1	REQ	REQ	REQ	—	REQ	—

1. In cases where both a common space type and a building area specific space type are listed, the building area specific space type shall apply  
 2. In corridors, the extra lighting power density allowance is permitted when the width of the corridor is less than 8 ft. and is not based on the RCR.  
 3. A "Facility for the Visually Impaired" is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and is licensed or will be licensed by local/state authorities for either senior long-term care, adult daycare, senior support and/or people with special visual needs.  
 4. For accent lighting, see Section 9.6.2(b).  
 5. Sometimes referred to as a "Picking Area."  
 6. Automatic daylight responsive controls are mandatory only if the requirements of the specified sections are present.  
 7. An additional 0.53 w/ft.<sup>2</sup> shall be allowed, provided that the additional lighting is controlled separately from the base allowance of 0.42 W/ft.<sup>2</sup>. The additional 0.53 w/ft.<sup>2</sup> allowance shall not be used for any other purpose.

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The control functions below shall be implemented in accordance with the descriptions found in the referenced paragraphs within Section 9.4.1.1. For each space type:  
 (1) All REQs shall be implemented.  
 (2) At least one ADD1 (when present) shall be implemented.  
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*Informative Note:* This table is divided into two sections; this first section covers space types that can be commonly found in multiple building types. The second part of this table covers space types that are typically found in a single building type.

Building Type Specific/Space Types <sup>1</sup>	LPD W/ft. <sup>2</sup>	RCR Threshold	a	b	c	d	e	f	g	h	i
<b>Post Office—Sorting Area</b>	0.94	4	REQ	ADD1	ADD1	REQ	REQ	REQ	REQ	ADD2	ADD2
<b>Religious Buildings</b>											
... in a fellowship hall	0.64	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... in a worship/pulpit/choir area	1.53	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Retail Facilities</b>											
... in a dressing/fitting room	0.71	8	REQ	ADD1	ADD1	REQ		REQ	—	REQ	—
... in a mall concourse	1.10	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Sports Arena—Playing Area</b>											
... for a Class I facility	3.68	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... for a Class II facility	2.40	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... for a Class III facility	1.80	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
... for a Class IV facility	1.20	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Transportation Facility</b>											
... in a baggage/carousel area	0.47	4	REQ	ADD1	ADD1	—	REQ	REQ	—	ADD2	ADD2
... in an airport concourse	0.32	4	REQ	ADD1	ADD1	—	REQ	REQ	—	ADD2	ADD2
... at a terminal ticket counter	0.68	4	REQ	ADD1	ADD1	REQ	REQ	REQ	—	ADD2	ADD2
<b>Warehouse—Storage Area</b>											
...for medium to bulky, palletized items	0.49	4	REQ	ADD1	ADD1	REQ	REQ	REQ	REQ	ADD2	ADD2
... for smaller, hand-carried items <sup>5</sup>	0.95	6	REQ	ADD1	ADD1	REQ	REQ	REQ	REQ	ADD2	ADD2

1. In cases where both a common space type and a building area specific space type are listed, the building area specific space type shall apply.  
 2. In corridors, the extra lighting power density allowance is permitted when the width of the corridor is less than 8 ft. and is not based on the RCR.  
 3. A “Facility for the Visually Impaired” is a facility that can be documented as being designed to comply with the light levels in ANSI/IES RP-28 and is licensed or will be licensed by local/state authorities for either senior long-term care, adult daycare, senior support and/or people with special visual needs.  
 4. For accent lighting, see Section 9.6.2(b).  
 5. Sometimes referred to as a “Picking Area.”  
 6. Automatic daylight responsive controls are mandatory only if the requirements of the specified sections are present.  
 7. An additional 0.53 w/ft.<sup>2</sup> shall be allowed, provided that the additional lighting is controlled separately from the base allowance of 0.42 W/ft.<sup>2</sup>. The additional 0.53 w/ft.<sup>2</sup> allowance shall not be used for any other purpose.

TABLE 9.6.3 Control Factors Used in Calculating Additional Interior Lighting Power Allowance

Additional Control Method (in Addition to Mandatory Requirements)	Space Type				
	Open Office	Private Office	Conference Room, Meeting Room, Classroom (Lecture/ Training)	Retail Sales Area	Lobby, Atrium, Dining Area, Corridors/ Stairways, Gym/ Pool, Mall Concourse, Parking Garage
Manual, continuous dimming control or programmable multilevel dimming control	0.05	0.05	0.10	0.10	0
Programmable multilevel dimming control using programmable time scheduling	0.05	0.05	0.10	0.10	0.10
Occupancy sensors controlling the downlight component of workstation specific luminaires with continuous dimming to off capabilities	0.25 <sup>a</sup>	0	0	0	0
Occupancy sensors controlling the downlight component of workstation specific luminaires with continuous dimming to off operation, in combination with personal continuous dimming control of downlight illumination by workstation occupant	0.30 <sup>a,b</sup>	0	0	0	0
Automatic continuous daylight dimming in secondary sidelighted areas	0.10 <sup>c</sup>	0.10 <sup>c</sup>	0.10 <sup>c</sup>	0.10 <sup>c</sup>	0.10 <sup>c</sup>

- a. Control factor is limited to workstation-specific luminaires in partitioned single occupant work spaces contained within an open office environment (i.e. direct-indirect luminaires with separately controlled downlight and uplight components, with the downward component providing illumination to a single occupant in an open plan workstation). Within 30 minutes of the occupant leaving the space, the downward component shall continuously dim to off over a minimum of two minutes. Upon the occupant entering the space, the downward component shall turn on at the minimum level and continuously raise the illumination to a preset level over a minimum of 30 seconds. The uplight component of workstation specific luminaire shall comply with Section 9.4.1.1(h) (automatic full off).
- b. In addition to the requirements described in footnote (b), the control shall allow the occupant to select their preferred light level via a personal computer, handheld device, or similarly accessible device located within the workstation.
- c. Control factors may not be used if controls are used to satisfy exceptions to Section 5.5.4.2.3



*Strike Section 9.6.2 of ASHRAE 90.1 in its entirety and insert a new Section 9.6.2 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**9.6.2 Additional Interior Lighting Power.** When using the Space-by-Space Method, an increase in the interior lighting power allowance is allowed for specific lighting functions. Additional power shall be allowed only if the specified lighting is installed and automatically controlled, separately from the general lighting, to be turned off during nonbusiness hours. This additional power shall be used only for the specified luminaires and shall not be used for any other purpose unless otherwise indicated.

An increase in the interior lighting power allowance is permitted in the following cases:

+ (For Retail Area 2, 10% base power allowance for the sales area per Table 9.5.1 or Table 9.6.1)

+ (For Retail Area 3, 30% base power allowance for the sales area per Table 9.5.1 or Table 9.6.1)

+ (For Retail Area 4, 50% base power allowance for the sales area per Table 9.5.1 or Table 9.6.1),

Retail Area 1 = the floor area for all products not listed in Retail Areas 2, 3, or 4

Retail Area 2 = the floor area used for the sale of vehicles, sporting goods, and small electronics

Retail Area 3 = the floor area used for the sale of furniture, clothing, cosmetics, and artwork

Retail Area 4 = the floor area used for the sale of jewelry, crystal, and china

**Exception:** Other merchandise categories may be included in Retail Areas 2 through 4 above, provided that justification documenting the need for additional lighting power based on visual inspection, contrast, or other critical display is approved by the authority having jurisdiction.

*Strike Section 9.6.3 of ASHRAE 90.1 in its entirety and insert a new Section 9.6.3 in its place to read as follows:*

**9.6.3 Prescriptive Controls.** Projects shall comply with the prescriptive control requirements of 9.5.2, 9.5.3, 9.5.4, and 9.5.5.

**SECTION 10 OTHER EQUIPMENT****10.5 PRESCRIPTIVE COMPLIANCE PATH**

*Strike Section 10.5 of ASHRAE 90.1 in its entirety and insert a new Section 10.5 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**10.5 PRESCRIPTIVE COMPLIANCE PATH.**

All *building projects* shall comply with the requirements in Section 10.5.1, 10.5.3 and 10.5.4. ~~and a~~ All *building projects* complying with the Alternate Renewables Approach in Section 13.1.1.2 shall also comply with Section 10.5.2.

**10.5.1 ENERGY STAR Requirements for New Equipment not Covered by Federal Appliance Efficiency Regulations (All *Building Projects*).** The following equipment within the scope of the applicable ENERGY STAR program shall comply with the equivalent criteria required to achieve the ENERGY STAR label if installed prior to the issuance of the certificate of occupancy:

- a. Appliances
  1. Room air cleaners: ENERGY STAR Program Requirements for Room Air Cleaners
  2. Water coolers: ENERGY STAR Program Requirements for Water Coolers
- b. Heating and Cooling
  1. Programmable thermostats: ENERGY STAR Program Requirements for Programmable Thermostats
  2. Ventilating fans: ENERGY STAR Program Requirements for *Residential* Ventilating Fans
- c. Lighting
  1. Integral LED lamps: ENERGY STAR Program Requirements for Integral LED Lamps
- d. Commercial Food Service
  1. Commercial fryers: ENERGY STAR Program Requirements for Commercial Fryers
  2. Commercial hot food holding cabinets: ENERGY STAR Program Requirements for Hot Food Holding Cabinets
  3. Commercial steam cookers: ENERGY STAR Program Requirements for Commercial Steam Cookers (see also water efficiency requirements in Section 6.4.2.2)

4. Commercial dishwashers: ENERGY STAR Program Requirements for Commercial Dishwashers
5. Commercial griddles: ENERGY STAR Program Requirements for Commercial Griddles
6. Commercial ovens: ENERGY STAR Program Requirements for Commercial Ovens (see also water efficiency requirements in Section 6.4.2.2)

**Exception to 10.5.1:** Products with minimum efficiencies addressed in the Energy Policy Act (EP Act) and the Energy Independence and Security Act (EISA) when complying with Section 13.1.1.2 are exempted from Section 10.5.1.

**10.5.2 ENERGY STAR Requirements for New Equipment Covered by Federal Appliance Efficiency Regulations (Alternate Renewables Approach).** For all *building projects* complying with the Alternate Renewables Approach in Section 13.1.1.2, the following equipment within the scope of the applicable ENERGY STAR program shall comply with the equivalent criteria required to achieve the ENERGY STAR label if installed prior to the issuance of the certificate of occupancy. For those products listed below that are also contained in Normative Appendix B, the installed equipment shall comply by meeting or exceeding both the requirements in this section and in Normative Appendix B.

a. Appliances

1. Clothes washers: ENERGY STAR Program Requirements for Clothes Washers (see also the water efficiency requirements in Section 6.3.2.2 of ASHRAE 189.1)
2. Dehumidifiers: ENERGY STAR Program Requirements for Dehumidifiers
3. Dishwashers: ENERGY STAR Program Requirements Product Specifications for *Residential Dish- washers* (see also the water efficiency requirements in Section 6.3.2.2 of ASHRAE 189.1)
4. Refrigerators and freezers: ENERGY STAR Program Requirements for Refrigerators and Freezers
5. Room air conditioners: ENERGY STAR Program Requirements and Criteria for Room Air Conditioners

b. Heating and Cooling

1. *Residential* air-source heat pumps: ENERGY STAR Program Requirements for ASHPs and Central Air Conditioners (see also the energy efficiency requirements in Section 13.1).
2. *Residential* boilers: ENERGY STAR Program Requirements for Boilers (see also the energy efficiency requirements in Section 13.1).
3. *Residential* central air conditioners: ENERGY STAR Program Requirements for ASHPs and Central Air Conditioners (see also the energy efficiency

requirements in Section 13.1).

4. *Residential* ceiling fans: ENERGY STAR Program Requirements for *Residential* Ceiling Fans
  5. Dehumidifiers: ENERGY STAR Program Requirements for Dehumidifiers
  6. *Residential* warm air furnaces: ENERGY STAR Program Requirements for Furnaces
  7. *Residential* geothermal heat pumps: ENERGY STAR Program Requirements for Geothermal Heat Pumps
- c. Water Heaters: ENERGY STAR Program Requirements for *Residential* Water Heaters
- d. Lighting
1. Lamps: ENERGY STAR Program Requirements for Lamps (Light Bulbs)
  2. Luminaires: ENERGY STAR Program Requirements for Luminaires
  3. *Residential* light fixtures: ENERGY STAR Program Requirements for *Residential* Light Fixtures
- e. Commercial Food Service
1. Commercial refrigerators and freezers: ENERGY STAR Program Requirements for Commercial Refrigerators and Freezers
  2. Commercial ice machines: ENERGY STAR Program Requirements for Commercial Ice Machines

**10.5.3 Programmable Thermostats.** *Residential* programmable thermostats shall meet the requirements of NEMA Standards Publication DC 3, Annex A, “Energy-Efficiency Requirements for Programmable Thermostats.”

**10.5.4 Refrigerated Display Cases.** All open refrigerated display cases shall be covered by using field-installed strips, curtains, or doors.

**SECTION 11 CONSTRUCTION AND PLANS FOR OPERATION****11.1 SCOPE****11.2 COMPLIANCE****11.3 MANDATORY PROVISIONS**

*Strike Section 11 of ASHRAE 90.1 in its entirety and insert a new Section 11 in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

**11.1 SCOPE.** This section specifies requirements for construction and plans for operation, including the *commissioning (Cx) process*, building acceptance testing, measurement and *verification*, and energy use reporting. Projects that are 20,000 ft<sup>2</sup> or larger shall comply with this section — with the following conditions as applicable:

- a. All projects shall comply with Section 11.3.1.1-Acceptance Testing.
- b. The following projects shall comply with Section 11.3.1.2-Project Commissioning:
  1. New construction (including additions) 10,000 sf (929 m<sup>2</sup>) or greater.
  2. Level III alterations alteration area of 10,000 sf (929 m<sup>2</sup>) or greater.
  3. Alterations of 20,000 sf (1858.06 m<sup>2</sup>) or greater.
  4. New, replaced, or relocated mechanical, electrical, or plumbing equipment that serves 20,000 sf (1858.06 m<sup>2</sup>) or larger.
  5. Projects having a new, replaced, and/or relocated, minimum-HVAC system with a heating equipment size of 480,000 BTU's or greater, or with a cooling equipment size of 600,000 BTUs or greater.
- c. The following projects shall comply with Section 11.3.1.3-Building Envelope Commissioning (BECx):
  1. New Construction or additions 50,000 sf (4645.12 m<sup>2</sup>) or greater.
  2. Alterations and/or additions: for buildings over 50,000 sf (4645.12 m<sup>2</sup>), where at least 25 percent of the vertical, above-grade building envelope is being replaced, altered, and/or added.

**11.1.1 Systems.** The following systems and associated controls, if included in the *project*, shall be commissioned:

- a. Heating, ventilating, air-conditioning, and refrigeration systems (mechanical and/or passive).
- b. *Building envelope* systems, components, and assemblies to verify the airtightness and thermal and moisture integrity. *Building envelope* airtightness commissioning shall also comply with Section 11.3.1.3 ~~2.5~~.
- c. Lighting systems.
- d. *Fenestration* control systems: *Automatic* controls for shading devices and

*dynamic glazing.*

- e. Irrigation.
- f. Domestic and process water pumping and mixing systems.
- g. *Service water heating* systems.
- h. Renewable energy systems.
- i. Water measurement devices.
- j. Energy measurement devices.

**11.2 COMPLIANCE.** All of the provisions of Section 11 ~~0~~ are mandatory provisions.

### **11.3 MANDATORY PROVISIONS**

#### **11.3.1 Construction.**

**11.3.1.1 Building Acceptance Testing.** Acceptance testing shall be performed on all buildings in accordance with this section using *generally accepted engineering standards* and handbooks acceptable to the *authority having jurisdiction (AHJ)*.

An acceptance testing process shall be incorporated into the design and construction of the *project* that verifies systems specified in this section perform in accordance with *construction documents*.

**11.3.1.1.1 Activities Prior to Building Permit.** Complete the following:

- a. Designate a project *acceptance representative* to lead, review, and oversee completion of acceptance testing activities.
- ~~b. *Construction documents* shall indicate who is to perform acceptance tests and the details of the tests to be performed.~~
- eb. *Acceptance representative* shall review *construction documents* to verify that relevant sensor locations, devices, and control sequences are properly documented.

**11.3.1.1.2 Activities Prior to Building Occupancy.** Complete the following:

- a. Verify proper installation and start up of the systems per manufacturer requirements, code requirements, owner's requirements, permit drawings, and designer's intent of operation.
- b. Perform acceptance tests. For each acceptance test, complete test form and include date, a signature, and license number, as appropriate, for the party who has performed the test. Acceptance testing shall include, but not limited to, Testing and Balancing, for applicable systems and system

components.

- c. Verify that a systems manual has been prepared that includes operation and maintenance (O&M) documentation and full warranty information and provides operating staff the information needed to operate building systems.

**11.3.1.1.3 Acceptance Testing.** The following systems, if included in the *project*, shall have acceptance testing:

- a. Mechanical systems: heating, ventilating, air conditioning and refrigeration systems (mechanical and/or passive) and associated controls.
- b. Lighting systems: *automatic* daylighting controls, manual daylighting controls, occupancy sensing devices, and *automatic* shut-off controls.
- c. *Fenestration* control systems: *Automatic* controls for shading devices and *dynamic glazing*.
- d. Renewable energy systems.
- e. Water measurement devices.
- f. Energy measurement devices.

**11.3.1.1.4 Documentation.** The *owner* shall retain completed acceptance test forms. Completed acceptance testing forms shall be provided to the AHJ for review upon request from the code official.

**11.3.1.2 Project Commissioning.** Commissioning shall be performed in accordance with this section using *generally accepted engineering standards* and handbooks acceptable to the AHJ. Reference AHJ CX guidelines. Buildings undergoing the Cx process will be deemed to comply with the requirements of Section 11.3.1.1, "Building Acceptance Testing."

A *Cx process* shall be incorporated into the predesign, design, construction, and post-occupancy of the *project* that verifies that the delivered building and its components, assemblies, and systems comply with the documented *owner's project requirements (OPR)*. Procedures, documentation, tools, and training shall be provided to the building operating staff to sustain features of the building assemblies and systems for the service life of the building. This material shall be assembled and organized into a systems manual that provides necessary information to the building operating staff to operate and maintain all commissioned systems identified within the *project*.

**11.3.1.2.1 Activities Prior to Building Permit.** The following activities shall be completed:

- a. ~~Designate~~ The project owner or owner representative, but not a design firm or construction firm involved in the design or construction of the project, shall contract with a project commissioning authority (CxA) to lead, review, and oversee completion of the Cx process activities prior to completion of schematic design. The CxA shall be approved by the AHJ to conduct commissioning, having credentials set forth by the AHJ. The CxA shall not

be a member of any construction or design firm involved in the design or construction of the project.

- b. The *owner*, in conjunction with the design team as necessary, shall develop the *OPR* during the predesign phase. The *OPR* shall be updated during the design phase as necessary by the design team, in conjunction with the *owner* and the Cx team. The *OPR* will be distributed to all parties participating in project programming, design, construction, and operations, and to the Cx team members.
- c. The design team shall develop the *Basis of Design (BoD)*. The *BoD* document shall include all the information required in Section 6.2, "Documentation," of ANSI/ ASHRAE Standard 55. Once the project is Permitted, the BOD shall include the AHJ approved permit drawings and documents, and any deviations from these plans shall be noted by the CXa as a deficiency in their CX reports unless updated and AHJ approved construction documents are provided.
- d. The CxA shall review both the *OPR* and *BoD* to ensure that no conflicting requirements or goals exist and that the *OPR* and *BoD*, based on the professional judgment and experience of the CxA, are sufficiently detailed for the project being undertaken.
- e. Construction phase commissioning requirements shall be incorporated into project specifications and other *construction documents* developed by the design team.
- f. The CxA shall conduct two focused *OPR* reviews of the *construction documents*, the first at near 50% design completion and the second of the final *construction documents* prior to delivery to the contractor. The purpose of these reviews is to verify that the documents achieve the construction phase *OPR* and that the *BoD* document fully supports the *OPR* with sufficient details.
- ~~g. Develop and implement a *commissioning (Cx) plan* containing all required forms and procedures for the complete testing of all equipment, systems, and controls included in Section 11.3.1.2.4.~~

**11.3.1.2.2 Activities Prior to Building Rough Inspection completion.** The following activities shall be completed:

- a. Develop and implement a commissioning (Cx) plan containing required forms and procedures for the complete testing of equipment, systems, and controls. included in Section 11.3.1.2.4. Include all Acceptance testing forms to be used by the acceptance testers, all Functional Performance Tests written out including test sequence, measurable criteria for performance pass/fail, required test instruments, and expected/acceptable response of operating parameters.
- b. Provide complete *commissioning (Cx) plan* to the AHJ for review.
- c. Provide complete *commissioning (Cx) plan* to project owner, project general



contractor, and sub-contractors with whom are performing work related to the commissioning process.

**11.3.1.2.3.2 Activities Prior to Building Occupancy.** The following activities shall be completed:

- a. Verify the installation and performance of the systems to be commissioned, including completion of the *construction checklist* and *verification*. The AHJ has the authority to provide flexibility in accepting the preliminary CX report without all required Functional Performance Tests completed, provided that these tests have been substantially completed, completed test results have been provided, and a schedule for completion has been provided.

**Exception to 11.3.1.2.3.2(a):** Systems that, because their operation is seasonally dependent, cannot be fully commissioned in accordance with the *Cx plan* at time of occupancy. These systems shall be commissioned at the earliest time after occupancy when operation of systems is allowed to be fully demonstrated as determined by *CxA*.

- b. It shall be verified that the *owner* requirements for the training of operating personnel and building occupants is completed. Where systems cannot be fully commissioned at the time of occupancy because of seasonal dependence, the training of personnel and building occupants shall be completed when the systems' operation can be fully demonstrated by the *CxA*.
- c. Complete preliminary *Cx* report. This shall include all deficiencies identified by the *CxA* or acceptance testing throughout the *Cx* process listing corrective measures taken, and identified as corrected, outstanding, and/or accepted by the owner. Any deficiencies in violation with any sections listed in Chapters 6, 7, 8, 9, 10, or 13 of the DC Energy Conservation Code or applicable section of the DC Green Construction Code, if applicable, shall be listed as an deficiency in acceptance testing and/or *Cx* testing and verification. Such code violation deficiencies shall be corrected prior to submitting the completed *preliminary Cx report* to AHJ for review.
- d. Verify that a systems manual has been prepared that includes O&M documentation and full warranty information and provides operating staff the information needed to operate the commissioned systems as designed.
- e. A copy of the completed *preliminary Cx report* shall be provided to, reviewed by, and approved by the AHJ and to the project owner.
- f. Completed *Preliminary Cx report* shall include testing and/or verification of all applicable energy code requirements for the project within Chapters 6, 7, 8, 9, 10, and 13 of the D.C. Energy Conservation Code and all applicable section of the D.C. Green Construction Code, if applicable.

**11.3.1.2.3.4 Post-occupancy Activities.** Complete the following:

- a. Complete any commissioning activities called out in the *Cx plan* for systems whose commissioning can only be completed subsequent to building

occupancy, including trend logging and off-season testing.

- b. Verify that the *owner* requirements for training operating personnel and building occupants are completed for those systems whose seasonal operational dependence mean they were unable to be fully commissioned prior to building occupancy.
- c. Complete a final Cx report with all deficiencies identified in preliminary Cx report either corrected with corrective measures taken listed or accepted by the owner. Any deficiencies in violation with any sections listed in chapters 6, 7, 8, 9, 10, or 13 of the D.C Energy Conservation Code can only be approved by the AHJ and shall be listed in the final CX report as an unresolved deficiency. This report shall be submitted for review to the AHJ and project owner within 180 days of the project completion (first Certificate of Occupancy for an above grade floor for the project).

**11.3.1.3 ~~2.4~~ Building Envelope Airtightness Commissioning (BECx).** ~~Building envelope airtightness~~ BECx shall comply with one of the following:

- a. Whole building pressurization testing shall be conducted in accordance with ASTM E779, CAN/CGSB-149.10-M86, CAN/CGSB-149.15-96 or equivalent. The measured air leakage rate of the *building envelope* shall not exceed  $0.25 \text{ cfm/ft.}^2$  ( $1.25 \text{ L/s}\cdot\text{m}^2$ ) under a pressure differential of 0.3 in. wc (75 Pa), with this air leakage rate normalized by the sum of the above- and below-grade *building envelope* areas of the *conditioned* and *semiheated space*.

**Exception:** For multifamily buildings, projects may be deemed to comply with the pressurization testing if individual tenant spaces can show compartmentalization when tested to not exceed 0.30 CFM per square feet of enclosure at 50 Pascal using ASTM E779 2010 or ASTM E1827. Sampling procedures are described in the ENERGY STAR Multifamily Midrise T&V Protocols Section 8.1, “Fan Pressure Testing” and “Sampling Requirements.”

- b. A building envelope commissioning authority, (BECxA,) with building envelope commissioning credentials as approved by the AHJ, shall be contracted by the project owner to conduct building air-barrier commissioning prior to permit for the project. An air-barrier fundamental envelope commissioning program consistent with ASTM-E2813-12 that consists of the following elements shall be implemented:
  1. A ~~third-party~~ BECxA design review shall be conducted and documented to assess the design documentation describing the air-barrier systems and materials, the manner in which continuity will be maintained across joints between air-barrier components and at all envelope penetrations, and the constructability of the air-barrier systems. This review shall be completed prior to permit application and results and documentation of this review provided with construction documents in permit drawings and supporting documentation.

2. Incremental field inspection and testing of air-barrier components shall be conducted and documented during construction to ensure proper construction of key components while they are still accessible for inspection and repair.
3. The Fundamental BECx program shall include addressing ASTM-E2813-12 sections relating to air infiltration, condensation resistance, thermal performance, and water penetrations at a minimum.
4. The BECx plan shall be provided to the AHJ prior to building envelope installation:
5. The BECx report shall be submitted to the AHJ for review at or prior to final inspection.

**11.3.1.42.5 Documentation.** The *owner* shall retain the systems manual and final Cx report.

**SECTION 12 NORMATIVE REFERENCES**

*Insert new normative references in Section 12 of ASHRAE 90.1 to read as follows:*

Reference	Title
<b>ASHRAE</b> <b>1791 Tullie Circle, NE, Atlanta, GA 30329</b>	
62.1-2013	Ventilation for Acceptable Indoor Air Quality
189.1-2014	Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings
<u>ASHRAE D RP-1365</u>	<u>Thermal Performance of Building Envelope Details for Mid- and High-Rise Buildings</u>
<b>ASTM International</b> <b>100 Barr Harbor Dr., West Conshohocken, PA 19428-2959</b>	
ASTM E1827-11	Standard Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door
ASTM E2813-12	Standard Practice for Building Enclosure Commissioning
<b>Canadian General Standards Board (CGSB)</b> <b>Place du Portage III, 6B1, 11 Laurier Street, Gatineau, Quebec, K1A 1G6 Canada</b>	
CAN/CGSB-149.10-M86	Determination of the Airtightness of Building Envelopes by the Fan Depressurization Method
CAN/CGSB 149.15-96	Determination of the Overall Envelope Airtightness of Buildings by the Fan Pressurization Method Using the Building's Air Handling Systems
<b>ENERGY STAR, United States Department of Energy</b> <b>Office of Energy Efficiency &amp; Renewable Energy, 1000 Independence Ave., SW, Washington, DC 20585</b>	
ENERGY STAR Multifamily Midrise T&V Protocols, 8.1	Fan Pressure Testing; Sampling Requirements

## SECTION 13 RENEWABLE ENERGY

### 13.1 PRESCRIPTIVE RENEWABLE PATH

### 13.2 ADOPTION OF NORMATIVE APPENDIX B

*Insert a new Section 13 into ASHRAE 90.1 to read as follows:*

### 13.1 PRESCRIPTIVE RENEWABLE PATH

**13.1.1 On-Site Renewable Energy Systems.** *Building projects shall comply with either the Standard Renewables Approach in Section 13.1.1.1 or the Alternate Renewables Approach in Section 13.1.1.2 where any of the following conditions are met:*

1. New construction of 10,000 sf (929 m<sup>2</sup>) or greater, not including first time tenant fit-outs within a newly constructed core and shell building/space.
2. Additions of 10,000 sf (929 m<sup>2</sup>) or greater.
3. Alteration area of 10,000 sf (929 m<sup>2</sup>) or greater in Level 3 alteration.
4. Combined Level 3 alteration and addition area of 10,000 sf (929 m<sup>2</sup>) or greater.

**Exceptions:** Buildings that demonstrate compliance with both of the following conditions are not required to contain *on-site renewable energy systems*:

1. An annual daily average incident solar radiation available to a flat plate collector oriented due south at an angle from horizontal equal to the latitude of the collector location less than 4.0 kWh/ m<sup>2</sup>·day (1.2 kBtu/ft.<sup>2</sup>/day), accounting for existing buildings, permanent infrastructure that is not part of the *building project*, topography, and trees.
2. A commitment to purchase renewable electricity products complying with the Green-e Energy National Standard for Renewable Electricity Products of at least 7 kWh/ft.<sup>2</sup> (75 kWh/m<sup>2</sup>) of *conditioned space* each year until the cumulative purchase totals 70 kWh/ft.<sup>2</sup> (750 kWh/m<sup>2</sup>) of *conditioned space*.

**13.1.1.1 Standard Renewables Approach: Baseline On-Site Renewable Energy Systems.** *Building projects shall contain on-site renewable energy systems that provide the annual energy production equivalent of not less than 6.0 kBtu/ ft.<sup>2</sup> (20 kWh/m<sup>2</sup>) multiplied by the gross roof area in ft.<sup>2</sup> (m<sup>2</sup>) for single-story buildings, and not less than 10.0 kBtu/ft.<sup>2</sup> (32 kWh/m<sup>2</sup>) multiplied by the gross roof area in ft.<sup>2</sup> (m<sup>2</sup>) for all other buildings. The annual energy production shall be the combined sum of all *on-site renewable energy systems*.*

**13.1.1.2 Alternate Renewables Approach: Reduced On-Site Renewable Energy Systems and Higher-Efficiency Equipment.** *Building projects complying with this approach shall comply with the applicable equipment efficiency requirements in Normative Appendix B of ASHRAE 189.1 (Prescriptive Equipment Efficiency Tables for the Alternate Reduced Renewables and Increased Equipment Efficiency Approach in Section 7.4.1.1.2), the water-heating efficiency requirements in Section 7.4.4.1 of ASHRAE 189.1, equipment efficiency requirements in Section 10.6 of ASHRAE 189.1, and the applicable ENERGY STAR<sup>®</sup> requirements in Section 10.11.2 of 189.1, and*

shall contain *on-site renewable energy systems* that provide the annual energy production equivalent of not less than 4.0 kBtu/ft.<sup>2</sup> (13 kWh/m<sup>2</sup>) multiplied by the *gross roof area* in ft.<sup>2</sup> (m<sup>2</sup>) for single-story buildings, and not less than 7.0 kBtu/ft.<sup>2</sup> (22 kWh/m<sup>2</sup>) multiplied by the *gross roof area* in ft.<sup>2</sup> (m<sup>2</sup>) for all other buildings. The annual energy production shall be the combined sum of all *on-site renewable energy systems*. For equipment listed in Section 10.11.2 of ASHRAE 189.1 that is also contained in Normative Appendix B of ASHRAE 189.1, the installed equipment shall comply by meeting or exceeding both requirements.

**Exception:** If *building project* includes less than 75% of build-out of net-occupiable floor area, then the project team cannot use Alternate Renewables Approach in 13.1.1.2, and shall use the Standard Renewables Approach in 13.1.1.1.

### 13.2 ADOPTION OF NORMATIVE APPENDIX B

Normative Appendix B, *Prescriptive Equipment Efficiency Tables for the Alternate Reduced Renewables and Increased Equipment Efficiency Approach in Section 7.4.1.1.2*, of ANSI/ASHRAE/USGBC/IES Standard 189.1-2014, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, is hereby adopted in the District of Columbia and incorporated by reference into the *Energy Conservation Code-Commercial Provisions*.

*Normative Appendix A in ASHRAE 90.1, RATED R-VALUE OF INSULATION AND ASSEMBLY U-FACTOR, C-FACTOR, AND F-FACTOR DETERMINATIONS*, is adopted in the District of Columbia.

*Normative Appendix B in ASHRAE 90.1, BUILDING ENVELOPE CLIMATE CRITERIA*, is adopted in the District of Columbia.

*Normative Appendix C in ASHRAE 90.1, METHODOLOGY FOR BUILDING ENVELOPE TRADE-OFF OPTION IN SECTION 5.6*, is adopted in the District of Columbia

*Normative Appendix D in ASHRAE 90.1, CLIMATIC DATA*, is adopted in the District of Columbia

*Informative Appendix E in ASHRAE 90.1, INFORMATIVE REFERENCES*, is adopted in the District of Columbia

*Informative Appendix F in ASHRAE 90.1, ADDENDA DESCRIPTION INFORMATION*, is adopted in the District of Columbia

*Normative Appendix G in ASHRAE 90.1 is deleted in its entirety and a new Normative Appendix G is inserted in its place in the Energy Conservation Code-Commercial Provisions to read as follows:*

## NORMATIVE APPENDIX G PERFORMANCE RATING METHOD

### G1 GENERAL

#### G2 SIMULATION GENERAL REQUIREMENTS

#### G3 CALCULATION OF THE PROPOSED DESIGN AND BASELINE BUILDING PERFORMANCE

### G1 GENERAL

**G1.1 Performance Rating Method Scope.** This building performance rating method is a modification of the Energy Cost Budget (ECB) Method in Section 11 and is intended for use in rating the energy efficiency of building designs that exceed the requirements of this standard. This appendix offers an alternative compliance path for minimum standard compliance per Chapter 1, Section 101.10.6 of Title 12-A DCMR and is provided for those wishing to use the methodology developed for this standard to quantify performance that substantially exceeds the requirements of Standard 90.1. It shall be used for evaluating the performance of all such *proposed designs*, including *alterations* and *additions to existing buildings*, except designs with no mechanical systems.

### G1.2 Performance Rating.

**G1.2.1 Mandatory Provisions.** This performance rating method requires conformance with the following provisions:

- a. All requirements of Sections 5.4, 6.4, 7.4, 8.4, 9.4, ~~and 10.4,~~ and 11 shall be met. These sections contain the mandatory provisions of the standard and are prerequisites for this rating method.
- b. The interior lighting power shall not exceed the interior lighting power allowance determined using either Tables G3.7 or G3.8 and the methodology described in Section 9.65.1 and 9.6.21.

**G1.2.2 Performance Rating Calculation.** The performance of the proposed building design is calculated in accordance with provisions of this appendix using the following formula:

$$\begin{aligned} & \text{Percentage improvement Performance Cost Index} \\ & = 100 \times (\text{Baseline building performance} \\ & \quad - \text{Proposed building performance}) / \text{Baseline building performance} \end{aligned}$$

#### ***Informative Notes:***

1. ~~When using the Performance Rating Method to quantify performance that exceeds the requirements of ASHRAE 90.1, b Both the *proposed building performance* and the *baseline building performance* shall include all end-use load components within and associated with the building when calculating the percentage improvement. When using the Performance Rating Method as an alternative path, energy that is not *regulated energy use* shall be subtracted from both Cost Index.~~

**Informative Note:**

1. ~~Neither the proposed building performance and nor the baseline building performance after simulations are completed, but prior to calculating the percentage improvement. This includes but is not limited to energy used predictions of actual energy consumption or costs for cooking equipment, receptacle loads, computers, medical or laboratory equipment, the proposed design after construction. Actual experience will differ from these calculations due to variations such as occupancy, building operation and manufacturing maintenance, weather, energy use not covered by this procedure, changes in energy rates between design of the building and industrial process equipment not specifically identified in the standard occupancy, and the precision of the calculation tool.~~

2. When using Appendix G, the Performance Cost Index (PCI) shall be less than or equal to the Performance Cost Index Target (PCI<sub>t</sub>) when calculated in accordance with the following:

$$PCI_t = (BBUEC + (BPF \times BBREC)) / BBP$$

Where:

PCI = Performance Cost Index calculated in accordance with Section G1.2.

BBUEC = Baseline Building Unregulated Energy Cost. The portion of the annual energy cost of a baseline building design that is due to unregulated energy use.

BBREC = Baseline Building Regulated Energy Cost. The portion of the annual energy cost of a baseline building design that is due to regulated energy use.

BPF = Building Performance Factor from Table G1.2.2. For building area types not listed in Table G1.2.2 use “All others.” Where a building has multiple building area types, the required BPF shall be equal to the area-weighted average of the building area types.

BBP = *Baseline Building Performance.*

Regulated energy cost shall be calculated by multiplying the total energy cost by the ratio of regulated energy use to total energy use for each fuel type. Unregulated energy cost shall be calculated by subtracting regulated energy cost from total energy cost.

3. Neither the proposed building performance nor the baseline building performance are predictions of actual energy consumption or costs for the proposed design after construction. Actual experience will differ from these calculations due to variations such as occupancy, building operation and maintenance, weather, energy use not covered by this procedure, changes in energy rates between design of the building and occupancy, and the precision of the calculation tool.

**TABLE G1.2.2 BUILDING PERFORMANCE FACTOR (BPF)**

<b>Building Area Types<sup>a</sup></b>	<b>Climate Zone 4A</b>
Multifamily	0.658
Healthcare/ hospital	0.47
Hotel/motel	0.52
Office	0.48



Restaurant	0.48
Retail	0.45
School	0.39
Warehouse	0.48
All others	0.48

a. In cases where both a general building area type and a specific building area type are listed, the specific building area type shall apply.

**G1.2.3 Trade-Off Limits Additions to Existing Buildings.** ~~When the proposed modifications apply to less than the whole an addition to an existing building, only parameters related to the systems to be modified shall cannot comply by itself, trade-offs will be allowed by modification to vary. Parameters relating to unmodified one or more of the existing conditions or to future components of the existing building. Modeling of the modified components shall be identical for determining both of the baseline existing building performance and addition shall employ the proposed procedures of Appendix G; the addition shall not increase the energy consumption of the existing building performance. Future plus the addition beyond the energy that would be consumed by the existing building plus the addition if the addition alone did comply, components shall meet the prescriptive requirements of Sections 5.5, 6.5, 7.5, and either 9.5 or 9.6.~~

~~When using the Performance Rating Method as an alternative path for minimum standard compliance per Section G1.2.2, trade-offs and credits for energy efficiency improvement shall be limited to the scope of work identified in the building permit. For new buildings or additions, the Performance Rating Method results shall not be submitted for building permit approval to the rating authority prior to submittal for approval of the building envelope design.~~

**G1.2.4 Alterations of Existing Buildings.** Alterations of existing buildings shall comply with the provisions of Section 5, 6, 7, 8, 9, 10, 11, 13 or Appendix G.

**G1.34 Documentation Requirements.** Simulated performance shall be documented, and documentation shall be submitted to the rating authority. The information shall be submitted in a report and shall include the following:

- a. A brief description of the project, the key energy efficiency improvements compared with the requirements in Sections 5 through 4011, the simulation program used, the version of the simulation program, and the results of the energy analysis. This summary shall contain the calculated values for the baseline building performance, the proposed building performance, and the percentage improvement.
- b. An overview of the project that includes: the number of stories (above and below grade), the typical floor size, the uses in the building (e.g., office, cafeteria, retail, parking, etc.), the gross area of each use, and whether each use is conditioned space.
- c. A list of the energy-related features that are included in the design and on which the performance rating is based. This list shall document all energy features that differ between the models used in the baseline building performance and proposed building performance calculations.
- d. A list showing compliance for the proposed design with all the requirements of Sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4 and 11 (mandatory provisions).

- e. A list identifying those aspects of the proposed design that are less stringent than the requirements of 5.5, 6.5, 7.5, 9.5, and 9.6 (prescriptive provisions).
- f. A table with a summary by end use of the energy cost savings in the proposed building performance.
- g. A site plan showing all adjacent buildings and topography ~~which~~that may shade the proposed building (with estimated height or number of stories).
- h. Building elevations and floor plans (schematic is acceptable).
- i. A diagram showing the thermal blocks used in the computer simulation.
- j. An explanation of any significant modeling assumptions.
- k. Backup calculations and material to support data inputs (*e.g.*, U-factors for building envelope assemblies, NFRC ratings for fenestration, end-uses identified in ~~4. Table G3.1, "1.Design Model,"~~ paragraph [a], ~~in Table G3.1~~).
- l. Input and output report(s) s from the simulation program or compliance software including a breakdown of energy ~~usage~~use by at least the following components: lights, internal equipment loads, service water heating equipment, space heating equipment, space cooling and heat rejection equipment, fans, and other HVAC equipment (such as pumps). The output reports shall also show the amount of unmet load hours for both the proposed design and baseline building design.
- m. Purchased energy rates used in the simulations.
- n. An explanation of any error messages noted in the simulation program output.
- o. For any exceptional calculation method(s) s employed, document the predicted energy savings by energy type, the energy cost savings, a narrative explaining the exceptional calculation method performed, and theoretical or empirical information supporting the accuracy of the method.
- p. The reduction in proposed building performance associated with on-site renewable energy.

## **G2 SIMULATION GENERAL REQUIREMENTS**

**G2.1 Performance Calculations.** The proposed building performance and baseline building performance shall be calculated using the following:

- a. The same simulation program;
- b. The same weather data; ~~and~~
- c. The same energy rates.

**G2.2 Simulation Program.** The simulation program shall be a computer-based program for the analysis of energy consumption in buildings (a program such as, but not limited to, DOE-2, BLAST,

or EnergyPlus). The simulation program shall include calculation methodologies for the building components being modeled. For components that cannot be modeled by the simulation program, the exceptional calculation methods requirements in Section G2.5 shall be used.

**G2.2.1** The simulation program shall be approved by the rating authority and shall, at a minimum, have the ability to explicitly model all of the following:

- a. 8760 hours per year.
- b. Hourly variations in occupancy, lighting power, miscellaneous equipment power, thermostat set\_points, and HVAC system operation, defined separately for each day of the week and holidays.
- c. Thermal mass effects.
- d. Ten or more thermal zones.
- e. Part-load performance curves for mechanical equipment.
- f. Capacity and efficiency correction curves for mechanical heating and mechanical cooling equipment.
- g. Air-side economizers with integrated control.
- h. Baseline building design characteristics specified in Section G3.

**G2.2.2** The simulation program shall have the ability to either (1) directly determine the proposed building performance and baseline building performance or (2) produce hourly reports of energy use by an energy source suitable for determining the proposed building performance and baseline building performance using a separate calculation engine.

**G2.2.3** The simulation program shall be capable of ~~per-forming~~performing design load calculations to determine required HVAC equipment capacities and air and water flow rates in accordance with generally accepted engineering standards and handbooks (for example, *ASHRAE Handbook—Fundamentals*) for both the proposed design and baseline building design.

**G2.2.4** The simulation program shall be tested according to ASHRAE Standard 140, except Sections 7 and 8, and the results shall be furnished by the software provider.

**G2.3 Climatic Data.** The simulation program shall perform the simulation using hourly values of climatic data, such as temperature and humidity from representative climatic data, for the site in which the proposed design is to be located. For cities or urban regions with several climatic data entries, and for locations where weather data are not available, the designer shall select available weather data that best represent the climate at the construction site. The selected weather data shall be approved by the rating authority.

**G2.4 Renewable, Recovered, Aand Purchased Energy.**

**G2.4.1 On-Site Renewable Energy and Site-Recovered Energy.** Site-recovered energy shall not be considered purchased energy and shall be subtracted from the proposed design energy consumption prior to calculating the proposed building performance. On-site renewable energy

generated by systems included on the building permit that is used by the building shall be subtracted from the proposed design energy consumption prior to calculating the proposed building performance.

**G2.4.2 Annual Energy Costs.** The design energy cost and baseline energy cost shall be determined using either actual rates for purchased energy or state average energy prices published by DOE's Energy Information Administration (EIA) for commercial building customers, but rates from different sources may not be mixed in the same project. Where on-site renewable energy or site-recovered energy is used, the ~~base-line~~ baseline building design shall be based on the energy source used as the backup energy source or the baseline system energy source in that category if no backup energy source has been specified.

*Informative Note:* The above provision allows users to gain credit for features that yield load management benefits. Where such features are not present, users can simply use state average unit prices from EIA, which are updated annually and readily available on EIA's web site (~~http://www.eia.doe.gov/~~ <http://www.eia.gov>).

**G2.5 Exceptional Calculation Methods.** When the simulation program does not model a design, material, or device of the proposed design, an ~~E~~ exceptional ~~C~~ calculation ~~M~~ method shall be used ~~if~~ as approved by the ~~R~~ rating ~~A~~ authority. ~~If~~ Where there are multiple designs, materials, or devices that the simulation ~~pro-~~ gram ~~program~~ does not model, each shall be calculated separately and ~~E~~ exceptional ~~S~~ savings determined for each. At no time shall the total ~~E~~ exceptional ~~S~~ savings constitute more than half of the difference between the baseline building performance and the proposed building performance. All applications for approval of an exceptional method shall include the following:

- a. Step-by-step documentation of the ~~E~~ exceptional ~~C~~ calculation ~~M~~ method performed detailed enough to reproduce the results;
- b. Copies of all spreadsheets used to perform the calculations;
- c. A sensitivity analysis of energy consumption when each of the input parameters is varied from half to double the value assumed;
- d. The calculations shall be performed on a time step basis consistent with the simulation program used; ~~and~~
- e. The ~~P~~ performance ~~R~~ rating calculated with and without the ~~E~~ exceptional ~~C~~ calculation ~~M~~ method.

### **G3                    CALCULATION OF THE PROPOSED DESIGN AND BASELINE BUILDING PERFORMANCE**

**G3.1 Building Performance Calculations.** The simulation model for calculating the proposed and baseline building performance shall be developed in accordance with the requirements in Table G3.1.

#### **~~1. Design Model~~**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
<p>a. <del>The simulation model of the proposed design shall be consistent with the design documents, including proper accounting of fenestration and opaque envelope types and areas; interior lighting power and controls; HVAC system types, sizes, and controls; and service water heating systems and controls. All end use load components within and associated with the building shall be modeled, including, but not limited to, exhaust fans, parking garage ventilation fans, snow melt and freeze protection equipment, facade lighting, swimming pool heaters and pumps, elevators and escalators, refrigeration, and cooking. Where the simulation program does not specifically model the functionality of the installed system, spreadsheets or other documentation of the assumptions shall be used to generate the power demand and operating schedule of the systems.</del></p> <p>b. <del>All conditioned spaces in the proposed design shall be simulated as being both heated and cooled even if no heating or cooling system is to be installed.</del></p> <p><b>Exception:</b> <del>Spaces designed with heating only systems serving storage rooms, stairwells, vestibules, electrical/mechanical rooms, and restrooms not exhausting or transferring air from mechanically cooled thermal zones in the proposed design shall not be modeled with mechanical cooling.</del></p> <p>e. <del>When the performance rating method is applied to buildings in which energy related features have not yet been designed (e.g., a lighting system), those yet to be designed features shall be described in the proposed</del></p>	<p>The baseline building design shall be developed by modifying the proposed building design as described in Section G3. Except as specifically instructed, all building systems and equipment shall be modeled identically in the baseline building design and proposed building design.</p>

**2. Additions and Alterations**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
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<p><del>It is acceptable to predict performance using building models that exclude parts of the existing building provided that all of the following conditions are met:</del></p> <ul style="list-style-type: none"> <li><del>a. Work to be performed in excluded parts of the building shall meet the requirements of Sections 5 through 10.</del></li> <li><del>b. Excluded parts of the building are served by HVAC systems that are entirely separate from those serving parts of the building that are included in the building model.</del></li> <li><del>c. Design space temperature and HVAC system operating setpoints and schedules on either side of the boundary between included and excluded parts of the building are essentially the same.</del></li> <li><del>d. If a declining block or similar utility rate is being used in the analysis, and the excluded and included parts of the building are on the same utility meter, the rate shall reflect the utility block or rate for the building</del></li> </ul>	<p>Same as proposed building design</p>
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**3. Space Use Classification**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
<p><del>Usage shall be specified using the building type or space type lighting classifications in accordance with Section 9.5.1 or 9.6.1. The user shall specify the space use classifications using either the building type or space type categories but shall not combine the two types of categories. More than one building type category may be used in a building if it is a mixed-use facility. If space type categories are used, the user may simplify the placement of the various space types within the building model, provided that building total areas for each space type are accurate.</del></p>	<p>Same as proposed building design</p>

**4. Schedules**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
<p><del>Schedules capable of modeling hourly variations in occupancy, lighting power, miscellaneous equipment power, thermostat setpoints, and HVAC system operation shall be used. The schedules shall be typical of the proposed building type as determined by the designer and approved by the rating authority.</del></p> <p><b>Temperature and Humidity Schedules.</b> Temperature and humidity control setpoints and schedules as well as temperature control throttling range shall be the same for proposed and baseline building designs.</p> <p><b>HVAC Fan Schedules.</b> Schedules for HVAC fans that</p>	<p>Same as proposed building design</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li><del>1. Setpoints and schedules for HVAC systems that automatically provide occupant thermal comfort via means other than directly controlling the air dry-bulb and wet-bulb temperature may be allowed to differ, provided that equivalent levels of occupant thermal comfort are demonstrated via the methodology in Section 5.2.3 of</del></li> </ol>

<p>provide outdoor air for ventilation shall run continuously whenever spaces are occupied and shall be cycled on and off to meet heating and cooling loads during unoccupied hours.</p> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. Where no heating and/or cooling system is to be installed, and a heating or cooling system is being simulated only to meet the requirements described in this table, heating and/or cooling system fans shall not be simulated as running continuously during occupied hours but shall be cycled on and off to meet heating and cooling loads during all hours.</li> <li>2. HVAC fans shall remain on during occupied and unoccupied hours in spaces that have health and safety mandated minimum ventilation requirements during unoccupied hours.</li> <li>3. HVAC fans shall remain on during occupied and unoccupied hours in systems primarily serving computer rooms.</li> </ol>	<p>ASHRAE Standard 55, “Elevated Air Speed,” or Appendix D of Standard 55, “Computer Program for Calculation of PMV PPD.”</p> <p>2. Schedules may be allowed to differ between proposed design and baseline building design when necessary to model nonstandard efficiency measures, provided that the revised schedules have the approval of the rating authority. Measures that may warrant use of different schedules include, but are not limited to, automatic lighting controls, automatic natural ventilation controls, automatic demand control ventilation controls, and automatic controls that reduce service water heating loads. In no case shall schedules differ where the controls are manual (e.g., manual operation of light switches or manual operation of windows).</p>
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**5. Building Envelope**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
<p>All components of the building envelope in the proposed design shall be modeled as shown on architectural drawings or as built for existing building envelopes.</p> <p><b>Exceptions:</b> The following building elements are permitted to differ from architectural drawings:</p> <ol style="list-style-type: none"> <li>1. All uninsulated assemblies (e.g., projecting balconies, perimeter edges of intermediate floor slabs, concrete floor beams over parking garages, roof parapet) shall be separately modeled using either of the following techniques:                     <ol style="list-style-type: none"> <li>a. Separate model of each of these assemblies within the energy simulation model.</li> <li>b. Separate calculation of the U-factor for each of these assemblies. The U-factors of these assemblies are then averaged with larger adjacent surfaces using an area-weighted average method. This average U-factor is modeled within the energy simulation model.</li> </ol> <p>Any other envelope assembly that covers less than 5% of the total area of that assembly type (e.g., exterior walls) need not</p> </li> </ol>	<p>Equivalent dimensions shall be assumed for each exterior envelope component type as in the proposed design; i.e., the total gross area of exterior walls shall be the same in the proposed and baseline building designs. The same shall be true for the areas of roofs, floors, and doors, and the exposed perimeters of concrete slabs on grade shall also be the same in the proposed and baseline building designs. The following additional requirements shall apply to the modeling of the baseline building design:</p> <ol style="list-style-type: none"> <li>a. <b>Orientation.</b> The baseline building performance shall be generated by simulating the building with its actual orientation and again after rotating the entire building 90, 180, and 270 degrees, then averaging the results. The building shall be modeled so that it does not shade itself.</li> </ol> <p><b>Exceptions:</b></p> <ol style="list-style-type: none"> <li>1. If it can be demonstrated to the satisfaction of the authority having jurisdiction that the building orientation is dictated by site considerations.</li> <li>2. Buildings where the vertical fenestration</li> </ol>

be separately described, provided that it is similar to an assembly being modeled. If not separately described, the area of an envelope assembly shall be added to the area of an assembly of that same type with the same orientation and thermal properties.

2. Exterior surfaces whose azimuth orientation and tilt differ by less than 45 degrees and are otherwise the same may be described as either a single surface or by using multipliers.

3. The exterior roof surface shall be modeled using the aged solar reflectance and thermal emittance determined in accordance with Section 5.5.3.1.1(a). Where aged test data are unavailable, the roof surface may be modeled with a reflectance of 0.30 and a thermal emittance of 0.90.

4. Manual fenestration shading devices, such as blinds or shades, shall be modeled or not modeled, the same as in the baseline. Automatically controlled fenestration shades or blinds shall be modeled. Permanent shading devices, such as fins, overhangs, and light shelves, shall be modeled.

5. Automatically controlled dynamic glazing may be modeled.

Manually controlled dynamic glazing shall use the average of the minimum and maximum SHGC and VT.

Infiltration shall be modeled using the same methodology, air leakage rate, and adjustments for weather and building operation in both the proposed design and the baseline design. These adjustments shall be made for each simulation time step and must shall account for but not be limited to weather conditions and HVAC system operation, including strategies that are intended to positively pressurize the building. The air leakage rate of the building envelope ( $I_{75p_d}$ ) at a fixed building pressure differential of 0.3 in.

$H_2O$  shall be 0.4 cfm/ft.<sup>2</sup>. The air leakage rate of the building envelope shall be converted to appropriate units for the simulation program using one of the methods in Section G3.1.1.4.

**Exception:** When whole building air leakage testing, in accordance with ASTM E779, is specified during design and completed after construction, the proposed design air leakage rate of the building

area on each orientation varies by less than 5%.

b. **Opaque Assemblies.** Opaque assemblies used for new buildings, existing buildings, or additions, shall conform with the assemblies detailed in Appendix A and shall match the appropriate assembly maximum U factors in Tables G3.4.1 through G3.4.8:

- Roofs—Insulation entirely above deck (A2.2)
- Above-grade walls—Steel framed (A3.3)
- Below-grade walls—Concrete block (A4.1)
- Floors—Steel joist (A5.3)
- Opaque door types shall be of the same type of construction as the proposed design and conform to the U-factor requirements from the same tables. (A7)
- Slab on grade floors shall match the F-factor for unheated slabs from the same tables. (A6)

c. **Vertical Fenestration Areas.** For building area types included in Table G3.1.1-1, vertical fenestration areas for new buildings and additions shall equal that in Table G3.1.1-1 based on gross above-grade exterior wall area. Where a building has multiple building area types, each type shall use the values in the table. The vertical fenestration shall be distributed on each face of the building in the same proportion as in the proposed design. For building areas not shown in Table G3.1.1-1, vertical fenestration areas for new buildings and additions shall equal that in the proposed design or the maximum allowed in Tables G3.4.1 through G3.4.8, whichever is smaller, and shall be distributed on each face of the building in the same proportions in the proposed design. The fenestration area for an existing building shall equal the existing fenestration area prior to the proposed work and shall be distributed on each face of the building in the same proportions as the existing building. For portions of those tables where there are no SHGC requirements, the SHGC shall be equal to that determined in accordance with Section C3.6(c). The VT shall be equal to that determined in accordance with Section C3.6(c).

d. **Vertical Fenestration Assemblies.** Fenestration for new buildings, existing buildings, and additions shall comply with the following:

- Fenestration U factors shall match the appropriate requirements in Tables G3.4.1



<p>envelope shall be as measured.</p>	<p>through G3.4-8 for the applicable glazing percentage for <math>U_{fixed}</math>.</p> <ul style="list-style-type: none"> <li>• <del>Fenestration SHGCs shall match the appropriate requirements in Tables G3.4-1 through G3.4-8 using the value for <math>SHGC_{all}</math> for the applicable vertical glazing percentage.</del></li> <li>• <del>All vertical fenestration shall be assumed to be flush with the exterior wall, and no shading projections shall be modeled.</del></li> <li>• <del>Manual window shading devices such as blinds or shades are not required to be modeled.</del></li> </ul> <p>e. <del><b>Skylights and Glazed Smoke Vents.</b> Skylight area shall be equal to that in the proposed building design or the maximum allowed in Table 5.5, whichever is smaller. If the skylight area of the proposed building design is greater than the maximum area allowed in Table 5.5, base line skylight area shall be decreased by an identical percentage in all roof components in which skylights are located to reach the maximum allowed in Table 5.5. Skylight orientation and tilt shall be the same as in the proposed building design. Skylight U factor and SHGC properties shall match the appropriate requirements in G3.4-1 through G.3.4-8 using the value for skylights without curbs and the applicable skylight percentage.</del></p> <p>f. <del><b>Roof Solar Reflectance and Thermal Emittance.</b> The exterior roof surfaces shall be modeled using a solar reflectance of 0.30 and a thermal emittance of 0.90.</del></p> <p>g. <del><b>Roof Albedo.</b> All roof surfaces shall be modeled with a reflectivity of 0.30.</del></p>
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**6. Lighting**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
<p>Lighting power in the proposed design shall be determined as follows:</p> <ul style="list-style-type: none"> <li>a. <del>Where a complete lighting system exists, the actual lighting power for each thermal block shall be used in the model.</del></li> <li>b. <del>Where a lighting system has been designed and submitted with design documents, lighting power shall be determined in accordance with Sections 9.1.3 and 9.1.4.</del></li> <li>c. <del>Where lighting neither exists nor is specified submitted with design documents, lighting power shall comply with but not exceed the requirements of Section 9. Lighting power shall</del></li> </ul>	<p>Interior lighting power in the baseline building design shall be determined using the values in Table G.3.7 and the methodology described in Section 9.6.1 and 9.6.2. Lighting shall be modeled having automatic shutoff controls in buildings &gt;5,000 ft<sup>2</sup> and occupancy sensors in employee lunch and break rooms, conference/meeting rooms, and classrooms (not including shop classrooms, laboratory classrooms, and preschool through 12<sup>th</sup> grade classrooms).</p> <ul style="list-style-type: none"> <li>b. <del>No additional automatic lighting controls (e.g.,</del></li> </ul>

be determined in accordance with the Building Area Method.

d. Lighting system power shall include all lighting system components shown or provided for on the plans (including lamps and ballasts and task and furniture mounted fixtures).

**Exception:** For multifamily dwelling units, hotel/motel guest rooms, and other spaces in which lighting systems are connected via receptacles and are not shown or provided for on building plans, assume identical lighting power for the proposed and baseline building designs in the simulations.

e. Lighting power for parking garages and building facades shall be modeled.

f. The lighting schedules in the proposed building design shall reflect the mandatory automatic lighting control requirements in Section 9.4.1 (e.g., programmable controls or occupancy sensors).

**Exception:** Automatic daylighting controls required by Section 9.4.1 shall be modeled directly in the proposed building design or through schedule adjustments determined by a separate daylighting analysis approved by the rating authority.

g. Credit may be taken for programmable timing controls or occupancy sensors by reducing the connected lighting power by the applicable percentages listed in Table G3.2. Alternatively, credit may be taken for these devices by modifying the lighting schedules used for the proposed design, provided that credible technical documentation for the modifications are provided to the authority having jurisdiction.

**Exception:** No credit is allowed for occupancy sensors in employee lunch and break rooms, conference/meeting rooms, classrooms (not including shop classrooms, laboratory classrooms, and preschool through 12<sup>th</sup> grade classrooms)

h. For automatic lighting controls in addition to those required for minimum code compliance under Section 9.4.1, credit may be taken for automatically controlled systems. Credit may be taken for programmable timing controls or occupancy sensors.

**Exception:** No credit is allowed for occupancy sensors in employee lunch and break rooms,

automatic controls for daylight utilization) shall be modeled in the *baseline building design*.

e. Mandatory automatic lighting controls required by Section 9.4.1 shall be modeled the same as the proposed building design.

d. Exterior lighting in areas identified as tradable surfaces in Table G.3.6 shall be modeled with the baseline lighting power shown in Table G.3.6. Other exterior lighting shall be modeled the same in the baseline building as in the proposed design.

<p>conference/meeting rooms, and classrooms (not including shop classrooms, laboratory classrooms, and preschool through 12th grade classrooms.)</p>	
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**7. Thermal Blocks—HVAC Zones Designed**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
<p>Where HVAC zones are defined on HVAC design drawings, each HVAC zone shall be modeled as a separate thermal block.</p> <p><b>Exception:</b> Different HVAC zones may be combined to create a single thermal block or identical thermal blocks to which multipliers are applied, provided that all of the following conditions are met:</p> <ol style="list-style-type: none"> <li>1. The space use classification is the same throughout the thermal block.</li> <li>2. All HVAC zones in the thermal block that are adjacent to glazed exterior walls face the same orientation or their orientations vary by less than 45 degrees.</li> <li>3. All of the zones are served by the same HVAC system or by the same kind of HVAC system.</li> </ol>	<p>Same as proposed building design</p>

**8. Thermal Blocks—HVAC Zones Not Designed**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
<p>Where the HVAC zones and systems have not yet been designed, thermal blocks shall be defined based on similar internal load densities, occupancy, lighting, thermal and space temperature schedules, and in combination with the following guidelines:</p> <ol style="list-style-type: none"> <li>a. Separate thermal blocks shall be assumed for interior and perimeter spaces. Interior spaces shall be those located greater than 15 ft. from an exterior wall. Perimeter spaces shall be those located within 15 ft. of an exterior wall.</li> <li>b. Separate thermal blocks shall be assumed for spaces adjacent to glazed exterior walls; a separate zone shall be provided for each orientation, except that orientations that differ by less than 45 degrees may be considered to be the same orientation. Each zone shall include all floor area that is 15 ft. or less from a glazed perimeter wall, except that floor area within 15 ft. of glazed perimeter walls having more than</li> </ol>	<p>Same as proposed building design</p>

<p>one orientation shall be divided proportionately between zones.</p> <p>e. Separate thermal blocks shall be assumed for spaces having floors that are in contact with the ground or exposed to ambient conditions from zones that do not share these features.</p> <p>d. Separate thermal blocks shall be assumed for —spaces having exterior ceiling or roof assemblies —from zones that do not share these features.</p>	
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**9. Thermal Blocks—Multifamily Residential**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
Residential spaces shall be modeled using at least one thermal block per dwelling unit, except that those units facing the same orientations may be combined into one thermal block. Corner units and units with roof or floor loads shall only be combined with units sharing these features.	Same as proposed building design

**10. HVAC Systems**

<b>Baseline Building Performance</b>	<b>Proposed Building Performance</b>
<p>The HVAC system type and all related performance parameters in the proposed design, such as equipment capacities and efficiencies, shall be determined as follows:</p> <p>a. Where a complete HVAC system exists, the model shall reflect the actual system type using actual component capacities and efficiencies.</p> <p>b. Where an HVAC system has been designed and submitted with design documents, the HVAC model shall be consistent with design documents. Mechanical equipment efficiencies shall be adjusted from actual design conditions to the standard rating conditions specified in Section 6.4.1 if required by the simulation model. Where efficiency ratings include supply fan energy, the efficiency rating shall be adjusted to remove the supply fan energy from the efficiency rating in the baseline building design. The equations in Section G3.1.2.1 shall not be used in the proposed building. The proposed building HVAC system shall be modeled using manufacturers’ full and part-load data for the HVAC system without fan power.</p> <p>e. Where no heating system exists or no heating system has been specified and submitted with design documents, the system characteristics and</p>	<p>The HVAC system(s) in the baseline building design shall be of the type and description specified in Section G3.1.1, shall meet the general HVAC system requirements specified in Section G3.1.2, and shall meet any system specific requirements in Section G3.1.3 that are applicable to the baseline HVAC system type(s).</p> <p>If the proposed design includes computer room humidification then the computer room humidification system, schedules, and setpoints in the baseline building design shall be the same as in the proposed design.</p> <p>For systems serving computer rooms, the baseline shall not have reheat for the purpose of dehumidification.</p> <p>Fossil fuel systems shall be modeled using natural gas as their fuel source.</p> <p><b>Exception:</b> For fossil fuel systems where natural gas is not available for the proposed building site as determined by the rating authority, the baseline HVAC system(s) shall be modeled using propane as their fuel source.</p>

<p>type shall be identical to the same system as modeled in the baseline building design and shall comply with but not exceed the requirements of Section 6.</p> <p>d. Where no cooling system exists or no cooling system has been specified and submitted with design documents, the cooling system type shall be identical to the same system modeled in the baseline building design and shall comply with the requirements of Section 6.</p> <p><b>Exception to (d):</b> Spaces using baseline HVAC system types 9 and 10.</p>	
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**11. Service Hot Water Systems**

<b>Baseline Building Design</b>	<b>Proposed Building Design</b>
<p>The service hot water system type and all related performance parameters, such as equipment capacities and efficiencies, in the proposed design shall be determined as follows:</p> <p>a. Where a complete service hot water system exists, the proposed design shall reflect the actual system type using actual component capacities and efficiencies.</p> <p>b. Where a service hot water system has been specified and submitted with design documents, the service hot water model shall be consistent with design documents.</p> <p>c. Where no service hot water system exists or has been specified and submitted with design documents but the building will have service hot water loads, a service hot water system shall be modeled that matches the system type in the baseline building design and serves the same hot water loads, and shall comply with but not exceed the requirements of Section 7.</p> <p>d. For buildings that will have no service hot water loads, no service hot water system shall be modeled.</p> <p>e. Where a combined system has been specified to meet both space heating and service water heating loads, the proposed design shall reflect the actual system type using actual component capacities and efficiencies.</p>	<p>The service hot water system in the baseline building design shall conform with the following conditions:</p> <p>a. Where the complete service hot water system exists, the base line building design shall be as specified in Table G3.1.1 2 using the actual component capacities.</p> <p>b. Where a new service hot water system has been specified, the heating method shall be as specified in Table G3.1.1 2. The system shall be sized according to the provisions of Section 7.4.1 and the equipment shall match the minimum efficiency requirements in Section 7.4.2.</p> <p>c. Where no service hot water system exists or has been specified but the building will have service hot water loads, a service water system(s) using the heating method as specified in Table G3.1.1 2 and matching minimum efficiency requirements of Section 7.4.2 shall be assumed and modeled identically in the proposed and baseline building designs.</p> <p>d. For buildings that will have no service hot water loads, no service hot water heating shall be modeled.</p> <p>e. Where a combined system has been specified to meet both space heating and service water heating loads, the baseline building system shall use separate systems meeting the minimum efficiency requirements applicable to each system individually.</p> <p>f. For large, 24 hour per day facilities that meet the prescriptive criteria for use of condenser</p>

~~heat recovery systems described in Section 6.5.6.2, a system meeting the requirements of that section shall be included in the baseline building design regardless of the exceptions to Section 6.5.6.2.~~

~~**Exception:** If a condenser heat recovery system meeting the requirements described in Section 6.5.6.2 cannot be modeled, the requirement for including such a system in the actual building shall be met as a prescriptive requirement in accordance with Section 6.5.6.2, and no heat-recovery system shall be included in the proposed or baseline building designs.~~

~~g. Service hot water energy consumption shall be calculated explicitly based upon the volume of service hot water required and the entering makeup water and the leaving service hot water temperatures. Entering water temperatures shall be estimated based upon the location. Leaving temperatures shall be based upon the end-use requirements.~~

~~h. Where recirculation pumps are used to ensure prompt availability of service hot water at the end use, the energy consumption of such pumps shall be calculated explicitly.~~

~~i. Service water loads and usage shall be the same for both the base-line building design and the proposed design and shall be documented by the calculation procedures described in Section 7.2.1.~~

~~**Exceptions:**~~

- ~~1. Service hot water usage can be demonstrated to be reduced by documented water conservation measures that reduce the physical volume of service water required. Examples include low flow shower heads. Such reduction shall be demonstrated by calculations.~~
- ~~2. Service hot water energy consumption can be demonstrated to be reduced by reducing the required temperature of service mixed water, by increasing the temperature, or by increasing the temperature of the entering makeup water. Examples include alternative sanitizing technologies for dishwashing and heat recovery to entering makeup water. Such reduction shall be demonstrated by calculations.~~
- ~~3. Service hot water usage can be demonstrated to be reduced by reducing the hot fraction of mixed water to achieve required operational temperature. Examples~~

	<p>include shower or laundry heat recovery to incoming cold water supply, reducing the hot water fraction required to meet required mixed water temperature. Such reduction shall be demonstrated by calculations.</p> <p>j. Gas storage water heaters shall be modeled using natural gas as their fuel source.</p> <p><b>Exception:</b> Where natural gas is not available for the proposed building site, as determined by the rating authority, gas storage water heaters shall be modeled using propane as their fuel source.</p>
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**12. Receptacle and Other Loads**

<b>Baseline Building Design</b>	<b>Proposed Building Design</b>
<p>Receptacle and process loads, such as those for office and other equipment, shall be estimated based on the building type or space type category and shall be assumed to be identical in the proposed and baseline building designs, except as specifically authorized by the <i>authority having jurisdiction</i>, and only when quantifying performance that exceeds the requirements of Standard 90.1 but not when the Performance Rating Method is used as an alternative path for minimum standard compliance per Chapter 1, Section 101.4.7.2 of the <i>Building Code</i>. These loads shall always be included in simulations of the building. These loads shall be included when calculating the baseline building performance and proposed building performance as required by Section G1.2.1.</p> <p>a. Where power and other systems covered by Sections 8 and 10 have been designed and submitted with design documents, those systems shall be determined in accordance with Sections 8 and 10.</p> <p>Where power and other systems covered by Section 8 and 10 have not been submitted with design documents, those systems shall comply with but not exceed the requirements of those sections.</p>	<p>Other systems, such as motors covered by Section 10, and miscellaneous loads shall be modeled as identical to those in the proposed design including schedules of operation and control of the equipment. Where there are specific efficiency requirements listed in Sections 5 through 10, these systems or components shall be modeled as having the lowest efficiency allowed by those requirements. Where no efficiency requirements exist, such energy used for cooking equipment, receptacle loads, computers, medical or laboratory equipment, and manufacturing and industrial process equipment not specifically identified in the standard power and energy rating or capacity of the equipment shall be identical between the baseline building and the proposed design.</p> <p><b>Exception:</b> When quantifying performance that exceeds the requirements of Standard 90.1 (but not when using the Performance Rating Method as an alternative path for minimum standard compliance per Section 4.2.1.1), variations of the power requirements, schedules, or control sequences of the equipment modeled in the baseline building from those in the proposed design shall be allowed by the authority having jurisdiction based upon documentation that the equipment installed in the proposed design represents a significant verifiable departure from documented current conventional practice. The burden of this documentation is to demonstrate that accepted conventional practice would result in baseline building equipment different from that installed in the proposed design. Occupancy and occupancy schedules shall not be changed.</p>

**13. Modeling Limitations to the Simulation**

<b>Baseline Building Design</b>	<b>Proposed Building Design</b>
If the simulation program cannot model a component or system included in the proposed design explicitly, substitute a thermodynamically similar component model that can approximate the expected performance of the component that cannot be modeled explicitly.	Same as proposed building design

**14. Exterior Conditions**

<b>Baseline Building Design</b>	<b>Proposed Building Design</b>
<p><del>a. <b>Shading by Adjacent Structures and Terrain.</b> The effect that structures and significant vegetation or topographical features have on the amount of solar radiation being received by a structure shall be adequately reflected in the computer analysis. All elements whose effective height is greater than their distance from a proposed building and whose width facing the proposed building is greater than one-third that of the proposed building shall be accounted for in the analysis.</del></p> <p><del>b. <b>Ground Temperatures for Below-Grade Wall and Basement Floor Heat-Loss Calculations.</b> It is acceptable to use either an annual average ground temperature or monthly average ground temperatures for calculation of heat loss through below grade walls and basement floors.</del></p> <p><del>c. <b>Water Main Temperatures for Service Water Heating Calculations.</b> It is acceptable to use either an annual water main supply temperature or monthly average water main supply temperatures for calculating service water heating. If annual or monthly water main supply temperatures are not available from the local water utility, annual average ground temperatures may be used.</del></p>	

**15. Distribution Transformers**

<b>Baseline Building Design</b>	<b>Proposed Building Design</b>
Low-voltage dry-type distribution transformers shall be modeled if the transformers in the proposed design exceed the efficiency required in Table 8.4.4.	Low-voltage dry-type distribution transformers shall be modeled only if the proposed building transformers exceed the efficiency requirements of Table 8.4.4. If modeled, the efficiency requirements from Table 8.4.4 shall be used. The ratio of the capacity to peak electrical load of the transformer shall be the same as the ratio in the proposed design.



**Table G3.1 Modeling Requirements for Calculating Proposed and Baseline Building Performance**

<b>No.</b>	<b><u>Proposed Building Performance</u></b>	<b><u>Baseline Building Performance</u></b>
<b><u>1. Design Model</u></b>		
a.	<p>The simulation model of the <i>proposed design</i> shall be consistent with the design documents, including proper accounting of <i>fenestration</i> and <i>opaque building envelope</i> types and areas; interior lighting power and <i>controls</i>; <i>HVAC system</i> types, sizes, and <i>controls</i>; and <i>service water-heating systems</i> and <i>controls</i>. All end-use load components within and associated with the <i>building</i> shall be modeled, including but not limited to exhaust fans, parking garage ventilation fans, snow-melt and freeze-protection equipment, facade lighting, swimming pool heaters and pumps, elevators and escalators, refrigeration, and cooking. Where the <i>simulation program</i> does not specifically model the functionality of the installed <i>system</i>, spreadsheets or other documentation of the assumptions shall be used to generate the power <i>demand</i> and operating schedule of the <i>systems</i>.</p> <p>All <i>conditioned spaces</i> in the <i>proposed design</i> shall be simulated as being both heated and cooled even if no heating or cooling <i>system</i> is to be installed.</p> <p><b>Exception:</b> <i>Spaces</i> designed with heating only <i>systems</i> serving storage rooms, stairwells, vestibules, electrical/mechanical rooms, and restrooms not exhausting or transferring air from mechanically cooled thermal zones in the <i>proposed design</i> shall not be modeled with <i>mechanical cooling</i>.</p> <p>When the <i>performance rating method</i> is applied to <i>buildings</i> in which <i>energy-related</i> features have not yet been designed (e.g., a <i>lighting system</i>), those yet-to-be-designed features shall be described in the <i>proposed design</i> exactly as they are defined in the <i>baseline building design</i>. Where the <i>space</i> classification for a <i>space</i> is not known, the <i>space</i> shall be categorized as an <i>office space</i>.</p>	<p>The <i>baseline building design</i> shall be modeled with the same number of <i>floors</i> and identical <i>conditioned floor area</i> as the <i>proposed design</i>. The <i>baseline building design</i> shall be developed by modifying the <i>proposed design</i> as described in Section G3. Except as specifically instructed, all <i>building systems</i> and <i>equipment</i> shall be modeled identically in the <i>proposed design</i> and <i>baseline building design</i>.</p>
<b><u>2. Additions and Alterations</u></b>		
	<p>It is acceptable to predict performance using <i>building</i> models that exclude parts of the <i>existing</i></p>	<p>If the <i>proposed design</i> excludes parts of the <i>existing building</i>, the <i>baseline building design</i></p>

building, provided that all of the following conditions are met:

- a. Work to be performed in excluded parts of the building shall meet the requirements of Sections 5 through 10.
- b. Excluded parts of the building are served by HVAC systems that are entirely separate from those serving parts of the building that are included in the building model.
- c. Design space temperature and HVAC system operating set points and schedules on either side of the boundary between included and excluded parts of the building are essentially the same.  
If a declining block or similar utility rate is being used in the analysis, and the excluded and included parts of the building are on the same utility meter, the rate shall reflect the utility block or rate for the building plus the addition.

shall exclude them as well.

When modeled, unmodified existing building components shall follow the same rules as new and modified building components.

3. Space Use Classification

Use shall be specified using the building type or space type lighting classifications in accordance with Section 9.5.1 or 9.6.1. The user shall specify the space use classifications using either the building type or space type categories but shall not combine the two types of categories. More than one building type category may be used in a building if it is a mixed-use facility. If space type categories are used, the user may simplify the placement of the various space types within the building model, provided that building total areas for each space type are accurate.

Same as proposed design.

4. Schedule

Schedules capable of modeling hourly variations in occupancy, lighting power, miscellaneous equipment power, thermostat set points, and HVAC system operation shall be used. The schedules shall be typical of the proposed building type as determined by the designer and approved by the rating authority.

Same as proposed design.

**Exceptions:**

- 1. Set points and schedules for HVAC systems that automatically provide occupant thermal comfort via means other than directly controlling the air dry-bulb and wet-bulb temperature may be allowed to differ, provided that equivalent levels of occupant thermal comfort are demonstrated via the methodology in ASHRAE Standard 55, Section 5.3.3, "Elevated Air Speed," or Standard 55, Appendix B, "Computer

**Temperature and Humidity Schedules.** Temperature and humidity control set points and schedules as well as temperature control throttling range shall be the same for proposed design and baseline building design.  
**HVAC Fan Schedules.** Schedules for HVAC fans that provide outdoor air for ventilation shall run

continuously whenever spaces are occupied and shall be cycled ON and OFF to meet heating and cooling loads during unoccupied hours.

**Exceptions:**

1. Where no heating and/or cooling system is to be installed, and a heating or cooling system is being simulated only to meet the requirements described in this table, heating and/or cooling system fans shall not be simulated as running continuously during occupied hours but shall be cycled ON and OFF to meet heating and cooling loads during all hours.
2. HVAC fans shall remain on during occupied and unoccupied hours in spaces that have health- and safety-mandated minimum ventilation requirements during unoccupied hours.  
HVAC fans shall remain on during occupied and unoccupied hours in systems primarily serving computer rooms.

Program for Calculation of PMV-PPD.” Schedules may be allowed to differ between proposed design and baseline building design when necessary to model nonstandard efficiency measures, provided that the revised schedules have been approved by the rating authority. Measures that may warrant use of different schedules include but are not limited to automatic lighting controls, automatic natural ventilation controls, automatic demand control ventilation controls, and automatic controls that reduce service water-heating loads. In no case shall schedules differ where the controls are manual (e.g., manual operation of light switches or manual operation of windows).

5. Building Envelope

a. All components of the building envelope in the proposed design shall be modeled as shown on architectural drawings or as built for existing building envelopes per the U-value methodologies provided for in section 5.4 and associated subsections.

**Exceptions:** The following building elements are permitted to differ from architectural drawings:

1. All uninsulated assemblies (e.g., concrete floor beams over parking garages, roof parapet) shall be separately modeled using either of the following techniques:
  - a. Separate model of each of these assemblies within the energy simulation model.
  - b. Separate calculation of the U-factor for each of these assemblies. The U-factors of these assemblies are then averaged with larger adjacent surfaces using an area-weighted average method. This average U-factor is modeled within the energy simulation model.

Equivalent dimensions shall be assumed for each building envelope component type as in the proposed design; i.e., the total gross area of walls shall be the same in the proposed design and baseline building design. The same shall be true for the areas of roofs, floors, and doors, and the exposed perimeters of concrete slabs on grade shall also be the same in the proposed design and baseline building design. The following additional requirements shall apply to the modeling of the baseline building design:

a. **Orientation.** The baseline building performance shall be generated by simulating the building with its actual orientation and again after rotating the entire building 90, 180, and 270 degrees, then averaging the results. The building shall be modeled so that it does not shade itself.

**Exceptions:**

1. If it can be demonstrated to the satisfaction of the rating authority that the building orientation is dictated by site considerations.
2. Buildings where the vertical fenestration area on each orientation varies by less

Exterior surfaces whose azimuth orientation and tilt differ by less than 45 degrees and are otherwise the same may be described as either a single surface or by using multipliers.

than 5%.

b. **Opaque Assemblies.** Opaque assemblies used for new buildings, existing buildings, or additions shall conform with assemblies detailed in Appendix A and shall match the appropriate assembly maximum *U*-factors in Tables G3.4-1 through G3.4-8:

- Roofs—Insulation entirely above deck (A2.2).
- Above-grade walls—Steel-framed (A3.3).
- Below-grade walls—Concrete block (A4).
- Floors—Steel-joist (A5.3).  
Slab-on-grade floors shall match the *F*-factor for unheated slabs from the same tables (A6).

### 5. Building Envelope (contd.)

3. The exterior roof surface shall be modeled using the aged solar reflectance and thermal emittance determined in accordance with Section 5.5.3.1.1(a). Where aged test data are unavailable, the roof surface may be modeled with a reflectance of 0.30 and a thermal emittance of 0.90.
  4. Manual fenestration shading devices, such as blinds or shades, shall be modeled or not modeled the same as in the baseline building design. Automatically controlled fenestration shades or blinds shall be modeled. Permanent shading devices, such as fins, overhangs, and light shelves shall be modeled.
  5. Automatically controlled dynamic glazing may be modeled. Manually controlled dynamic glazing shall use the average of the minimum and maximum SHGC and VT.
- b. Infiltration shall be modeled using the same methodology, air leakage rate, and adjustments for weather and building operation in both the proposed design and the baseline building design. These adjustments shall be made for each simulation time step and must account for but not be limited to weather conditions and HVAC system operation, including strategies that are intended to positively pressurize the building. The air leakage rate of the building envelope ( $I_{75Pa}$ ) at a fixed building pressure
- Opaque door types shall be of the same type of construction as the proposed design and conform to the *U*-factor requirements from the same tables (A7).
- c. **Vertical Fenestration Areas.** For building area types included in Table G3.1.1-1, vertical fenestration areas for new buildings and additions shall equal that in Table G3.1.1-1 based on the area of gross above-grade walls that separate conditioned spaces and semiheated spaces from the exterior. Where a building has multiple building area types, each type shall use the values in the table. The vertical fenestration shall be distributed on each face of the building in the same proportion as in the proposed design. For building areas not shown in Table G3.1.1-1, vertical fenestration areas for new buildings and additions shall equal that in the proposed design or 40% of gross above-grade wall area, whichever is smaller, and shall be distributed on each face of the building in the same proportions in the proposed design. The fenestration area for an existing building shall equal the existing fenestration area prior to the proposed work and shall be distributed on each face of the building in the same proportions as the existing building. For portions of those tables where there are no SHGC requirements, the SHGC shall be equal to that determined in accordance with Section C3.6(c). The VT shall be equal to that determined in accordance with

differential of 0.3 in. of water shall be 0.4 cfm/ft<sup>2</sup>. The air leakage rate of the *building envelope* shall be converted to appropriate units for the *simulation program* using one of the methods in Section **Error! Reference source not found.**

When whole-building air leakage testing, in accordance with ASTM E779, is specified during design and completed after *construction*, the *proposed design* air leakage rate of the *building envelope* shall be as measured.

Section C3.6(c).

- d. **Vertical Fenestration Assemblies.** Fenestration for new buildings, existing buildings, and additions shall comply with the following:
- Fenestration U-factors shall match the appropriate requirements in Tables G3.4-1 through G3.4-8 for the applicable glazing percentage for  $U_{all}$ .
  - Fenestration SHGCs shall match the appropriate requirements in Tables G3.4-1 through G3.4-8 using the value for  $SHGC_{all}$  for the applicable vertical glazing percentage.
  - All vertical fenestration shall be assumed to be flush with the exterior wall, and no shading projections shall be modeled.
  - Manual window shading devices such as blinds or shades are not required to be modeled.
- e. **Skylights and Glazed Smoke Vents.** Skylight area shall be equal to that in the *proposed design* or 3%, whichever is smaller. If the skylight area of the *proposed design* is greater than 3%, baseline skylight area shall be decreased by an identical percentage in all roof components in which skylights are located to reach 3%. Skylight orientation and tilt shall be the same as in the *proposed design*. Skylight U-factor and SHGC properties shall match the appropriate requirements in Tables G3.4-1 through G3.4-8 using the value and the applicable skylight percentage.
- f. **Roof Solar Reflectance and Thermal Emittance.** The exterior roof surfaces shall be modeled using a solar reflectance of 0.30 and a thermal emittance of 0.90.
- g. **Roof Albedo.** All roof surfaces shall be modeled with a reflectivity of 0.30.

## 6. Lighting

Lighting power in the *proposed design* shall be determined as follows:

- a. Where a complete *lighting system* exists, the actual lighting power for each *thermal block* shall be used in the model.
- b. Where a *lighting system* has been designed and submitted with design documents, lighting

Interior lighting power in the *baseline building design* shall be determined using the values in Table G3.7. Lighting shall be modeled having the *automatic shutoff controls in buildings >5000 ft<sup>2</sup> and occupancy sensors in employee lunch and break rooms, conference/meeting rooms, and classrooms (not including shop classrooms,*

- power shall be determined in accordance with Sections 9.1.3 and 9.1.4.
- c. Where lighting neither exists nor is submitted with design documents, lighting shall comply with but not exceed the requirements of Section 9. Lighting power shall be determined in accordance with the *Building Area Method*.
- d. *Lighting system* power shall include all *lighting system* components shown or provided for on the plans (including *lamps* and *ballasts* and task and furniture-mounted *fixtures*).
- Exceptions:** For multifamily *dwelling units*, hotel/motel guest rooms, and other *spaces* in which *lighting systems* are connected via receptacles and are not shown or provided for on *building* plans, assume identical lighting power for the *proposed design* and *baseline building design* in the simulations.
- e. Lighting power for parking garages and *building* facades shall be modeled.
- f. For lighting *controls*, at a minimum, the proposed design shall contain the mandatory *automatic lighting controls* specified in Section 9.4.1 (e.g., *automatic* daylight responsive *controls*, occupancy sensors, programmable *controls*, etc.). These *controls* shall be modeled in accordance with (g) and (h).
- g. *Automatic* daylighting responsive *controls* shall be modeled directly in the *proposed design* or through schedule adjustments determined by a separate daylighting analysis approved by the *rating authority*. Modeling and schedule adjustments shall separately account for *primary sidelighted areas*, *secondary sidelighted areas*, and toplighted areas.
- Other *automatic lighting controls* included in the *proposed design* shall be modeled directly in the *building* simulation by reducing the lighting schedule each hour by the occupancy sensor reduction factors in Table G3.7 for the applicable *space* type. This reduction shall be taken only for lighting controlled by the occupancy sensors. Credit for other programmable lighting *control* in *buildings* less than 5000 ft<sup>2</sup> can be taken by reducing the lighting schedule each hour by 10%.
- laboratory classrooms, and preschool through 12th-grade classrooms). These *controls* shall be reflected in the *baseline building design* lighting schedules. No additional *automatic lighting controls*, e.g., *automatic controls* for daylight utilization and occupancy sensors in *space* types not listed above, shall be modeled in the *baseline building design*.
- Exterior lighting in areas identified as “Tradable Surfaces” in Table G3.6 shall be modeled with the baseline lighting power shown in Table G3.6. Other exterior lighting shall be modeled the same in the *baseline building design* as in the *proposed design*.

### 7. Thermal Blocvks—HVAC Zones Designed

Where *HVAC zones* are defined on HVAC design drawings, each *HVAC zone* shall be modeled as a separate *thermal block*. Same as proposed design.

**Exceptions:** Different *HVAC zones* may be combined to create a single *thermal block* or identical *thermal blocks* to which multipliers are applied, provided that all of the following conditions are met:

1. The *space* use classification is the same throughout the *thermal block*.
2. All *HVAC zones* in the *thermal block* that are adjacent to glazed *exterior walls* and glazed *semiexterior walls* face the same *orientation* or their orientations vary by less than 45 degrees.
3. All of the zones are served by the same *HVAC system* or by the same kind of *HVAC system*.

### 8. Thermal Blocks—HVAC Zones Not Designed

Where the *HVAC zones* and *systems* have not yet been designed, *thermal blocks* shall be defined based on similar internal load densities, occupancy, lighting, thermal and *space* temperature schedules, and in combination with the following guidelines: Same as proposed design.

- a. Separate *thermal blocks* shall be assumed for interior and perimeter *spaces*. Interior *spaces* shall be those located greater than 15 ft from an *exterior wall* or *semiexterior wall*. Perimeter *spaces* shall be those located within 15 ft of an *exterior wall* or *semiexterior wall*. A separate thermal zone does not need to be modeled for areas adjacent to *semiexterior walls* that separate *semiheated space* from *conditioned space*.
- b. Separate *thermal blocks* shall be assumed for *spaces* adjacent to glazed *exterior walls* or glazed *semiexterior walls*; a separate zone shall be provided for each *orientation*, except that orientations that differ by less than 45 degrees may be considered to be the same *orientation*. Each zone shall include all *floor area* that is 15 ft or less from a glazed perimeter wall, except that *floor area* within 15 ft of glazed perimeter walls having more than one *orientation* shall be divided proportionately between zones.

- c. Separate thermal blocks shall be assumed for spaces having floors that are in contact with the ground or exposed to ambient conditions from zones that do not share these features.
- Separate thermal blocks shall be assumed for spaces having exterior ceiling or roof assemblies from zones that do not share these features.

#### 9. Thermal Blocks—Multifamily Residential Buildings

Residential spaces shall be modeled using at least one thermal block per dwelling unit, except that those units facing the same orientations may be combined into one thermal block. Corner units and units with roof or floor loads shall only be combined with units sharing these features. Same as *proposed design*.

#### 10. HVAC Systems

The HVAC system type and all related performance parameters in the proposed design, such as equipment capacities and efficiencies, shall be determined as follows:

- a. Where a complete HVAC system exists, the model shall reflect the actual system type using actual component capacities and efficiencies.
- b. Where an HVAC system has been designed and submitted with design documents, the HVAC model shall be consistent with design documents. Mechanical equipment efficiencies shall be adjusted from actual design conditions to the standard rating conditions specified in Section 6.4.1 if required by the simulation model. Where efficiency ratings include supply fan energy, the efficiency rating shall be adjusted to remove the supply fan energy from the efficiency rating in the baseline building design. The equations in Section G3.1.2.1 shall not be used in the proposed design. The proposed design HVAC system shall be modeled using manufacturers' full- and part-load data for the HVAC system without fan power.
  - Where no heating system exists or no heating system has been submitted with design documents, the system type shall be the same system as modeled in the baseline building design and shall comply with but not exceed the requirements of Section 6.

The HVAC systems in the baseline building design shall be of the type and description specified in Section G3.1.1, shall meet the general HVAC system requirements specified in Section G3.1.2, and shall meet any system-specific requirements in Section G3.1.3 that are applicable to the baseline HVAC system types.

If the proposed design includes humidification then the baseline building design shall use adiabatic humidification.

**Exception:** If the proposed building humidification system complies with Section 6.5.2.4 then the baseline building design shall use nonadiabatic humidification.

For systems serving computer rooms, the baseline building design shall not have reheat for the purpose of dehumidification.

Fossil fuel systems shall be modeled using natural gas as their fuel source.

For fossil fuel systems where natural gas is not available for the proposed building site as determined by the rating authority, the baseline HVAC systems shall be modeled using propane as their fuel.

#### 10. HVAC Systems (contd.)



- d. Where no cooling system exists or no cooling system has been submitted with design documents, the cooling system type shall be the same as modeled in the baseline building design and shall comply with the requirements of Section 6.

Spaces using baseline HVAC system types 9 and 10.

**11. Service Water-Heating Systems**

The service water-heating system type and all related performance parameters, such as equipment capacities and efficiencies, in the proposed design shall be determined as follows:

- a. Where a complete service water-heating system exists, the proposed design shall reflect the actual system type using actual component capacities and efficiencies.
- b. Where a service water-heating system has been designed and submitted with design documents, the service water-heating model shall be consistent with design documents.
- c. Where no service water-heating system exists or has been designed and submitted with design documents but the building will have service water-heating loads, a service water-heating system shall be modeled that matches the system type in the baseline building design, serves the same water-heating loads, and shall comply with but not exceed the requirements of Section 7.
- d. For buildings that will have no service water-heating loads, no service water-heating system shall be modeled.

Where a combined system has been specified to meet both space heating and service water-heating loads, the proposed design shall reflect the actual system type using actual component capacities and efficiencies.

The service water-heating system in the baseline building design shall be as specified in Table G3.1.1-2 and conform with the following conditions:

- a. Where a complete service water-heating system exists or a new service water-heating system has been specified, one service water-heating system shall be modeled for each building area type in the proposed building. Each system shall be sized according to the provisions of Section 7.4.1, and the equipment shall match the minimum efficiency requirements in Section 7.4.2.
- b. Where no service water-heating system exists or has been specified but the building will have service water-heating loads, one service water-heating system shall be modeled for each anticipated building area type in the proposed design. Each system shall meet the minimum efficiency requirements of Section 7.4.2 and be modeled identically to the proposed design.
- c. For buildings that will have no service water-heating loads, no service water-heating shall be modeled.
- d. Where a combined system has been specified to meet both space heating and service water-heating loads, the baseline building system shall use separate systems meeting the minimum efficiency requirements applicable to each system individually.
- e. For large, 24-hour-per-day facilities that meet the prescriptive criteria for use of condenser heat recovery systems described in Section 6.5.6.2, a system meeting the requirements of that section shall be included in the baseline building design regardless of the exceptions to Section 6.5.6.2.

**Exceptions:** If a condenser heat recovery

system meeting the requirements described in Section 6.5.6.2 cannot be modeled, the requirement for including such a system in the actual building shall be met as a prescriptive requirement in accordance with Section 6.5.6.2, and no heat recovery system shall be included in the proposed design or baseline building design.

- f. Service water-heating energy consumption shall be calculated explicitly based upon the volume of service water heating required and the entering makeup water and the leaving service water-heating temperatures. Entering water temperatures shall be estimated based upon the location. Leaving temperatures shall be based upon the end-use requirements.
- g. Where recirculation pumps are used to ensure prompt availability of service water-heating at the end use, the energy consumption of such pumps shall be calculated explicitly.
- d. Service water loads and use shall be the same for both the proposed design and baseline building design and shall be documented by the calculation procedures described in Section 7.4.1.

**Exceptions:**

Service water-heating use can be demonstrated to be reduced by documented water conservation measures that reduce the physical volume of service water required. Examples include low-flow shower heads. Such reduction shall be demonstrated by calculations.

11. Service Water-Heating Systems (contd.)

**Exceptions:**

- 2. Service water-heating energy consumption can be demonstrated to be reduced by reducing the required temperature of service mixed water, by increasing the temperature, or by increasing the temperature of the entering makeup water. Examples include alternative sanitizing technologies for dishwashing and heat recovery to entering makeup water. Such reduction shall be demonstrated by calculations.
- 3. Service water heating use can be demonstrated to be reduced by reducing

the hot fraction of mixed water to achieve required operational temperature. Examples include shower or laundry heat recovery to incoming cold-water supply, reducing the hot-water fraction required to meet required mixed-water temperature. Such reduction shall be demonstrated by calculations.

- i. Gas storage water heaters shall be modeled using natural gas as their fuel.

Where natural gas is not available for the proposed building site, as determined by the rating authority, gas storage water heaters shall be modeled using propane as their fuel.

## 12. Receptacle and Other Loads

Receptacle and process loads, such as those for office and other equipment, shall be estimated based on the building area type or space type category and shall be assumed to be identical in the proposed design and baseline building design, except as specifically approved by the rating authority only when quantifying performance that exceeds the requirements of Standard 90.1 but not when the Performance Rating Method is used as an alternative path for minimum standard compliance in accordance with Section 4.2.1.1. These loads shall always be included in simulations of the building. These loads shall be included when calculating the proposed building performance and the baseline building performance as required by Section G1.2.1.

- a. Where power and other systems covered by Sections 8 and 10 have been designed and submitted with design documents, those systems shall be determined in accordance with Sections 8 and 10.

Where power and other systems covered by Sections 8 and 10 have not been submitted with design documents, those systems shall comply with but not exceed the requirements of those sections.

Motors shall have the efficiency ratings found in Table G3.9.1. Other systems covered by Section 10 and miscellaneous loads shall be modeled as identical to those in the proposed design, including schedules of operation and control of the equipment. Energy used for cooking equipment, receptacle loads, computers, medical or laboratory equipment, and manufacturing and industrial process equipment not specifically identified in the standard power and energy rating or capacity of the equipment shall be identical between the proposed building performance and the baseline building performance.

When quantifying performance that exceeds the requirements of Standard 90.1 (but not when using the Performance Rating Method as an alternative path for minimum standard compliance per Section 4.2.1.1) variations of the power requirements, schedules, or control sequences of the equipment modeled in the baseline building design from those in the proposed design shall be approved by the rating authority based on documentation that the equipment installed in the proposed design represents a significant verifiable departure from documented current conventional practice. The burden of this documentation is to demonstrate that accepted conventional practice would result in baseline building equipment different from that installed in the proposed design. Occupancy and occupancy schedules shall not be changed.

## 13. Modeling Limitations to the Simulation

Program

If the *simulation program* cannot model a component or *system* included in the *proposed design* explicitly, substitute a thermodynamically similar component model that can approximate the expected performance of the component that cannot be modeled explicitly.

Same as *proposed design*.

14. Exterior Conditions

**Shading by Adjacent Structures and Terrain.** The effect that structures and significant vegetation or topographical features have on the amount of solar radiation being received by a structure shall be adequately reflected in the computer analysis. All elements whose effective height is greater than their distance from a proposed *building* and whose width facing the proposed *building* is greater than one-third that of the proposed *building* shall be accounted for in the analysis.

Same as *proposed design*.

14. Exterior Conditions (contd.)

b. **Ground Temperatures for Below-Grade Wall and Basement Floor Heat-Loss Calculations.** It is acceptable to use either an annual average ground temperature or monthly average ground temperatures for calculation of heat loss through *below-grade walls* and *basement floors*.  
**Water Main Temperatures for Service Water-Heating Calculations.** It is acceptable to use either an annual water main supply temperature or monthly average water main supply temperatures for calculating *service water heating*. If annual or monthly water main supply temperatures are not available from the local water utility, annual average ground temperatures may be used.

Same as *proposed design*.

15. Distribution Transformers

Low-voltage dry-type distribution transformers shall be modeled if the transformers in the proposed design exceed the efficiency required in Table 8.4.4.

Low-voltage dry-type distribution transformers shall be modeled only if the proposed design transformers exceed the efficiency requirements of Table 8.4.4. If modeled, the efficiency requirements from Table 8.4.4 shall be used. The ratio of the capacity to peak electrical load of the transformer shall be the same as the ratio in the proposed design.

16. Elevators

Where the *proposed design* includes elevators, the

Where the *proposed design* includes elevators,

elevator motor, ventilation fan, and light load shall be included in the model. The cab ventilation fan and lights shall be modeled with the same schedule as the elevator motor.

the baseline building design shall be modeled to include the elevator cab motor, ventilation fans, and lighting power.

The elevator peak motor power shall be calculated as follows:

$$bhp = \frac{\text{Weight of Car} + \text{Rated Load} - \text{Counterweight}}{\text{Speed of Car} / (33,000 \times h_{\text{mechanical}})}$$

$$P_m = bhp \times 746 / h_{\text{motor}}$$

where

Weight of Car = the proposed design elevator car weight, lb

Rated Load = the proposed design elevator load at which to operate, lb

Counterweight of Car = the elevator car counterweight, from Table G3.9.2, lb

Speed of Car = the speed of the proposed elevator, ft/min

$h_{\text{mechanical}}$  = the mechanical efficiency of the elevator from Table G3.9.2

$h_{\text{motor}}$  = the motor efficiency from Table G3.9.2

$P_m$  = peak elevator motor power, W

The elevator motor use shall be modeled with the same schedule as the proposed design.

When included in the proposed design, the baseline elevator cab ventilation fan shall be 0.33 W/cfm and the lighting power density shall be 3.14 W/ft<sup>2</sup>; both operate continuously.

**17. Refrigeration**

The proposed design shall be modeled using the actual equipment capacities and efficiencies.

Where refrigeration equipment is specified in the proposed design and listed in Tables G3.10.1 and G3.10.2, the baseline building design shall be modeled as specified in Tables G3.10.1 and G3.10.2 using the actual equipment capacities.

If the refrigeration equipment is not listed in Tables G3.10.1 and G3.10.2, the baseline building design shall be modeled the same as the proposed design.

**G3.1.1 Baseline HVAC System Type and Description**

HVAC systems in the baseline building design shall comply with the following:

- a. HVAC systems in the baseline building design shall be determined in the following order of priority:
  1. The building type with the largest conditioned floor area.
  2. Number of floors (including floors above grade and below grade but not including floors solely devoted to parking).
  3. Gross conditioned floor area.

4. Climate zone as specified in Table G3.1.1-3, which shall conform with the system descriptions in Table G3.1.1-4. For Systems 1, 2, 3, 4, 9, 10, 11, 12, and 13, each thermal block shall be modeled with its own HVAC system. For Systems 5, 6, 7, and 8, each floor shall be modeled with a separate HVAC system. Floors with identical thermal blocks can be grouped for modeling purposes.

**TABLE G3.1.1-1 BASELINE BUILDING VERTICAL FENESTRATION  
PERCENTAGE OF GROSS ABOVE-GRADE-WALL AREA**

<b>Building Area Types<sup>a</sup></b>	<b>Baseline Building Gross Above-Grade-</b>
Grocery Store	7%
Healthcare (outpatient)	21
Hospital	27
Hotel/motel (≤75 rooms)	24
Hotel/motel (>75 rooms)	34
Office (≤5000 ft. <sup>2</sup> )	19
Office (5000 to 50,000 ft. <sup>2</sup> )	31
Office (>50,000 ft. <sup>2</sup> )	40
Restaurant (quick service)	34
Restaurant (full service)	24
Retail (stand alone)	11
Retail (strip mall)	20
School (primary)	22
School (secondary and university)	22
Warehouse (nonrefrigerated)	6%

a. In cases where both a general building area type and a specific building area type are listed, the specific building area type shall apply.

**TABLE G3.1.1-2 BASELINE SERVICE HOT-WATER SYSTEM**

<b>Building Area Type</b>	<b>Baseline Heating Method</b>
Automotive facility	Gas storage water heater
Convention center	Electric resistance storage water heater
Courthouse	Electric resistance storage water heater
Dining: Bar lounge/leisure	Gas storage water heater
Dining: Cafeteria/fast food	Gas storage water heater
Dining: Family	Gas storage water heater
Dormitory	Gas storage water heater
Exercise center	Gas storage water heater
Fire station	Gas storage water heater
Gymnasium	Gas storage water heater
Health care clinic	Gas storage water heater

Hospital	Gas storage water heater
Hotel	Gas storage water heater
Library	Electric resistance storage water heater
Manufacturing facility	Gas storage water heater
Motel	Gas storage water heater
Motion picture theater	Electric resistance storage water heater
Multifamily	Gas storage water heater
Museum	Electric resistance storage water heater
Office	Electric resistance storage water heater
Parking garage	Electric resistance storage water heater
Penitentiary	Gas storage water heater
Performing arts theater	Gas storage water heater
Police station	Electric resistance storage water heater
Post office	Electric resistance storage water heater
Religious building	Electric resistance storage water heater
Retail	Electric resistance storage water heater
School/university	Gas storage water heater
Sports arena	Gas storage water heater
Town hall	Electric resistance storage water heater
Transportation	Electric resistance storage water heater
Warehouse	Electric resistance storage water heater
Workshop	Gas storage water heater
All Others	Gas storage water heater

Table G3.1.1-2 **Baseline Service Water-Heating System**

<b><u>Building Area Type</u></b>	<b><u>Baseline Heating Method</u></b>	<b><u>Building Area Type</u></b>	<b><u>Baseline Heating Method</u></b>
Automotive facility	<u>Gas storage water heater</u>	Performing arts theater	<u>Gas storage water heater</u>
Convenience store	<u>Electric resistance water heater</u>	Police station	<u>Electric resistance storage water heater</u>
Convention center	<u>Electric resistance storage water heater</u>	Post office	<u>Electric resistance storage water heater</u>
Courthouse	<u>Electric resistance storage water heater</u>	Religious facility	<u>Electric resistance storage water heater</u>
Dining: Bar lounge/leisure	<u>Gas storage water heater</u>	Retail	<u>Electric resistance storage water heater</u>
Dining: Cafeteria/fast food	<u>Gas storage water heater</u>	School/university	<u>Gas storage water heater</u>
Dining: Family	<u>Gas storage water heater</u>	Sports arena	<u>Gas storage water heater</u>
Dormitory	<u>Gas storage water heater</u>	Town hall	<u>Electric resistance storage water heater</u>
Exercise center	<u>Gas storage water heater</u>	Transportation	<u>Electric resistance storage water heater</u>
Fire station	<u>Gas storage water heater</u>	Warehouse	<u>Electric resistance storage water heater</u>
Grocery store	<u>Gas storage water heater</u>	Workshop	<u>Electric resistance storage water heater</u>
Gymnasium	<u>Gas storage water heater</u>	All others	<u>Gas storage water heater</u>
Health-care clinic	<u>Electric resistance storage water heater</u>		
Hospital and outpatient surgery center	<u>Gas storage water heater</u>		

Hotel	Gas storage water heater
Library	Electric resistance storage water heater
Manufacturing facility	Gas storage water heater
Motel	Gas storage water heater
Motion picture theater	Electric resistance storage water heater
Multifamily	Gas storage water heater
Museum	Electric resistance storage water heater
Office	Electric resistance storage water heater
Parking garage	Electric resistance storage water heater
Penitentiary	Gas storage water heater

**~~G3.1.1 Baseline HVAC System Type and Description.~~** HVAC systems in the *baseline building design* shall comply with the following:

- ~~1. HVAC systems in the *baseline building design* shall be determined in the following order of priority:
 
  - ~~a. the building type with the largest conditioned floor area.~~
  - ~~b. number of floors, (including floors above and below grade, but not including floors solely devoted to parking).~~
  - ~~c. gross conditioned floor area.~~
  - ~~d. climate zone as specified in Table G3.1.1-3 and which shall conform with the system descriptions in Table G3.1.1-4. For systems 1, 2, 3, 4, 9, 10, 11, 12, and 13 each thermal block shall be modeled with its own HVAC system. For systems 5, 6, 7, and 8 each floor thermal block shall be modeled with a separate HVAC system. Floors with identical thermal blocks can be grouped for modeling purposes.~~~~

**Exceptions:**

- ~~1. Use additional system type(s) for nonpredominant conditions (i.e., residential/nonresidential or heating source) if those conditions apply to more than 20,000 ft.<sup>2</sup> of conditioned floor area.~~
- ~~2. If the baseline HVAC system type is 5, 6, 7, 8, 9, 10, 11, 12, or 13 use separate single zone systems conforming with the requirements of System 3 or System 4 (depending on building heating source) for any spaces that have occupancy or process loads or schedules that differ significantly from the rest of the building. Peak thermal loads that differ by 10 Btu/h-ft<sup>2</sup> or more from the average of other spaces served by the system or schedules that differ by more than 40 equivalent full load hours per week from other spaces served by the system are considered to differ significantly. Examples where this exception may be applicable include, but are not limited to, natatoriums and continually occupied security areas. This exception does not apply to computer rooms.~~
- ~~3. For laboratory spaces in a building having a total laboratory exhaust rate greater than 15000 cfm, use a single system of type 5 or 7 serving only those spaces. The lab exhaust fan shall be modeled as constant horsepower reflecting constant volume stack discharge with outdoor air bypass.~~



4. ~~Thermal zones designed with heating only systems in the proposed design, serving storage rooms, stair wells, vestibules, electrical/mechanical rooms, and restrooms not exhausting or transferring air from mechanically cooled thermal zones in the proposed design shall use System type 9 or 10 in the baseline building design.~~
  
5. ~~If the baseline HVAC system type is 9 or 10, all spaces that are mechanically cooled in the proposed building design shall be assigned to a separate baseline system determined by using the area and heating source of the mechanically cooled spaces.~~
  
6. ~~Computer rooms in buildings with a total computer room peak cooling load >3,000,000 Btu/h kW or a total computer room peak cooling load >600,000 Btu/h where the baseline HVAC system type is 7 or 8 shall use System 11. All other computer rooms shall use System 3 or 4.~~
  
7. ~~For hospitals, depending on building type, use System 5 or 7 in all climate zones.~~

**TABLE G3.1.1-3 BASELINE HVAC SYSTEM TYPES**

Building Type, Number of Floors, and Gross Conditioned Floor Area	Climate Zones 3b, 3c, and 4-8
Residential	System 1 — PTAC
Public assembly <120,000 ft. <sup>2</sup>	System 3 — PSZ-AC
Public assembly ≥120,000 ft. <sup>2</sup>	System 12 — SZ-CV-HW
Nonresidential and 3 floors or fewer and <25,000 ft. <sup>2</sup>	System 3 — PSZ-AC
Nonresidential and 4 or 5 Floors and <25,000 ft. <sup>2</sup> or 5 floors or fewer and 25,000 ft. <sup>2</sup> to 150,000 ft. <sup>2</sup>	System 5 — Packaged VAV with reheat
Nonresidential and more than 5 floors or >150,000 ft. <sup>2</sup>	System 7 — VAV with reheat
Heating and ventilation	Retail and 2 floors or fewer
	Heated only storage — System 9 — System 3 — PSZ-AC

**Notes:**

1. Residential building types include dormitory, hotel, motel, and multifamily. Residential space types include guest rooms, living quarters, private living space, and sleeping quarters.  
Other building and space types are considered nonresidential.
2. Where attributes make a building eligible for more than one baseline system type, use the predominant condition to determine the system type for the entire building except as noted in Exception (1) to Section G3.1.1.
3. For laboratory spaces in a building having a total laboratory exhaust rate greater than 15000 cfm, use a single system of type 5 or 7 serving only those spaces.
4. For hospitals, depending on building type, use System 5 or 7 in all climate zones.
5. Public assembly building types include houses of worship, auditoriums, movie theaters, performance theaters, concert halls, arenas, enclosed stadiums, ice rinks, gymnasiums, convention centers, exhibition centers, and natatoriums.

Table G3.1.1-3 Baseline HVAC System Types

<u>Building Type, Number of Floors, and Gross Conditioned Floor Area</u>	<u>Climate Zones 3B, 3C, and 4 to 8</u>	<u>Climate Zones 0 to 3A</u>
<u>Residential</u>	<u>System 1—PTAC</u>	<u>System 2—PTHP</u>
<u>Public assembly &lt;120,000 ft<sup>2</sup></u>	<u>System 3—PSZ-AC</u>	<u>System 4—PSZ-HP</u>
<u>Public assembly ≥120,000 ft<sup>2</sup></u>	<u>System 12—SZ-CV-HW</u>	<u>System 13—SZ-CV-ER</u>
<u>Heated-only storage</u>	<u>System 9—Heating and ventilation</u>	<u>System 10—Heating and ventilation</u>
<u>Retail and 2 floors or fewer</u>	<u>System 3—PSZ-AC</u>	<u>System 4—PSZ-HP</u>
<u>Other residential and 3 floors or fewer and &lt;25,000 ft<sup>2</sup></u>	<u>System 3—PSZ-AC</u>	<u>System 4—PSZ-HP</u>
<u>Other residential and 4 or 5 floors and &lt;25,000 ft<sup>2</sup> or 5 floors or fewer and 25,000 ft<sup>2</sup> to 150,000 ft<sup>2</sup></u>	<u>System 5—Packaged VAV with reheat</u>	<u>System 6—Packaged VAV with PFP boxes</u>
<u>Other residential and more than 5 floors or &gt;150,000 ft<sup>2</sup></u>	<u>System 7—VAV with reheat</u>	<u>System 8—VAV with PFP boxes</u>

Notes:

1. Residential building types include dormitory, hotel, motel, and multifamily. Residential space types include guest rooms, living quarters, private living space, and sleeping quarters. Other building and space types are considered nonresidential.
2. Where attributes make a building eligible for more than one baseline system type, use the predominant condition to determine the system type for the entire building except as noted in Section G3.1.1.
3. For laboratory spaces in a building having a total laboratory exhaust rate greater than 15,000 cfm, use a single system of type 5 or 7 serving only those spaces.
4. For hospitals, depending on building type, use System 5 or 7 in all climate zones.
5. Public assembly building types include houses of worship, auditoriums, movie theaters, performance theaters, concert halls, arenas, enclosed stadiums, ice rinks, gymnasiums, convention centers, exhibition centers, and natatoriums.

**TABLE G3.1.1-4 BASELINE SYSTEM DESCRIPTIONS**

<u>System No.</u>	<u>System Type</u>	<u>Fan Control</u>	<u>Cooling Type</u>	<u>Heating Type</u>
1. PTAC	Packaged terminal air conditioner	Constant volume	Direct expansion	Hot water fossil fuel boiler
2. PTHP	Packaged terminal heat pump	Constant volume	Direct expansion	Electric heat pump
3. PSZ-AC	Packaged rooftop air conditioner	Constant volume	Direct expansion	Fossil fuel furnace
4. PSZ-HP	Packaged rooftop heat pump	Constant volume	Direct expansion	Electric heat pump
5. Packaged VAV with Reheat	Packaged rooftop VAV with reheat	VAV	Direct expansion	Hot water fossil fuel boiler
6. Packaged VAV with PFP Boxes	Packaged rooftop VAV with parallel fan power boxes and reheat	VAV	Direct expansion	Electric resistance
7. VAV with Reheat	VAV with reheat	VAV	Chilled water	Hot water fossil fuel boiler
8. VAV with PFP Boxes	VAV with parallel fan powered boxes and reheat	VAV	Chilled water	Electric resistance
9. Heating and Ventilation	Warm air furnace, gas fired	Constant volume	None	Fossil fuel furnace
10. Heating and Ventilation	Warm air furnace, electric	Constant volume	None	Electric resistance
11. SZ-VAV	Single zone VAV	VAV	Chilled water	See note.
12. SZ-CV-HW	Single zone	Constant volume	Chilled water	Hot water fossil fuel boiler

13. SZ-CV-ER Single-zone Constant volume Chilled water Electric resistance

**Notes:**

1. For purchased chilled water and purchased heat, see G3.1.1.3.
2. Where the proposed design heating source is electric or other, the heating type shall be electric resistance. Where the proposed design heating source is fossil fuel, fossil/electric hybrid, or purchased heat, the heating type shall be hot-water fossil fuel boiler.

**Table G3.1.1-4 Baseline System Descriptions**

<u>System No.</u>	<u>System Type</u>	<u>Fan Control</u>	<u>Cooling Type<sup>a</sup></u>	<u>Heating Type<sup>a</sup></u>
<u>1. PTAC</u>	<u>Packaged terminal air conditioner</u>	<u>Constant volume</u>	<u>Direct expansion</u>	<u>Hot-water fossil fuel boiler</u>
<u>2. PTHP</u>	<u>Packaged terminal heat pump</u>	<u>Constant volume</u>	<u>Direct expansion</u>	<u>Electric heat pump</u>
<u>3. PSZ-AC</u>	<u>Packaged rooftop air conditioner</u>	<u>Constant volume</u>	<u>Direct expansion</u>	<u>Fossil fuel furnace</u>
<u>4. PSZ-HP</u>	<u>Packaged rooftop heat pump</u>	<u>Constant volume</u>	<u>Direct expansion</u>	<u>Electric heat pump</u>
<u>5. Packaged VAV with reheat</u>	<u>Packaged rooftop VAV with reheat</u>	<u>VAV</u>	<u>Direct expansion</u>	<u>Hot-water fossil fuel boiler</u>
<u>6. Packaged VAV with PFP boxes</u>	<u>Packaged rooftop VAV with parallel fan power boxes and reheat</u>	<u>VAV</u>	<u>Direct expansion</u>	<u>Electric resistance</u>
<u>7. VAV with reheat</u>	<u>VAV with reheat</u>	<u>VAV</u>	<u>Chilled water</u>	<u>Hot-water fossil fuel boiler</u>
<u>8. VAV with PFP boxes and reheat</u>	<u>VAV with parallel fan-powered boxes and reheat</u>	<u>VAV</u>	<u>Chilled water</u>	<u>Electric resistance</u>
<u>9. Heating and ventilation</u>	<u>Warm air furnace, gas fired</u>	<u>Constant volume</u>	<u>None</u>	<u>Fossil fuel furnace</u>
<u>10. Heating and ventilation</u>	<u>Warm air furnace, electric</u>	<u>Constant volume</u>	<u>None</u>	<u>Electric resistance</u>
<u>11. SZ-VAV</u>	<u>Single-zone VAV</u>	<u>VAV</u>	<u>Chilled water</u>	<u>See note (b).</u>
<u>12. SZ-CV-HW</u>	<u>Single-zone system</u>	<u>Constant volume</u>	<u>Chilled water</u>	<u>Hot-water fossil fuel boiler</u>
<u>13. SZ-CV-ER</u>	<u>Single-zone system</u>	<u>Constant volume</u>	<u>Chilled water</u>	<u>Electric resistance</u>

a. For purchased chilled water and purchased heat, see G3.1.1.3.

b. For Climate Zones 0 through 3A, the heating type shall be *electric resistance*. For all other climate zones the heating type shall be *hot-water fossil-fuel boiler*.

- b. Use additional system types for nonpredominant conditions (i.e., residential/nonresidential or heating source) if those conditions apply to more than 20,000 ft<sup>2</sup> of conditioned floor area.
- c. If the baseline HVAC system type is 5, 6, 7, 8, 9, 10, 11, 12, or 13 use separate single-zone systems conforming with the requirements of system 3 or system 4 (depending on building heating source) for any spaces that have occupancy or process loads or schedules that differ significantly from the rest of the building. Peak thermal loads that differ by 10 Btu/h·ft<sup>2</sup> or more from the average of other spaces served by the system, or schedules that differ by more than 40 equivalent full-load hours per week from other spaces served by the system, are considered to differ significantly. Examples where this exception may be applicable include but are not limited to natatoriums and continually occupied security areas. This exception does not apply to computer rooms.
- d. For laboratory spaces in a building having a total laboratory exhaust rate greater than 15,000 cfm, use a single system of type 5 or 7 serving only those spaces. The lab exhaust fan shall be modeled as constant horsepower reflecting constant-volume stack

- discharge with outdoor air bypass.
- e. Thermal zones designed with heating-only systems in the proposed design serving storage rooms, stairwells, vestibules, electrical/mechanical rooms, and restrooms not exhausting or transferring air from mechanically cooled thermal zones in the proposed design shall use system type 9 or 10 in the baseline building design.
  - f. If the baseline HVAC system type is 9 or 10, all spaces that are mechanically cooled in the proposed design shall be assigned to a separate baseline system determined by using the area and heating source of the mechanically cooled spaces.
  - g. Computer rooms in buildings with a total computer room peak cooling load >3,000,000 Btu/h or a total computer room peak cooling load >600,000 Btu/h where the baseline HVAC system type is 7 or 8 shall use System 11. All other computer rooms shall use System 3 or 4.
  - h. For hospitals, depending on building type, use System 5 or 7 in all climate zones.

**G3.1.1.1 Purchased Heat.** For systems using purchased hot water or steam, the heating source shall be modeled as purchased hot water or steam in both the proposed design and ~~base-line~~baseline building designs. Hot water or steam costs shall be based on actual utility rates, and on-site boilers, electric heat, and furnaces shall not be modeled in the baseline building design.

**G3.1.1.2 Purchased Chilled Water.** For systems using purchased chilled water, the cooling source shall be modeled as purchased chilled water in both the proposed design and baseline building designs. Purchased chilled water costs shall be based on actual utility rates, and on-site chillers and direct expansion equipment shall not be modeled in the baseline building design.

**G3.1.1.3 Baseline HVAC System Requirements for Systems Utilizing Purchased Chilled Water and/or Purchased Heat.** If the proposed ~~building~~ design uses purchased chilled water and/or purchased heat, the following modifications to the ~~B~~baseline HVAC Ssystem ~~T~~types in Table G3.1.1-4 shall be used:

**G3.1.1.3.1 Purchased Heat Only.** If the proposed ~~building~~ design uses purchased heat, but does not use purchased chilled water, then Tables G3.1.1-3 and G3.1.1-4 shall be used to select the ~~B~~baseline HVAC Ssystem ~~T~~type and purchased heat shall be substituted for the ~~H~~heating Ttype in Table G3.1.1-4. The same heating source shall be used in the ~~pro-posed~~proposed design and baseline building design.

**G3.1.1.3.2 Purchased Chilled Water Only.** If the ~~pro-posed building~~proposed design uses purchased chilled water, but does not use purchased heat, then Tables G3.1.1-3 and G3.1.1-4 shall be used to select the ~~B~~baseline HVAC Ssystem ~~T~~type, with the modifications listed below:

- a. Purchased chilled water shall be substituted for the ~~C~~cooling Ttypes in Table G3.1.1-4.
- b. System 1 and 2 shall be constant-volume fan-coil units with fossil fuel ~~boiler(s)~~boilers.
- c. System 3 and 4 shall be constant-volume single-zone air handlers with fossil

fuel ~~furnace(s)~~furnaces.

- d. System 7 shall be used in place of System 5.
- e. System 8 shall be used in place of System 6.

**G3.1.1.3.3 Purchased Chilled Water and Purchased Heat.** If the proposed ~~building~~ design uses purchased chilled water and purchased heat, then Tables G3.1.1-3 and G3.1.1-4 shall be used to select the ~~B~~baseline HVAC ~~S~~system ~~T~~type, with the following modifications:

- a. Purchased heat and purchased chilled water shall be substituted for the ~~H~~heating ~~T~~types and ~~C~~cooling ~~T~~types in Table G3.1.1-4.
- b. System 1 shall be constant-volume fan-coil units.
- c. System 3 shall be constant-volume single-zone air handlers.
- d. System 7 shall be used in place of System 5.

**G3.1.1.3.4 On-Site Distribution Pumps.** All on-site distribution pumps shall be modeled in both the ~~baseline and proposed designs~~design and base building design.

**G3.1.1.4 Modeling Building Envelope Infiltration.** The air leakage rate of the building envelope ( $I_{75Pa}$ ) at a pressure differential of 0.3 in. ~~H<sub>2</sub>O of water~~ shall be converted to appropriate units for the simulation program using one of the following formulas:

For methods describing ~~infiltration~~ air leakage as a function of floor area,

$$I_{FLR} = 0.112 \times I_{75Pa} \times S/A_{FLR}$$

For methods describing ~~infiltration~~ air leakage as a function of the area of above-grade walls that separate conditioned spaces and semiheated spaces from the exterior wall area,

$$~~I_{EW}~~ I_{AGW} = 0.112 \times I_{75Pa} \times S/A_{~~EW~~AGW}$$

When using the measured air leakage rate of the building envelope at a pressure differential of 0.3 in. ~~H<sub>2</sub>O of water~~ for the ~~pro-posed~~proposed design, the air leakage rate shall be calculated as follows:

$$I_{75Pa} = Q/S$$

where

$I_{75Pa}$  = air leakage rate of the building envelope ~~expressed in~~ (cfm/ft.<sup>2</sup>) at a fixed building pressure differential of 0.3 in. ~~H<sub>2</sub>O of water~~, or 1.57 psf

$Q$  = volume of air in cfm flowing through the ~~whole~~ building envelope when subjected to an ~~indoor/ outdoor~~ pressure differential of 0.3 in. ~~H<sub>2</sub>O of water~~, or 1.57 psf, in accordance with ASTM E 779

$S$  = total area of the building envelope air pressure boundary (~~expressed in~~ ft.<sup>2</sup>),

including the lowest floor, any below-grade walls or above-grade walls, and roof (or ceiling) (including windows, vertical fenestration and skylights), separating the interior conditioned space from the unconditioned environment measured

$I_{FLR}$  = ~~adjusted air leakage rate (expressed in cfm/ft.<sup>2</sup>) of the building envelope at a reference wind speed of 10 mph and the total gross floor area~~ adjusted air leakage rate of the building envelope (cfm/ft<sup>2</sup>) at a reference wind speed of 10 mph and relative to the gross floor area

$A_{FLR}$  = ~~total~~ gross floor area, ft.<sup>2</sup>

~~$I_{EW}$  = adjusted air leakage rate (expressed in cfm/ft.<sup>2</sup>) of the building envelope at a reference wind speed of 10 mph and the above ground exterior wall area~~

~~$A_{EW}$  = total above grade exterior wall area, ft.<sup>2</sup>~~

$I_{AGW}$  = adjusted air leakage rate of the building envelope (cfm/ft<sup>2</sup>) at a reference wind speed of 10 mph and relative to the area of the above-grade walls of the building envelope

$A_{AGW}$  = total area of above-grade walls of the building envelope, ft<sup>2</sup>

**Exception:** A multizone airflow model ~~alternate~~ alternative method to modeling building envelope ~~infiltration~~ air leakage may be used provided the following criteria are met:

1. ~~If~~ Where the calculations are made independently of the energy simulation program, the proposed method ~~must~~ shall comply with Section G2.5.
2. The method for converting the air ~~infiltration~~ leakage rate of the building envelope at 0.3 in. ~~H<sub>2</sub>O~~ of water, or 1.57 psf, to the appropriate units for the simulation program is fully documented and submitted to the rating authority for approval.

**G3.1.2 General Baseline HVAC System Requirements.** HVAC systems in the baseline building design shall conform with the general provisions in this section.

**G3.1.2.1 Equipment Efficiencies.** All HVAC equipment in the baseline building design shall be modeled at the minimum efficiency levels, both part load and full load, in accordance with Tables G.3.5.1 through G.3.5.6. Chillers shall use Path A efficiencies as shown in Table 6.8.1-3. Where efficiency ratings include supply fan energy, the efficiency rating shall be adjusted to remove the supply fan energy. For Baseline HVAC Systems 1, 2, 3, 4, 5, and 6, calculate the minimum COP<sub>nfcooling</sub> and COP<sub>nfheating</sub> using the equation for the applicable performance rating as indicated in Tables 6.8.1-1 through 6.8.1-4.

Where a full- and part-load efficiency rating is provided in Tables 6.8.1-1 through 6.8.1-4, the full-load equation below shall be used:

$$COP_{nfcooling} = 7.84E-8 \times EER \times Q + 0.338 \times EER$$

$$COP_{nfcooling} = -0.0076 \times SEER^2 + 0.3796 \times SEER$$

$$COP_{nfheating} = 1.48E-7 \times COP_{47} \times Q + 1.062 \times COP_{47}$$

(applies to heat-pump heating efficiency only)  $COP_{nfheating} = -0.0296 \times HSPF^2 +$

$0.7134 \times HSPF$

where  $COP_{nfcooling}$  and  $COP_{nfheating}$  are the packaged HVAC equipment cooling and heating energy efficiency, respectively, to be used in the baseline building design, which excludes supply fan power, and  $Q$  is the AHRI-rated cooling capacity in Btu/h. EER, SEER, COP, and HSPF shall be at AHRI test conditions. Fan energy shall be modeled separately according to Section G3.1.2.409.

**G3.1.2.2 Equipment Capacities.** The equipment capacities (i.e. system coil capacities) for the baseline building design shall be based on sizing runs for each orientation (per Table G3.1, No. 5a) and shall be oversized by 15% for cooling and 25% for heating, *i.e.*, the ratio between the capacities used in the annual simulations and the capacities determined by the sizing runs shall be 1.15 for cooling and 1.25 for ~~heat~~heating.

**G3.1.2.2.1 Sizing Runs.** Weather conditions used in sizing runs to determine baseline equipment capacities shall be based either on hourly historical weather files containing typical peak conditions or on design days developed using 99.6% heating design temperatures and 1% dry-bulb and 1% wet-bulb cooling design temperatures.

**G3.1.2.3 Unmet Loads.** Unmet load hours for the ~~pro-posed~~proposed design or baseline building designs shall not exceed 300 (of the 8760 hours simulated). Alternatively, unmet load hours exceeding these limits ~~may~~shall be permitted to be accepted ~~at the discretion~~upon approval of the rating authority provided that sufficient justification is given indicating that the accuracy of the simulation is not significantly compromised by these unmet loads.

**G3.1.2.4 Fan System Operation.** Supply and return fans shall operate continuously whenever spaces are occupied and shall be cycled to meet heating and cooling loads during unoccupied hours. ~~If the supply fan is modeled as cycling and fan energy is included in the energy efficiency rating of the equipment, fan energy shall not be modeled explicitly. Supply~~ Supply, return, and/or exhaust fans will remain on during occupied and unoccupied hours in spaces that have health and safety mandated minimum ventilation requirements during unoccupied hours.

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**Exception to G3.1.2.4**

For Systems 6 and 8, only the terminal-unit fan and reheat coil shall be energized to meet heating set point during unoccupied hours.

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**G3.1.2.5 Ventilation.** Minimum ventilation system out-door air intake flow shall be the same for the proposed design and baseline building designs.

**Exceptions to G3.1.2.5:**

1. When modeling demand-control ventilation in the proposed design in systems with outdoor air capacity less than or equal to 3,000 cfm serving areas with an average design capacity of 100 people per 1,000 ft<sup>2</sup> or less.

2. When designing systems in accordance with Standard 62.1, Section 6.2, “Ventilation Rate Procedure,” reduced ventilation airflow rates may be calculated for each HVAC zone in the proposed design with a zone air distribution effectiveness ( $E_z$ ) > 1.0 as defined by ~~Table 6-2 in Standard 62.1, in Table 6-2.~~ Baseline ventilation airflow rates in those zones shall be calculated using the proposed design Ventilation Rate Procedure calculation with the following change only. Zone air distribution effectiveness shall be changed to ( $E_z$ ) = 1.0 in each zone having a zone air distribution effectiveness ( $E_z$ ) > 1.0. Proposed design and baseline building design Ventilation Rate Procedure calculations, as described in Standard 62.1, shall be submitted to the rating authority to claim credit for this exception.
  
3. ~~If~~Where the minimum outdoor air intake flow in the proposed design is provided in excess of the amount required by the building code or the rating authority, ~~or building official~~ then the baseline building design shall be modeled to reflect the greater of that required by either the rating authority or the building official code and will be less than the proposed design.
  
4. For baseline systems serving only laboratory spaces that are prohibited from recirculating return air by code or accreditation standards, the baseline system shall be modeled as 100% out- door air.

**G3.1.2.6 Economizers.** ~~Outdoor a~~Air economizers shall not be included in baseline HVAC Systems 1, 2, 9, and 10. ~~Outdoor a~~Air economizers shall be included in baseline HVAC Systems 3 through 8, and 11, 12, and 13 based on climate as specified in Table G3.1.2.76.

**Table G3.1.2.6 Climate Conditions under which Economizers are Included for Comfort Cooling for Baseline Systems 3 through 8 and 11, 12, and 13**

<u>Climate Zone</u>	<u>Conditions</u>
<u>0A, 0B, 1A, 1B, 2A, 3A, 4A</u>	<u>NR</u>
<u>Others</u>	<u>Economizer Included</u>

Note: NR means that there is no conditioned building floor area for which economizers are included for the type of zone and climate.

**Exceptions to G3.1.2.6:** Economizers shall not be included for systems meeting one or more of the exceptions listed below.

1. Systems that include gas-phase air cleaning to meet the requirements of Section 6.1.2 in Standard 62.1. This exception shall be used only if the system in the proposed design does not match the building design.
  
2. Where the use of outdoor air for cooling will affect supermarket open refrigerated casework systems. This exception shall only be used if the system in the proposed design does not use an economizer. If the exception is used, an economizer shall not be included in the baseline building design.
  
3. Systems that serve computer rooms complying with Section G3.1.2.76.1.



**TABLE G3.1.2.7 CLIMATE CONDITIONS UNDER WHICH ECONOMIZERS ARE INCLUDED FOR COMFORT COOLING FOR BASELINE SYSTEMS 3 THROUGH 8 AND 11, 12, AND 13**

Climate Zone	Conditions
1a, 1b, 2a, 3a, 4a	NR
Others	Economizer Included

Note: NR means that there is no conditioned building floor area for which economizers are included for the type of zone and climate.

**TABLE G3.1.2.8 ECONOMIZER HIGH-LIMIT SHUTOFF**

Climate Zone	High-Limit Shutoff
1b, 2b, 3b, 3c, 4b, 4e, 5b, 5c, 6b, 7, 8	75°F
2a, 3a, 4a	28 Btu/lb
5a, 6a, 7a	70°F
Others	65°F

**G3.1.2.76.1 Computer Room Economizers.** Systems that serve computer rooms that are HVAC System 3 or 4 shall not have an economizer. Systems that serve computer rooms that are HVAC System 11 shall include an integrated ~~water-side~~fluid economizer meeting the requirements of Section 6.5.1.2 in the baseline building design. ~~If the simulation software cannot model an integrated water-side economizer, then an air-side economizer shall be modeled.~~

**G3.1.2.87 Economizer High-Limit Shutoff.** The high- limit shutoff shall be a dry-bulb fixed switch with setpoint temperatures in accordance with the values in Table G3.1.2.87.

Table G3.1.2.7 Economizer High-Limit Shutoff Temperature

Climate Zone	Dry-Bulb Temperature Set Point
2B, 3B, 3C, 4B, 4C, 5B, 5C, 6B, 7, 8	75°F
5A, 6A	70°F

**G3.1.2.98 Design Airflow Rates**

**G3.1.2.98.1 Baseline All System Types Except System Types 9 and 10.** System design supply airflow rates for the baseline building design shall be based on a supply-air-to- room-air temperature set-point difference of 20°F or the minimum out-door airflow rate, or the airflow rate required to comply with applicable codes or accreditation standards, whichever is greater. For systems with multiple zone thermostat set-points, use the design set point that will result in the lowest supply air cooling set point or highest supply air heating set point. If return or relief fans are

specified in the proposed design, the baseline building design shall also be modeled with fans serving the same functions and sized for the ~~base-line~~ baseline system supply fan air quantity less the minimum outdoor air, or 90% of the supply fan air quantity, whichever is larger.

**Exceptions to G3.1.2.8.1:**

1. For systems serving laboratory spaces, ~~use~~ airflow rate shall be based on a supply-air-to-room-air temperature ~~set-point~~ set-point difference of 17°F or the required ventilation air or makeup air, whichever is greater.
2. If the proposed design HVAC ~~design~~ system airflow rate based on latent loads is greater than the design airflow rate based on sensible loads, then the same supply-air-to-room-air humidity ratio difference (gr/lb) used to calculate the proposed design airflow shall be used to calculate design airflow rates for the baseline building design.

**G3.1.2.98.2 Baseline System Types 9 and 10.** System design supply airflow rates for the baseline building design shall be based on the temperature difference between a supply air temperature setpoint of 105°F and the design space heating temperature setpoint, the minimum outdoor airflow rate, or the airflow rate required to comply with applicable codes or accreditation standards, whichever is greater. If the ~~Proposed Building Design~~ proposed design includes a fan(s) ~~or fans~~ sized and controlled to provide non-mechanical cooling, the baseline building design shall include a separate fan to provide non-mechanical cooling, sized and controlled the same as the proposed ~~building~~ design.

**G3.1.2.109 System Fan Power.** System fan electrical power for supply, return, exhaust, and relief (excluding power to fan-powered VAV boxes) shall be calculated using the following formulas:

For Systems 1 and 2,

$$P_{fan} = CFMs \times 0.3$$

For Systems 3 through 8, and 11, 12, and 13,

$$P_{fan} = bhp \times 746 / \text{fan motor efficiency}$$

For Systems 9 and 10 (supply fan),

$$P_{fan} = CFMs \times 0.3$$

For Systems 9 and 10 (nonmechanical cooling fan if required by Section G3.1.2.98.2)

$$P_{fan} = CFM_{nmc} \times 0.054$$

where

- $P_{fan}$  = electric power to fan motor (watts)
- .. motor from Table G3.1.2.10
- fan motor efficiency = the efficiency from Table 10.8-2 for the next motor size greater than the bhp using a totally enclosed fan cooled motor at 1800 rpm.
- CFMs = the baseline system maximum design supply fan airflow rate in cfm
- CFM<sub>nmc</sub> = the baseline non-mechanical cooling fan airflow in cfm

- $\frac{P_{fan}}{bhp}$  = electric power to fan motor, W
- $\frac{bhp}{\text{fan motor efficiency}}$  = brake horsepower of baseline fan motor from Table G3.1.2.9
- $\frac{\text{fan motor efficiency}}{CFMs}$  = the efficiency from Table G3.9.1 for the next motor size greater than the bhp using a totally enclosed fan cooled motor at 1800 rpm
- $\frac{CFMs}{CFM_{nmc}}$  = the baseline system maximum design supply fan airflow rate, cfm
- $\frac{CFM_{nmc}}{CFM_{nmc}}$  = the baseline non-mechanical cooling fan airflow, cfm

**Table G3.1.2.9 Baseline Fan Brake Horsepower**

Baseline Fan Motor Brake Horsepower		
Constant-Volume Systems 3 to 4	Variable-Volume Systems 5 to 8	Variable-Volume System 11
$CFM_s \times 0.00094 + A$	$CFM_s \times 0.0013 + A$	$CFM_s \times 0.00062 + A$

**Notes:**

1. Where A is calculated according to Section 6.5.3.1.1 using the pressure-drop adjustment from the proposed design and the design flow rate of the baseline building system.
2. Do not include pressure-drop adjustments for evaporative coolers or heat recovery devices that are not required in the baseline building system by Section G3.1.2.10.

**G3.1.2.9.1** The calculated system fan power shall be distributed to supply, return, exhaust, and relief fans in the same proportion as the proposed design.

**G3.1.2.10 Exhaust Air Energy Recovery.** Individual fan systems that have both a design supply air capacity of 5000 cfm or greater and have a minimum design outdoor air supply of 70% or greater shall have an energy recovery system with at least 50% enthalpy recovery ratio. Fifty percent enthalpy recovery ratio shall mean a change in the enthalpy of the outdoor air supply equal to 50% of the difference between the outdoor air and return air at design conditions. Provision shall be made to bypass or control the heat recovery system to permit air economizer operation, where applicable.

**Exceptions to G3.1.2.10:** If any of these exceptions apply, exhaust air energy recovery shall not be included in the *baseline building design*.

- a. Systems serving spaces that are not cooled and that are heated to less than 60°F.
- b. Systems exhausting toxic, flammable, or corrosive fumes or paint or dust. This exception shall only be used if exhaust air energy recovery is not used in the *proposed design*.
- c. Commercial kitchen hoods (grease) classified as Type 1 by NFPA 96. This exception shall only be used if exhaust air energy recovery is not used in the *proposed design*.
- d. Heating systems in climate zones ~~40~~ through 3.
- e. Cooling systems in climate zones 3c, 4c, 5b, 5c, 6b, 7, and 8.
- f. Where the largest exhaust source is less than 75% of the design *outdoor air* flow. This exception shall only be used if exhaust air energy recovery is not used in the *proposed design*.
- g. Systems requiring dehumidification that employ energy recovery in series with the cooling coil. This exception shall only be used if exhaust air energy recovery and series-style energy recovery coils are not used in the *proposed design*.

~~**G3.1.2.10.1** The calculated system fan power shall be distributed to supply, return, exhaust, and relief fans in the same proportion as the proposed design.~~

~~**G3.1.2.11 Exhaust Air Energy Recovery.** Individual fan systems that have both a design supply air capacity of 5000 cfm or greater and have a minimum design outdoor air supply of 70% or greater shall have an energy recovery system with at least 50% recovery effectiveness. Fifty percent energy recovery effectiveness shall mean a change in the enthalpy of the *outdoor air* supply equal to 50% of the difference between the *outdoor air* and return air at design conditions. Provision shall be made to bypass or control the heat recovery system to permit air economizer operation, where applicable.~~

~~**Exceptions:** If any of these exceptions apply, exhaust air energy recovery shall not be included in the *baseline building design*.~~

- ~~a. Systems serving spaces that are not cooled and that are heated to less than 60°F (15.5°C).~~
- ~~b. Systems exhausting toxic, flammable, or corrosive fumes or paint or dust. This exception shall only be used if exhaust air energy recovery is not used in the *proposed design*.~~
- ~~c. Commercial kitchen hoods (grease) classified as Type 1 by NFPA 96. This~~

~~exception shall only be used if exhaust air energy recovery is not used in the proposed design.~~

- ~~d. Heating systems in Climate Zones 1 through 3.~~
- ~~e. Cooling systems in Climate Zones 3c, 4c, 5b, 5c, 6b, 7, and 8.~~
- ~~f. Where the largest exhaust source is less than 75% of the design outdoor airflow. This exception shall only be used if exhaust air energy recovery is not used in the proposed design.~~
- ~~g. Systems requiring dehumidification that employ energy recovery in series with the cooling coil. This exception shall only be used if exhaust air energy recovery and series style energy recovery coils are not used in the proposed design.~~

**TABLE G3.1.2.10 BASELINE FAN BRAKE HORSEPOWER**

<b>Baseline Fan Motor Brake Horsepower</b>		
<b>Constant Volume Systems 3-4</b>	<b>Variable Volume Systems 5-8</b>	<b>Variable Volume System 11</b>
$CFM_x \times 0.00094 + A$	$CFM_x \times 0.0013 + A$	$CFM_x \times 0.00062 + A$

**Notes:**

1. Where A is calculated according to Section 6.5.3.1.1 using the pressure drop adjustment from the proposed building design and the design flow rate of the baseline building system.
2. Do not include pressure drop adjustments for evaporative coolers or heat recovery devices that are not required in the baseline building system by Section G3.1.2.10.

**TABLE G3.1.3.7 TYPE AND NUMBER OF CHILLERS**

<b>Building Peak Cooling Load</b>	<b>Number and Type of Chiller(s)</b>
≤300 tons	1 water-cooled screw chiller
>300 tons, <600 tons	2 water-cooled screw chillers sized equally
≥600 tons	2 water-cooled centrifugal chillers minimum with chillers added so that no chiller is larger than 800 tons, all sized equally

**G3.1.3 System-Specific Baseline HVAC System Requirements.** Baseline HVAC systems shall conform with provisions in this section, where applicable, to the specified baseline system types as indicated in section headings.

**G3.1.3.1 Heat Pumps (Systems 2 and 4).** Electric air-source heat pumps shall be modeled with electric auxiliary heat and an outdoor air thermostat. The systems shall be controlled to energize auxiliary heat only when the ~~out-door~~outdoor air temperature is less than 40°F. The air-source heat pump shall be modeled to continue to operate while auxiliary heat is energized.

**G3.1.3.2 Type and Number of Boilers (Systems 1, 5, and 7).** The boiler plant shall use the same fuel as the ~~pro-posed~~proposed design and shall be natural draft, except as noted in Section G3.1.1.1. The baseline building design boiler plant shall be modeled as having a single boiler if the baseline building design plant serves a conditioned floor area of 15,000 ft.<sup>2</sup> or less and as having two equally sized boilers for plants serving more than 15,000 ft.<sup>2</sup>. Boilers shall be staged as required by the load.

**G3.1.3.3 Hot-Water Supply Temperature (Systems 1, 5, 7, and 12).** Hot-water design supply temperature shall be modeled as 180°F and design return temperature as 130°F.

**G3.1.3.4 Hot-Water Supply Temperature Reset (Systems 1, 5, 7, 11, and 12).** Hot-water supply temperature shall be reset based on outdoor dry-bulb temperature using the following schedule: 180°F at 20°F and below, 150°F at 50°F and above, and ramped linearly between 180°F and 150°F at temperatures between 20°F and 50°F.

**Exception to G3.1.3.4**  
Systems served by purchased heat.

**G3.1.3.5 Hot-Water Pumps.** The baseline building design hot-water pump power shall be 19 W/gpm. The pumping system shall be modeled as primary-only with continuous variable flow and a minimum of 25% of the design flow rate. Hot-water systems serving 120,000 ft.<sup>2</sup> or more shall be modeled with variable-speed drives, and systems serving less than 120,000 ft.<sup>2</sup> shall be modeled as riding the pump curve.

**Exception to G3.1.3.5:** The pump power for systems using purchased heat shall be 14 W/gpm.

**G3.1.3.6 Piping Losses (Systems 1, 5, 7, 8, and 11).** Piping losses shall not be modeled in either the proposed design or baseline building designs for hot-water, chilled-water, or steam piping.

**G3.1.3.7 Type and Number of Chillers (Systems 7, 8, 11, 12, and 13).** Electric chillers shall be used in the baseline building design regardless of the cooling energy source, e.g. direct fired absorption or absorption from purchased steam. The baseline building design's chiller plant shall be modeled with chillers having the number and type as indicated in Table

G3.1.3.7 as a function of building peak cooling load.

**Table G3.1.3.7 Type and Number of Chillers**

<u>Building Peak Cooling Load</u>	<u>Number and Type of Chillers</u>
<u>≤300 tons</u>	<u>1 water-cooled screw chiller</u>
<u>&gt;300 tons, &lt;600 tons</u>	<u>2 water-cooled screw chillers sized equally</u>
<u>≥600 tons</u>	<u>2 water-cooled centrifugal chillers minimum with chillers added so that no chiller is larger than 800 tons, all sized equally</u>

**Exception:** Systems using purchased chilled water shall be modeled in accordance with Section G3.1.1.3.

**G3.1.3.8 Chilled-Water Design Supply Temperature (Systems 7, 8, 11, 12, and 13).** Chilled-water design supply temperature shall be modeled at 44°F and return water temperature at 56°F.

**G3.1.3.9 Chilled-Water Supply Temperature Reset (Systems 7, 8, 11, 12, and 13).** Chilled-water supply temperature shall be reset based on outdoor dry-bulb temperature using the following schedule: 44°F at 80°F and above, 54°F at 60°F and below, and ramped linearly between 44°F and 54°F at temperatures between 80°F and 60°F.

**Exception to G3.1.3.9:**

1. If the baseline chilled-water system serves a computer room HVAC system, the supply chilled- water temperature shall be reset higher based on the HVAC system requiring the most cooling; i.e., the chilled-water setpoint is reset higher until one cooling-coil valve is nearly wide open. The maximum reset chilled-water supply temperature shall be 54°F.
2. Systems served by purchased chilled water.

~~**G3.1.3.10 Chilled-Water Pumps (Systems 7, 8, and 11).** The baseline building design pump power shall be 22 W/ gpm. Chilled water systems with a cooling capacity of 300 tons or more shall be modeled as primary/secondary systems with variable-speed drives on the secondary pumping loop. Chilled water pumps in systems serving less than 300 tons cooling capacity shall be modeled as a primary/secondary systems with secondary pump riding the pump curve. For computer room systems using System 11 with an integrated water side economizer, the baseline building design primary chilled water pump power shall be increased 5 W/gpm for flow associated with the water side economizer.~~

~~**Exception:** The pump power for systems using purchased chilled water shall be 16 W/gpm.~~

Chilled-water systems shall be modeled as primary/secondary systems with constant-flow primary loop and variable-flow secondary loop. For systems with cooling capacity of 300 tons or more, the secondary pump shall be modeled with variable-speed drives and a minimum



flow of 25% of the design flow rate. For systems with less than 300 tons cooling capacity, the secondary pump shall be modeled as riding the pump curve. The baseline building constant-volume primary pump power shall be modeled as 9 W/gpm, and the variable-flow secondary pump power shall be modeled as 210 W/gpm at design conditions. For computer room systems using System 11 with an integrated fluid economizer, the baseline building design primary chilled-water pump power shall be increased by 3 W/gpm for flow associated with the fluid economizer.

**Exception to G3.1.3.10**

For systems using purchased chilled water, the building distribution pump shall be modeled with variable-speed drive, a minimum flow of 25% of the design flow rate, and a pump power of 16 W/gpm.

**G3.1.3.11 Heat Rejection (Systems 7, 8, 9, 12, and 13).** The heat rejection device shall be an axial fan open circuit cooling tower with variable-speed fan control and shall ~~meet the performance requirements of~~ have an efficiency of 38.2 gpm/hp at the conditions specified in Table 6.8.1-7. Condenser water design supply temperature shall be calculated using the cooling tower approach to the 0.4% evaporation design wet-bulb temperature as generated by the formula below, with a design temperature rise of ~~40~~5.6°F.

$$\text{Approach } 10^{\circ}\text{F Range} = 25.72 - (0.24 \times \text{WB})$$

where WB is the 0.4% evaporation design wet-bulb temperature in °F; valid for wet bulbs from 55°F to 90°F. The tower shall be controlled to maintain a ~~70~~70°F leaving water temperature, where weather permits, per Table G3.1.3.11, floating up to the design leaving water temperature at design conditions for the cooling tower. The baseline building design condenser-water pump power shall be 19 W/gpm and modeled as constant volume. For computer room systems using System 11 with an integrated water-side economizer, the baseline building design condenser water-pump power shall be increased ~~5~~by 3 W/gpm for flow associated with the water-side economizer. Each chiller shall be modeled with separate condenser water and chilled-water pumps interlocked to operate with the associated chiller.

**Table G3.1.3.11 Heat-Rejection Leaving Water Temperature**

<u>Climate Zone</u>	<u>Leaving Water Temperature</u>
<u>5B, 5C, 6B, 8</u>	<u>65°F</u>
<u>0B, 1B, 2B, 3B, 3C, 4B, 4C, 5A, 6A, 7</u>	<u>70°F</u>
<u>3A, 4A</u>	<u>75°F</u>
<u>0A, 1A, 2A</u>	<u>80°F</u>

**G3.1.3.12 Supply Air Temperature Reset (Systems 5 through 8).** The air temperature for cooling shall be reset higher by 5°F under the minimum cooling load conditions.

**G3.1.3.13 VAV Minimum Flow Setpoints (Systems 5 and 7).** Minimum volume setpoints for VAV reheat boxes shall be 30% of zone peak airflow, the minimum outdoor air-flow rate or the airflow rate required to comply with applicable codes or accreditation standards, whichever is larger.

**Exception to G3.1.3.13:** Systems serving laboratory spaces shall reduce the exhaust and makeup air volume during unoccupied periods to the largest of 50% of zone peak airflow, the minimum outdoor airflow rate, or the airflow rate required to comply with applicable codes or accreditation standards.

**G3.1.3.14 Fan Power (Systems 6 and 8).** Fans in parallel VAV fan-powered boxes shall run as the first stage of heating before the reheat coil is energized. Fans in parallel VAV fan-powered boxes shall be sized for 50% of the peak design primary air (from the VAV air-handling unit) flow rate and shall be modeled with 0.35 W/cfm fan power. Minimum volume setpoints for fan-powered boxes shall be equal to 30% of peak design primary airflow rate or the rate required to meet the minimum outdoor air ventilation requirement, whichever is larger. The supply air temperature setpoint shall be constant at the design condition.

**G3.1.3.15 VAV Fan Part-Load Performance (Systems 5 through 8 and 11).** VAV system supply fans shall have variable-speed drives, and their part-load performance characteristics shall be modeled using either Method 1 or Method 2 specified in Table G3.1.3.15.

**Table G3.1.3.15 Part-Load Performance for VAV Fan Systems**

<b>Method 1—Part-Load Fan Power Data</b>	
<b>Fan Part-Load Ratio</b>	<b>Fraction of Full-Load Power</b>
<u>0.00</u>	<u>0.00</u>
<u>0.10</u>	<u>0.03</u>
<u>0.20</u>	<u>0.07</u>
<u>0.30</u>	<u>0.13</u>
<u>0.40</u>	<u>0.21</u>
<u>0.50</u>	<u>0.30</u>
<u>0.60</u>	<u>0.41</u>
<u>0.70</u>	<u>0.54</u>
<u>0.80</u>	<u>0.68</u>
<u>0.90</u>	<u>0.83</u>
<u>1.00</u>	<u>1.00</u>
<b>Method 2—Part-Load Fan Power Equation</b>	
$P_{fan} = 0.0013 + 0.1470 \times PLR_{fan} + 0.9506 \times (PLR_{fan})^2 - 0.0998 \times (PLR_{fan})^3$	
where	
$P_{fan}$ = fraction of full-load fan power and	
$PLR_{fan}$ = fan part-load ratio (current cfm/design cfm).	

**TABLE G3.1.3.15 PART-LOAD PERFORMANCE FOR VAV FAN SYSTEMS**

<b>Method 1 — Part Load Fan Power Data</b>	
<b>Fan Part Load Ratio</b>	<b>Fraction of Full Load Power</b>
0.00	0.00
0.10	0.03
0.20	0.07
0.30	0.13
0.40	0.21
0.50	0.30
0.60	0.41
0.70	0.54
0.80	0.68
0.90	0.83
1.00	1.00

<b>Method 2 — Part Load Fan Power Equation</b>	
$P_{fan} = 0.0013 + 0.1470 \times PLR_{fan} + 0.9506 \times (PLR_{fan})^2 - 0.0998 \times (PLR_{fan})^3$	
where	
$P_{fan}$ = fraction of full load fan power and	
$PLR_{fan}$ = fan part load ratio (current L/s/design L/s)	

**G3.1.3.16 Computer Room Equipment Schedules.** Computer room equipment schedules shall be modeled as a constant fraction of the peak design load per the following monthly schedule:

- Month 1, 5, 9—25%
- Month 2, 6, 10—50%
- Month 3, 7, 11—75%
- Month 4, 8, 12—100%

**G3.1.3.17 System 11 Supply Air Temperature and Fan Control.** Minimum volume setpoint shall be 50% of the maximum design airflow rate, the minimum ventilation outdoor airflow rate, or the airflow rate required to comply with applicable codes or accreditation standards, whichever is larger.

Fan volume shall be reset from 100% airflow at 100% cooling load to minimum airflow at 50% cooling load. Supply air temperature setpoint shall be reset from minimum supply air temperature at 50% cooling load and above to space temperature at 0% cooling load. In heating mode supply air temperature shall be modulated to maintain space temperature, and fan volume shall be fixed at the minimum airflow.

**G3.1.3.18 Dehumidification (Systems 3 through 8 and 11, 12, and 13).** If the proposed design HVAC system(s) have humidistatic controls, then the baseline building design shall use mechanical cooling for dehumidification and shall have reheat available to avoid overcooling. When the baseline building design HVAC system does not comply with any of the exceptions in Section 6.5.2.3, then only 25% of the system reheat energy shall be included in the baseline building performance. The reheat type shall be the same as the system heating type.

**G3.1.3.19 Preheat Coils (Systems 5 through 8).** The baseline system shall be modeled with a preheat coil controlled to a fixed setpoint 20°F (41°C) less than the design room heating temperature setpoint.

**TABLE G3.4.4  
BUILDING ENVELOPE REQUIREMENTS FOR CLIMATE ZONE 4 (A,B,C)**

		Nonresidential		Residential		Semiheated	
		Assembly	Insulation Min.	Assembly	Insulation Min.	Assembly	Insulation Min.
Opaque Elements		Maximum	R-Value	Maximum	R-Value	Maximum	R-Value
<i>Roofs</i>							
	Insulation Entirely above Deck	U-0.063	R-15.0 ei	U-0.063	R-15.0 ei	U-0.218	R-3.8 ei
	Metal Building	U-0.065	R-19.0	U-0.065	R-19.0	U-0.097	R-10.0
	Attic and Other	U-0.034	R-30.0	U-0.027	R-38.0	U-0.081	R-13.0
<i>Walls, Above Grade</i>							
	Mass	U-0.151 <sup>a</sup>	R-5.7 ei <sup>a</sup>	U-0.104	R-9.5 ei	U-0.580	NR
	Metal Building	U-0.113	R-13.0	U-0.113	R-13.0	U-0.134	R-10.0

	Steel Framed	U-0.124	R-13.0	U-0.064	R-13.0 + R-7.5 ei	U-0.124	R-13.0
	Wood Framed and Other	U-0.089	R-13.0	U-0.089	R-13.0	U-0.089	R-13.0
<i>Wall, Below Grade</i>							
	Below Grade Wall	C-1.140	NR	C-1.140	NR	C-1.140	NR
<i>Floors</i>							
	Mass	U-0.107	R-6.3 ei	U-0.087	R-8.3 ei	U-0.322	NR
	Steel Joist	U-0.052	R-19.0	U-0.038	R-30.0	U-0.069	R-13.0
	Wood Framed and Other	U-0.051	R-19.0	U-0.033	R-30.0	U-0.066	R-13.0
<i>Slab-On-Grade Floors</i>							
	Unheated	F-0.730	NR	F-0.730	NR	F-0.730	NR
	Heated	F-0.950	R-7.5 for 24 in.	F-0.840	R-10 for 36 in.	F-1.020	R-7.5 for 12 in.
<i>Opaque Doors</i>							
	Swinging	U-0.700		U-0.700		U-0.700	
	Non-Swinging	U-1.450		U-0.500		U-1.450	
		<b>Assembly</b>	<b>Assembly Max.</b>	<b>Assembly</b>	<b>Assembly Max.</b>	<b>Assembly</b>	<b>Assembly Max.</b>
		<b>Max. U</b>	<b>SHGC (All</b>	<b>Max. U</b>	<b>SHGC (All</b>	<b>Max. U</b>	<b>SHGC (All</b>
		<b>(Fixed/</b>	<b>Orientations/</b>	<b>(Fixed/</b>	<b>Orientations/</b>	<b>(Fixed/</b>	<b>Orientations/</b>
	<b>Fenestration</b>	<b>Operable)</b>	<b>North-</b>	<b>Operable)</b>	<b>North-Oriented)</b>	<b>Operable)</b>	<b>North-</b>
			<b>Oriented)</b>				<b>Oriented)</b>
<i>Vertical Glazing, % of Wall</i>							
	0-10.0%	U <sub>fixed</sub> <sup>-0.57</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>fixed</sub> <sup>-0.57</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>fixed</sub> <sup>-1.22</sup>	SHGC <sub>all</sub> <sup>NR</sup>
		U <sub>oper</sub> <sup>-0.67</sup>	SHGC <sub>north</sub> <sup>-0.49</sup>	U <sub>oper</sub> <sup>-0.67</sup>	SHGC <sub>north</sub> <sup>-0.49</sup>	U <sub>oper</sub> <sup>-1.27</sup>	SHGC <sub>north</sub> <sup>NR</sup>
	10.1-20.0%	U <sub>fixed</sub> <sup>-0.57</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>fixed</sub> <sup>-0.57</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>fixed</sub> <sup>-1.22</sup>	SHGC <sub>all</sub> <sup>NR</sup>
		U <sub>oper</sub> <sup>-0.67</sup>	SHGC <sub>north</sub> <sup>-0.49</sup>	U <sub>oper</sub> <sup>-0.67</sup>	SHGC <sub>north</sub> <sup>-0.49</sup>	U <sub>oper</sub> <sup>-1.27</sup>	SHGC <sub>north</sub> <sup>NR</sup>
	20.1-30.0%	U <sub>fixed</sub> <sup>-0.57</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>fixed</sub> <sup>-0.57</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>fixed</sub> <sup>-1.22</sup>	SHGC <sub>all</sub> <sup>NR</sup>
		U <sub>oper</sub> <sup>-0.67</sup>	SHGC <sub>north</sub> <sup>-0.49</sup>	U <sub>oper</sub> <sup>-0.67</sup>	SHGC <sub>north</sub> <sup>-0.49</sup>	U <sub>oper</sub> <sup>-1.27</sup>	SHGC <sub>north</sub> <sup>NR</sup>
	30.1-40.0%	U <sub>fixed</sub> <sup>-0.57</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>fixed</sub> <sup>-0.57</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>fixed</sub> <sup>-1.22</sup>	SHGC <sub>all</sub> <sup>NR</sup>
		U <sub>oper</sub> <sup>-0.67</sup>	SHGC <sub>north</sub> <sup>-0.49</sup>	U <sub>oper</sub> <sup>-0.67</sup>	SHGC <sub>north</sub> <sup>-0.49</sup>	U <sub>oper</sub> <sup>-1.27</sup>	SHGC <sub>north</sub> <sup>NR</sup>
	40.1% +	U <sub>fixed</sub> <sup>-0.46</sup>	SHGC <sub>all</sub> <sup>-0.25</sup>	U <sub>fixed</sub> <sup>-0.46</sup>	SHGC <sub>all</sub> <sup>-0.25</sup>	U <sub>fixed</sub> <sup>0.98</sup>	SHGC <sub>all</sub> <sup>NR</sup>
		U <sub>oper</sub> <sup>-0.47</sup>	SHGC <sub>north</sub> <sup>-0.36</sup>	U <sub>oper</sub> <sup>-0.47</sup>	SHGC <sub>north</sub> <sup>-0.36</sup>	U <sub>oper</sub> <sup>-1.02</sup>	SHGC <sub>north</sub> <sup>NR</sup>
<i>Skylight with Curb, Glass, % of Roof</i>							
	0-2.0%	U <sub>all</sub> <sup>-1.17</sup>	SHGC <sub>all</sub> <sup>-0.49</sup>	U <sub>all</sub> <sup>-0.98</sup>	SHGC <sub>all</sub> <sup>-0.36</sup>	U <sub>all</sub> <sup>-1.98</sup>	SHGC <sub>all</sub> <sup>NR</sup>
	2.1% +	U <sub>all</sub> <sup>-1.17</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>all</sub> <sup>-0.98</sup>	SHGC <sub>all</sub> <sup>-0.19</sup>	U <sub>all</sub> <sup>-1.98</sup>	SHGC <sub>all</sub> <sup>NR</sup>
<i>Skylight with Curb, Plastic, % of Roof</i>							
	0-2.0%	U <sub>all</sub> <sup>-1.30</sup>	SHGC <sub>all</sub> <sup>-0.65</sup>	U <sub>all</sub> <sup>-1.30</sup>	SHGC <sub>all</sub> <sup>-0.62</sup>	U <sub>all</sub> <sup>-1.90</sup>	SHGC <sub>all</sub> <sup>NR</sup>
	2.1% +	U <sub>all</sub> <sup>-1.30</sup>	SHGC <sub>all</sub> <sup>-0.34</sup>	U <sub>all</sub> <sup>-1.30</sup>	SHGC <sub>all</sub> <sup>-0.27</sup>	U <sub>all</sub> <sup>-1.90</sup>	SHGC <sub>all</sub> <sup>NR</sup>
<i>Skylight without Curb, All, % of Roof</i>							
	0-2.0%	U <sub>all</sub> <sup>-0.69</sup>	SHGC <sub>all</sub> <sup>-0.49</sup>	U <sub>all</sub> <sup>-0.58</sup>	SHGC <sub>all</sub> <sup>-0.36</sup>	U <sub>all</sub> <sup>-1.36</sup>	SHGC <sub>all</sub> <sup>NR</sup>
	2.1% +	U <sub>all</sub> <sup>-0.69</sup>	SHGC <sub>all</sub> <sup>-0.39</sup>	U <sub>all</sub> <sup>-0.58</sup>	SHGC <sub>all</sub> <sup>-0.19</sup>	U <sub>all</sub> <sup>-1.36</sup>	SHGC <sub>all</sub> <sup>NR</sup>
a	Exception to A3.1.3.1 applies.						

Table G3.4-4 Performance Rating Method Building Envelope Requirements for Climate Zone 4 (A,B,C)\*

Opaque Elements	Nonresidential	Residential	Semiheated
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	<u>Assembly Maximum</u>	<u>Assembly Maximum</u>	<u>Assembly Maximum</u>			
<b>Roofs</b>						
Insulation entirely above deck	<u>U-0.063</u>	<u>U-0.063</u>	<u>U-0.218</u>			
<b>Walls, Above-Grade</b>						
Steel-framed	<u>U-0.124</u>	<u>U-0.064</u>	<u>U-0.124</u>			
<b>Wall, Below-Grade</b>						
Below-grade wall	<u>C-1.140</u>	<u>C-1.140</u>	<u>C-1.140</u>			
<b>Floors</b>						
Steel-joist	<u>U-0.052</u>	<u>U-0.038</u>	<u>U-0.069</u>			
<b>Slab-on-Grade Floors</b>						
Unheated	<u>F-0.730</u>	<u>F-0.730</u>	<u>F-0.730</u>			
<b>Opaque Doors</b>						
Swinging	<u>U-0.700</u>	<u>U-0.700</u>	<u>U-0.700</u>			
Nonswinging	<u>U-1.450</u>	<u>U-0.500</u>	<u>U-1.450</u>			
<b>Fenestration</b>	<b>Assembly Max. U</b>	<b>Assembly Max. SHGC</b>	<b>Assembly Max. U</b>	<b>Assembly Max. SHGC</b>	<b>Assembly Max. U</b>	<b>Assembly Max. SHGC</b>
<b>Vertical Glazing, % of Wall</b>						
0% to 10.0%	<u>U<sub>air</sub>0.57</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>0.57</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>1.22</u>	<u>SHGC<sub>air</sub>NR</u>
10.1% to 20.0%	<u>U<sub>air</sub>0.57</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>0.57</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>1.22</u>	<u>SHGC<sub>air</sub>NR</u>
20.1% to 30.0%	<u>U<sub>air</sub>0.57</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>0.57</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>1.22</u>	<u>SHGC<sub>air</sub>NR</u>
30.1% to 40.0%	<u>U<sub>air</sub>0.57</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>0.57</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>1.22</u>	<u>SHGC<sub>air</sub>NR</u>
<b>Skylight All, % of Roof</b>						
0% to 2.0%	<u>U<sub>air</sub>0.69</u>	<u>SHGC<sub>air</sub>0.49</u>	<u>U<sub>air</sub>0.58</u>	<u>SHGC<sub>air</sub>0.36</u>	<u>U<sub>air</sub>1.36</u>	<u>SHGC<sub>air</sub>NR</u>
2.1%+	<u>U<sub>air</sub>0.69</u>	<u>SHGC<sub>air</sub>0.39</u>	<u>U<sub>air</sub>0.58</u>	<u>SHGC<sub>air</sub>0.19</u>	<u>U<sub>air</sub>1.36</u>	<u>SHGC<sub>air</sub>NR</u>

\*The following definitions apply: c.i. = continuous insulation (see Section 3.2). NR = no (insulation) requirement.  
<sup>a</sup> Exception to Section A3.1.3.1 applies.

**TABLE G3.5.1 AIR CONDITIONERS AND CONDENSING**

<b>Equipment Type</b>	<b>Size Category</b>	<b>Heating Section Type</b>	<b>Sub-Category or Rating Condition</b>	<b>Minimum Efficiency</b>	<b>Test Procedure</b>
Air Conditioners, Air Cooled	<65,000 Btu/h	All	Single Package	9.7 SEER	ARI 210/240
Air Conditioners, Air Cooled	≥65,000 Btu/h and <135,000 Btu/h	All	Split System and Single Package	10.1 EER	ARI 340/360
	≥135,000 Btu/h and <240,000 Btu/h	All	Split System and Single Package	9.5 EER	
	≥240,000 Btu/h and <760,000 Btu/h	All	Split System and Single Package	9.3 EER 9.5 IPLV	
	≥760,000 Btu/h	All	Split System and Single Package	9.0 EER 9.2 IPLV	

Table G3.5.1 *Performance Rating Method Air Conditioners*

<u>Equipment Type</u>	<u>Size Category</u>	<u>Heating Section Type</u>	<u>Subcategory or Rating Condition</u>	<u>Minimum Efficiency</u>	<u>Test Procedure</u>
Air conditioners, air-cooled	<65,000 Btu/h	All	Single-package	9.7 SEER	ARI 210/240
	≥65,000 Btu/h and <135,000 Btu/h		Split-system and single-package	10.1 EER	ARI 340/360
	≥135,000 Btu/h and <240,000 Btu/h			9.5 EER	
	≥240,000 Btu/h and <760,000 Btu/h			9.3 EER 9.4 IEER	
	≥760,000 Btu/h			9.0 EER 9.1 IEER	

**TABLE G3.5.2 ELECTRICALLY OPERATED UNITARY AND APPLIED HEAT PUMPS—MINIMUM EFFICIENCY REQUIREMENTS**

<b>Equipment Type</b>	<b>Size Category</b>	<b>Heating Section Type</b>	<b>Sub-Category or Rating Condition</b>	<b>Minimum Efficiency</b>	<b>Test Procedure</b>
Air Cooled (Cooling Mode)	<65,000 Btu/h	All	Single Package	9.7 SEER	ARI 210/240
Air Cooled (Cooling Mode)	≥65,000 Btu/h and <135,000 Btu/h	All	Split System and Single Package	9.9 EER	ARI 340/360
	≥135,000 Btu/h and <240,000 Btu/h	All	Split System and Single Package	9.1 EER	
	≥240,000 Btu/h	All	Split System and Single Package	8.8 EER 9.0 IPLV	
Air Cooled (Heating Mode)	<65,000 Btu/h (Cooling Capacity)	-	Single Package	6.6 HSPF	ARI 210/240
Air Cooled (Heating Mode)	≥65,000 Btu/h and <135,000 Btu/h (Cooling Capacity)	-	47°F db/43°F wb Outdoor air	3.2 COP	ARI 340/360
			17°F db/15°F wb Outdoor air	2.2 COP	
	≥135,000 Btu/h (Cooling Capacity)	-	47°F db/43°F wb Outdoor air	3.1 COP	
			17°F db/15°F wb Outdoor air	2.0 COP	

**Table G3.5.2 Performance Rating Method Electrically Operated Unitary and Applied Heat Pumps—  
Minimum Efficiency Requirements**

<u>Equipment Type</u>	<u>Size Category</u>	<u>Heating Section Type</u>	<u>Subcategory or Rating Condition</u>	<u>Minimum Efficiency</u>	<u>Test Procedure</u>
Air-cooled (cooling mode)	<65,000 Btu/h	All	Single package	9.7 SEER	ARI 210/240
	≥65,000 Btu/h and <135,000 Btu/h		Split-system and single-package	9.9 EER	ARI 340/360
	≥135,000 Btu/h and <240,000 Btu/h			9.1 EER	
	≥240,000 Btu/h			8.8 EER 8.9 IEER	
Air-cooled (heating mode)	<65,000 Btu/h (cooling capacity)		Single-package	6.6 HSPF	ARI 210/240
	≥65,000 Btu/h and <135,000 Btu/h (cooling capacity)		47°F db/43°F wb outdoor air	3.2 COP <sub>H</sub>	ARI 340/360
			17°F db/15°F wb outdoor air	2.2 COP <sub>H</sub>	
	≥135,000 Btu/h (cooling capacity)		47°F db/43°F wb outdoor air	3.1 COP <sub>H</sub>	
			17°F db/15°F wb outdoor air	2.0 COP <sub>H</sub>	

**TABLE G3.5.3 WATER CHILLING PACKAGES—  
MINIMUM EFFICIENCY REQUIREMENTS**

<u>Equipment Type</u>	<u>Size Category</u>	<u>Subcategory or Rating Condition</u>	<u>Minimum Efficiency</u>	<u>Test Procedure</u>
Water-Cooled, Electrically Operated, Positive Displacement (Rotary Screw and Scroll)	<150 tons		4.45 COP 5.20 IPLV	ARI 550/590
	≥150 tons and <300 tons		4.90 COP 5.60 IPLV	
	≥300 tons		5.50 COP 6.15 IPLV	
Water-Cooled, Electrically Operated, Centrifugal	<150 tons		5.00 COP 5.25 IPLV	ARI 550/590
	≥150 tons and <300 tons		5.55 COP 5.90 IPLV	
	≥300 tons		6.10 COP 6.40 IPLV	



Table G3.5.3 Performance Rating Method Water Chilling Packages—Minimum Efficiency Requirements

<u>Equipment Type</u>	<u>Size Category</u>	<u>Subcategory or Rating Condition</u>	<u>Minimum Efficiency</u>	<u>Test Procedure</u>
Water-cooled, electrically operated, positive displacement (rotary screw and scroll)	<150 tons	<i>kW/ton</i>	0.790 FL 0.676 IPLV.IP	ARI 550/590
	≥150 tons and <300 tons		0.718 FL 0.629 IPLV.IP	
	≥300 tons		0.639 FL 0.572 IPLV.IP	
Water-cooled, electrically operated, centrifugal	<150 tons	<i>kW/ton</i>	0.703 FL 0.670 IPLV.IP	ARI 550/590
	≥150 tons and <300 tons		0.634 FL 0.596 IPLV.IP	
	≥300 tons		0.576 FL 0.549 IPLV.IP	

**~~TABLE G3.5.4 ELECTRICALLY OPERATED PACKAGED TERMINAL AIR CONDITIONERS, PACKAGED TERMINAL HEAT PUMPS~~**

Table G3.5.5 Warm-Air Furnaces and Unit Heaters

<u>Equipment Type</u>	<u>Size Category (Input)</u>	<u>Subcategory or Rating Condition</u>	<u>Minimum Efficiency</u>	<u>Test Procedure</u>
PTAC (Cooling Mode)	All Capacities	95°F db Outdoor air	12.5 – (0.213 × Cap/1000)EER	ARI 310/380
PTHP (Cooling Mode)	All Capacities	95°F db Outdoor air	12.3 – (0.213 × Cap/1000)EER	<u>ARI</u> 310/380
PTHP (Heating Mode)	All Capacities		3.2 – (0.026 × Cap/1000)COP	<u>ARI</u> 310/380

**~~TABLE G3.5.5 WARM AIR FURNACES AND COMBINATION WARM AIR FURNACES/AIR-CONDITIONING UNITS, WARM AIR DUCT FURNACES AND UNIT HEATERS~~**

Table G3.5.5 Warm-Air Furnaces and Unit Heaters

<u>Equipment Type</u>	<u>Size Category (Input)</u>	<u>Subcategory or Rating Condition</u>	<u>Minimum Efficiency</u>	<u>Test Procedure</u>
Warm Air Furnace, Gas-Fired	<225,000 Btu/h		78% AFUE or 80% <i>Et</i>	DOE 10 CFR Part 430 or ANSI Z21.47
	≥225,000 Btu/h	Maximum Capacity	80% <i>Ec</i>	ANSI Z21.47
Warm Air Unit Heaters, Gas-Fired	All Capacities	Maximum Capacity	80% <i>Ec</i>	ANSI Z83.8

**TABLE G3.5.6 GAS AND OIL FIRED BOILERS—  
MINIMUM EFFICIENCY REQUIREMENTS**

<b>Equipment Type</b>	<b>Size Category (Input)</b>	<b>Subcategory or Rating Condition</b>	<b>Minimum Efficiency</b>	<b>Test Procedure</b>
Boilers, Gas-Fired	<300,000 Btu/h	Hot Water	80% AFUE	DOE 10 CFR Part 430
		Steam	75% AFUE	
	≥300,000 Btu/h and ≤2,500,000 Btu/h	Maximum Capacity	75% <i>E<sub>t</sub></i>	H.I. Htg Boiler Std.
		>2,500,000 Btu/ha	Hot Water	
	>2,500,000 Btu/ha	Steam	80% <i>E<sub>e</sub></i>	
	>2,500,000 Btu/ha	Hot Water	83% <i>E<sub>e</sub></i>	
	>2,500,000 Btu/ha	Steam	83% <i>E<sub>e</sub></i>	

**Table G3.5.6 Gas-Fired Boilers—Minimum Efficiency Requirements**

<b>Equipment Type</b>	<b>Size Category</b>	<b>Subcategory or Rating Condition</b>	<b>Minimum Efficiency</b>	<b>Test Procedure</b>
<u>Boilers, gas-fired</u>	<u>&lt;300,000 Btu/h</u>	<u>Hot water</u>	<u>80% AFUE</u>	<u>DOE 10 CFR Part 430</u>
	<u>≥300,000 Btu/h and ≤2,500,000 Btu/h</u>	<u>Maximum capacity</u>	<u>75% <i>E<sub>t</sub></i></u>	<u>DOE 10 CFR Part 431</u>
	<u>&gt;2,500,000 Btu/h</u>	<u>Hot water</u>	<u>80% <i>E<sub>e</sub></i></u>	

**TABLE G3.6 LIGHTING POWER DENSITIES FOR BUILDING EXTERIORS**

Table G3.6 *Lighting Power Densities for Building Exteriors*

<b>Tradable Surfaces</b> (Lighting power densities for uncovered parking areas, building grounds, building entrances and exits, canopies and overhangs and outdoor sales areas may be traded.)	<b>Uncovered Parking Areas</b>	
	Parking Lots and drives	0.15W/ft2
	<b>Building Grounds</b>	
	Walkways less than 10 feet wide	1.0W/linear foot
	Walkways 10 feet wide or greater	0.2W/ft2
	Plaza areas	
	Special Feature Areas	
	Stairways	1.0 W/ft2
	<b>Building Entrances and Exits</b>	
	Main entries	30W/linear foot of door width
	Other doors	20W/linear foot of door width
	<b>Canopies and Overhangs</b>	
	Canopies (free standing and attached and overhangs)	1.25W/ft2
	<b>Outdoor Sales</b>	
Open areas (including vehicle sales lots)	0.5W/ft2	
Street frontage for vehicle sales lots in addition to "open area" allowance	20W/linear foot	
<b>Non-Tradable Surfaces</b> (Lighting power density calculations for the following applications can be used only for the specific application and cannot be traded between surfaces or with other exterior lighting. The following allowances are in addition to any allowance otherwise permitted in the "tradable Surfaces" section of this table.)	<b>Building Facades</b>	0.2 W/ft2 for each illuminated wall or surface or 5.0W/linear foot for each illuminated wall or surface length
	<b>Automated teller machines and night depositories</b>	270W per location plus 90W per additional ATM per location
	<b>Entrances and gatehouse inspection stations at guarded facilities</b>	1.25W/ft2of uncovered area (covered areas are included in the "Canopies and Overhangs" section of "Tradable Surfaces")
	<b>Loading areas for law enforcement, fire, ambulance and other emergency service vehicles</b>	0.5 W/ft2of uncovered area (covered areas are included in the "Canopies and Overhangs" section of "Tradable Surfaces")
	<b>Drive-up windows at fast food restaurants</b>	400W per drive-through
	<b>Parking near 24-hour retail entrances</b>	800 W per main entry

**TABLE G3.7 – LIGHTING POWER DENSITY ALLOWANCES  
USING THE SPACE-BY-SPACE METHOD**

<b>Common Space Types<sup>1</sup></b>	<b>LPD (watts/sq.ft)</b>	<b>-</b>	<b>Building Type Specific Space Types<sup>1</sup></b>	<b>LPD (watts/sq.ft)</b>
<b>Audience Seating Area</b>	-	-	<b>Assisted Living Facility</b>	-
... in an auditorium	0.79	-	... in a chapel (used primarily by residents)	3.31
... in a convention center	1.03	-	... in a recreation room (used primarily by residents)	3.02
... in an Exercise Center	0.81	-	<b>Automotive (See Vehicular Maintenance Area above)</b>	-
... in a gymnasium	0.81	-	-	-
... in a motion picture theater	1.43	-	<b>Convention Center – Exhibit Space</b>	1.82
... in a penitentiary	0.35	-	<b>Dormitory – Living Quarters</b>	0.48
... in a performing arts theater	3.04	-	<b>Fire Station – Sleeping Quarters</b>	0.28
... in a religious building	1.92	-	<b>Gymnasium/Fitness Center</b>	-
... in a sports arena	0.54	-	... in an Exercise Area	0.90
... in a transportation facility	0.68	-	... in a Playing Area	1.50
... otherwise	0.54	-	<b>Healthcare Facility</b>	-
<b>Atrium</b>	-	-	... in an Imaging Room	1.89
... that is ≤ 40' in height	0.0375 per foot in total height	-	... in an Exam/Treatment Room	2.08
... that is > 40' in height	0.50 + 0.025 per foot in total height	-	... in an Imaging Room	1.89
<b>Banking Activity Area</b>	1.27	-	... in a Medical Supply Room	0.93
<b>Breakroom (See Lounge/Breakroom)</b>	-	-	... in a Nursery	1.10
<b>Classroom/Lecture Hall/Training Room</b>	-	-	... in a Nurse's Station	0.89
... in a penitentiary	1.68	-	... in an Operating Room	3.11
... otherwise	1.55	-	... in a Patient Room	0.78
<b>Conference/Meeting/Multipurpose Room</b>	1.54	-	... in a Physical Therapy Room	1.14
<b>Confinement Cells</b>	1.01	-	... in a Recovery Room	1.44
<b>Copy/Print Room</b>	0.90	-	<b>Library</b>	-

<b>Corridor</b>	-	-	-	-
<i>... in an Assisted Living Facility (and used primarily by residents)</i>	1.15	-	<i>... in a Reading Area</i>	1.33
<i>... in a hospital</i>	1.24	-	-	-
<i>... in a manufacturing facility</i>	0.51	-	<i>... in the Stacks</i>	2.14
<i>... otherwise</i>	0.83	-	-	-
<b>Courtroom</b>	2.15	-	<b>Manufacturing Facility</b>	-
<b>Computer Room</b>	2.14	-	-	-
<b>Dining Area</b>	-	-	<i>... in a detailed manufacturing area</i>	1.62
<i>... in a penitentiary</i>	1.20	-	<i>... in an Equipment Room</i>	0.93
<i>... in an Assisted Living Facility (and used primarily by residents)</i>	3.32	-	<i>... in an Extra High Bay Area (&gt; 50' floor-to-ceiling height)</i>	1.32
<i>... in Bar/Lounge or Leisure Dining</i>	1.34	-	<i>... in a High Bay Area (25-50' floor-to-ceiling height)</i>	-
<i>... in Cafeteria or Fast Food Dining</i>	0.81	-	-	1.54
<i>... in Family Dining</i>	1.12	-	-	-
-	-	-	<i>... in a Low Bay Area (&lt; 25' floor-to-ceiling height)</i>	-
-	-	-	-	-
<i>... otherwise</i>	0.81	-	-	1.49
<b>Electrical/Mechanical Room</b>	0.53	-	<b>Museum</b>	-
<b>Emergency Vehicle Garage</b>	0.70	-	<i>... in a General Exhibition Area</i>	1.32
<b>Food Preparation Area</b>	1.52	-	<i>... in a Restoration Room</i>	1.28
<b>Guest Room</b>	0.59	-	<b>Post Office - Sorting Area</b>	1.18
<b>Judges Chambers</b>	1.39	-	<b>Religious Buildings</b>	-
-	-	-	<i>... in a Fellowship Hall</i>	0.80
<b>Laboratory</b>	-	-	<i>... in a Worship/Pulpit/Choir Area</i>	1.92
<i>... in or as a classroom</i>	1.79	-	<b>Retail Facilities</b>	-
<i>... otherwise</i>	2.27	-	<i>... in a Dressing/Fitting Room</i>	0.89
<b>Laundry/Washing Area</b>	0.75	-	<i>... in a Mall Concourse</i>	1.38
<b>Loading Dock, Interior</b>	0.59	-	<b>Sports Arena - Playing Area</b>	-

<b>Lobby</b>	-	-	...for a Class I facility	4.61
... in an Assisted Living Facility (and used primarily by residents)	2.26	-	...for a Class II facility	3.01
... for an elevator	0.80	-	... for a Class III facility	2.26
... in a hotel	1.33	-	... for a Class IV facility	1.50
... in a motion picture theater	0.74	-	-	-
... in a performing arts theater	2.51	-	-	-
... otherwise	1.13	-	<b>Transportation Facility</b>	-
<b>Locker Room</b>	0.94	-	... in a baggage/carousel Area	0.66
<b>Lounge/Breakroom</b>	-	-	... in an Airport Concourse	0.45
... in a healthcare facility	1.15	-	... at a Terminal Ticket Counter	1.00
... otherwise	0.91	-	<b>Warehouse - Storage Area</b>	-
<b>Office</b>	-	-	...for medium to bulky, palletized items	0.73
... enclosed	1.39	-	...for smaller, hand-carried items	1.19
... open plan	1.23	-	-	-
<b>Parking Area, Interior</b>	0.24	-	-	-
<b>Pharmacy Area</b>	2.10	-	-	-
<b>Restroom</b>	-	-	-	-
... in an Assisted Living Facility (and used primarily by residents)	1.52	-	-	-
... otherwise	1.23	-	-	-
<b>Sales Area</b>	1.80	-	-	-
<b>Seating Area, General</b>	0.68	-	-	-
<b>Stairwell</b>	0.86	-	-	-
<b>Storage Room</b>	-	-	-	-
... in a hospital	0.93	-	-	-
... that is $\geq 50$ sqft	0.79	-	-	-
... that is $< 50$ sqft	1.55	-	-	-
-	-	-	-	-
<b>Vehicular Maintenance Area</b>	0.84	-	-	-

<b>Workshop</b>	1.99	-	-	-
1 In cases where both a common space type and a building area specific space type are listed, the building area specific space type shall apply				

**Table G3.7 Performance Rating Method Lighting Power Density Allowances and Occupancy Sensor Reductions Using the Space-by-Space Method**

<b>Common Space Types<sup>a</sup></b>	<b>Lighting Power Density, W/ft<sup>2</sup></b>	<b>Occupancy Sensor Reduction<sup>b</sup></b>
<b>Audience Seating Area</b>		
Auditorium	0.90	10%
Convention center	0.70	10%
Exercise center	0.30	10%
Gymnasium	0.40	10%
Motion picture theater	1.20	10%
Penitentiary	0.70	10%
Performing arts theater	2.60	10%
Religious facility	1.70	10%
In a sports arena	0.40	10%
Transportation facility	0.50	10%
All other audience seating area	0.90	10%
<b>Atrium</b>		
≤40 ft in height	0.0375 per foot in total height	10%
>40 ft in height	0.50 + 0.025 per foot in total height	10%
Banking Activity Area	1.50	10%
Breakroom (See Lounge/Breakroom)		
Classroom/Lecture Hall/Training Room		
Penitentiary	1.30	None
Preschool through 12th grade, laboratory, and shop classrooms	1.40	30%
All other classroom/lecture hall/training room	1.40	None
Conference/Meeting/Multipurpose Room	1.30	None
Confinement Cells	0.90	10%
Copy/Print Room	0.90	10%
<b>Corridor</b>		
Facility for the visually impaired (and used primarily by residents)	1.15	25%
Hospital	1.00	25%
Manufacturing facility	0.50	25%
All other corridor	0.50	25%
Courtroom	1.90	10%
Computer Room	2.14	35%
<b>Dining Area</b>		
Penitentiary	1.30	35%
Facility for the visually impaired (and used primarily by residents)	3.32	35%
Bar/lounge or leisure dining	1.40	35%
Cafeteria or fast food dining	0.90	35%
Family dining	2.10	35%
All other dining area	0.90	35%
Electrical/Mechanical Room	1.50	30%
Emergency Vehicle Garage	0.80	10%

Food Preparation Area	1.20	30%
Guest Room	1.14	45%
Judges Chambers	1.30	30%
<u>Common Space Types<sup>a</sup></u>	<u>Lighting Power Density, W/ft<sup>2</sup></u>	<u>Occupancy Sensor Reduction<sup>b</sup></u>
<u>Laboratory</u>		
In or as a classroom	1.40	None
All other laboratory	1.40	10%
Laundry/Washing Area	0.60	10%
Loading Dock, Interior	0.59	10%
<u>Lobby</u>		
Facility for the visually impaired (and used primarily by residents)	2.26	25%
Elevator	0.80	25%
Hotel	1.10	25%
Motion picture theater	1.10	25%
Performing arts theater	3.30	25%
All other lobby	1.30	25%
Locker Room	0.60	25%
<u>Lounge/Breakroom</u>		
Healthcare facility	0.80	None
All other lounge/breakroom	1.20	None
<u>Office</u>		
Enclosed	1.10	30%
Open plan	1.10	15% <sup>c</sup>
Parking Area, Interior	0.20	15%
Pharmacy Area	1.20	10%
<u>Restroom</u>		
Facility for the visually impaired (and used primarily by residents)	1.52	45%
All other restroom	0.90	45%
Sales Area	1.70	15%
Seating Area, General	0.68	10%
Stairwell	0.60	75%
<u>Storage Room</u>		
Hospital	0.90	45%
≥50 ft <sup>2</sup>	0.80	45%
<50 ft <sup>2</sup>	0.80	45%
Vehicular Maintenance Area	0.70	10%
Workshop	1.90	10%
<u>Building Type Specific Space Types<sup>a</sup></u>	<u>Lighting Power Density, W/ft<sup>2</sup></u>	<u>Occupancy Sensor Reduction<sup>b</sup></u>
<u>Assisted Living Facility</u>		
Chapel (used primarily by residents)	2.77	10%
Recreation room (used primarily by residents)	3.02	10%
Automotive (See "Vehicular Maintenance Area")		10%
Convention Center—Exhibit Space	1.30	35%
Dormitory—Living Quarters	1.11	10%
Fire Station—Sleeping Quarters	0.30	10%



<u>Building Type Specific Space Types<sup>a</sup></u>	<u>Lighting Power Density, W/ft<sup>2</sup></u>	<u>Occupancy Sensor Reduction<sup>b</sup></u>
<b><u>Gymnasium/Fitness Center</u></b>		
<u>Exercise area</u>	<u>0.90</u>	<u>35%</u>
<u>Playing area</u>	<u>1.40</u>	<u>35%</u>
<b><u>Healthcare Facility</u></b>		
<u>Emergency room</u>	<u>2.70</u>	<u>10%</u>
<u>Exam/treatment room</u>	<u>1.50</u>	<u>10%</u>
<u>Medical supply room</u>	<u>1.40</u>	<u>45%</u>
<u>Nursery</u>	<u>0.60</u>	<u>10%</u>
<u>Nurse's station</u>	<u>1.00</u>	<u>10%</u>
<u>Operating room</u>	<u>2.20</u>	<u>10%</u>
<u>Patient room</u>	<u>0.70</u>	<u>10%</u>
<u>Physical therapy room</u>	<u>0.90</u>	<u>10%</u>
<u>Recovery room</u>	<u>0.80</u>	<u>10%</u>
<b><u>Library</u></b>		
<u>Reading area</u>	<u>1.20</u>	<u>15%</u>
<u>Stacks</u>	<u>1.70</u>	<u>15%</u>
<b><u>Manufacturing Facility</u></b>		
<u>Detailed manufacturing area</u>	<u>2.10</u>	<u>10%</u>
<u>Equipment room</u>	<u>1.20</u>	<u>10%</u>
<u>Extra-high bay area (&gt;50 ft floor-to-ceiling height)</u>	<u>1.32</u>	<u>10%</u>
<u>High bay area (25 to 50 ft floor-to-ceiling height)</u>	<u>1.70</u>	<u>10%</u>
<u>Low bay area (&lt;25 ft floor-to-ceiling height)</u>	<u>1.20</u>	<u>10%</u>
<b><u>Museum</u></b>		
<u>General exhibition area</u>	<u>1.00</u>	<u>10%</u>
<u>Restoration room</u>	<u>1.70</u>	<u>10%</u>
<u>Post Office—Sorting Area</u>	<u>1.20</u>	<u>10%</u>
<b><u>Religious Facility</u></b>		
<u>Fellowship hall</u>	<u>0.90</u>	<u>10%</u>
<u>Worship/pulpit/choir area</u>	<u>2.40</u>	<u>10%</u>
<b><u>Retail Facilities</u></b>		
<u>Dressing/fitting room</u>	<u>0.89</u>	<u>10%</u>
<u>Mall concourse</u>	<u>1.70</u>	<u>10%</u>
<b><u>Sports Arena—Playing Area</u></b>		
<u>Class I facility</u>	<u>4.61</u>	<u>10%</u>
<u>Class II facility</u>	<u>3.01</u>	<u>10%</u>
<u>Class III facility</u>	<u>2.26</u>	<u>10%</u>
<u>Class IV facility</u>	<u>1.50</u>	<u>10%</u>
<b><u>Transportation Facility</u></b>		
<u>Baggage/carousel area</u>	<u>1.00</u>	<u>10%</u>
<u>Airport concourse</u>	<u>0.60</u>	<u>10%</u>
<u>Terminal ticket counter</u>	<u>1.50</u>	<u>10%</u>
<b><u>Warehouse—Storage Area</u></b>		
<u>Medium to bulky, palletized items</u>	<u>0.90</u>	<u>45%</u>
<u>Smaller, hand-carried items</u>	<u>1.40</u>	<u>45%</u>

a. In cases where both a common space type and a building area specific space type are listed, the building area specific space type shall apply.  
 b. For manual-ON or partial-auto-ON occupancy sensors, the occupancy sensor reduction factor shall be multiplied by 1.25.  
 c. For occupancy sensors controlling individual workstation lighting, occupancy sensor reduction factor shall be 30%.

Add new Table G.3.8

**TABLE G.3.8 LIGHTING POWER DENSITIES  
USING THE BUILDING AREA METHOD**

*Table G3.8 Performance Rating Method Lighting Power Densities Using the Building Area Method*

Building Area Type	LPD (W/ft <sup>2</sup> )	
Automotive facility	<del>1.00</del>	<u>0.90</u>
Convention center	<del>1.27</del>	<u>1.20</u>
Courthouse	<del>1.27</del>	<u>1.20</u>
Dining: bar lounge/leisure	<del>1.27</del>	<u>1.30</u>
Dining: cafeteria/fast food	<del>1.13</del>	<u>1.40</u>
Dining: family	<del>1.19</del>	<u>1.60</u>
Dormitory	<del>0.71</del>	<u>1.00</u>
Exercise center	<del>1.05</del>	<u>1.00</u>
Fire station	<del>0.84</del>	<u>1.00</u>
Gymnasium	<del>1.18</del>	<u>1.10</u>
Health-care clinic	<del>1.13</del>	<u>1.00</u>
Hospital	<del>1.32</del>	<u>1.20</u>
Hotel	<del>0.73</del>	<u>1.09</u>
Library	<del>1.49</del>	<u>1.30</u>
Manufacturing facility	<del>1.83</del>	<u>1.17</u>
<del>Motel</del>	<del>0.70</del>	
Motion picture theater	<del>0.95</del>	<u>1.20</u>
Multifamily	<del>0.64</del>	<u>0.70</u>
Museum	<del>1.28</del>	<u>1.10</u>
Office	<del>1.03</del>	<u>1.00</u>
Parking garage	<del>0.26</del>	<u>0.30</u>
Penitentiary	<del>1.01</del>	<u>1.00</u>
Performing arts theater	<del>1.74</del>	<u>1.60</u>
Police station	<del>1.09</del>	<u>1.00</u>
Post office	<del>1.09</del>	<u>1.10</u>
Religious building	<del>1.25</del>	<u>1.30</u>
Retail	<del>1.58</del>	<u>1.50</u>
School/university	<del>1.09</del>	<u>1.20</u>
Sports arena	<del>1.14</del>	<u>1.10</u>
Town hall	<del>1.12</del>	<u>1.10</u>
Transportation	<del>0.88</del>	<u>1.00</u>
Warehouse	<del>0.83</del>	<u>0.80</u>
		<u>1.40</u>
Workshop	<del>1.49</del>	

**Table G3.9.1 *Performance Rating Method Motor Efficiency Requirements***

<b>Motor Horsepower</b>	<b>Minimum Nominal Full-Load Efficiency, %</b>
<u>1.0</u>	<u>82.5</u>
<u>1.5</u>	<u>84.0</u>
<u>2.0</u>	<u>84.0</u>
<u>3.0</u>	<u>87.5</u>
<u>5.0</u>	<u>87.5</u>
<u>7.5</u>	<u>89.5</u>
<u>10.0</u>	<u>89.5</u>
<u>15.0</u>	<u>91.0</u>
<u>20.0</u>	<u>91.0</u>
<u>25.0</u>	<u>92.4</u>
<u>30.0</u>	<u>92.4</u>
<u>40.0</u>	<u>93.0</u>
<u>50.0</u>	<u>93.0</u>
<u>60.0</u>	<u>93.6</u>
<u>75.0</u>	<u>94.1</u>
<u>100.0</u>	<u>94.5</u>
<u>125.0</u>	<u>94.5</u>
<u>150.0</u>	<u>95.0</u>
<u>200.0</u>	<u>95.0</u>

**Table G3.9.2 *Performance Rating Method Baseline Elevator Motor***

<b>Number of Stories (Including Basement)</b>	<b>Motor Type</b>	<b>Counterweight</b>	<b>Mechanical Efficiency</b>	<b>Motor Efficiency<sup>a</sup></b>
<u>≤4</u>	<u>Hydraulic</u>	<u>None</u>	<u>58%</u>	<u>Table G3.9.3</u>
<u>&gt;4</u>	<u>Traction</u>	<u>Proposed design counterweight, if not specified use weight of the car plus 40% of the rated load</u>	<u>64%</u>	<u>Table G3.9.1</u>

a. Use the *efficiency* for the next motor size greater than the calculated bhp.

**Table G3.9.3 *Performance Rating Method Hydraulic Elevator Motor Efficiency***

<b>Horsepower</b>	<b>Full-Load Efficiency</b>
<u>10</u>	<u>72%</u>
<u>20</u>	<u>75%</u>
<u>30</u>	<u>78%</u>
<u>40</u>	<u>78%</u>
<u>100</u>	<u>80%</u>

Table G3.10.1 *Performance Rating Method Commercial Refrigerators and Freezers*

<u>Equipment Type</u>	<u>Application</u>	<u>Energy Use Limits, kWh/day</u>	<u>Test Procedure</u>
Refrigerator with solid <i>doors</i>	Holding temperature	$0.125 \times V + 2.76$	AHRI 1200
Refrigerator with transparent <i>doors</i>		$0.172 \times V + 4.77$	
Freezers with solid <i>doors</i>		$0.398 \times V + 2.28$	
Freezers with transparent <i>doors</i>		$0.94 \times V + 5.10$	
Refrigerators/freezers with solid <i>doors</i>		$0.12 \times V + 4.77$	
Commercial refrigerators	Pulldown	$0.181 \times V + 5.01$	

**Note:** V is the chiller or frozen compartment volume (ft<sup>3</sup>) as defined in Association of Home Appliance Manufacturers Standard HRF-1.

Table G3.10.2 *Performance Rating Method Commercial Refrigeration*

<u>Equipment Type</u>					
<u>Equipment Class<sup>a</sup></u>	<u>Family Code</u>	<u>Operating Mode</u>	<u>Rating Temperature</u>	<u>Energy Use Limits, kWh/day<sup>b,c</sup></u>	<u>Test Procedure</u>
VOP.RC.M	Vertical open	Remote condensing	Medium temperature	$1.01 \times TDA + 4.07$	AHRI 1200
SVO.RC.M	Semivertical open	Remote condensing	Medium temperature	$1.01 \times TDA + 3.18$	
HZO.RC.M	Horizontal open	Remote condensing	Medium temperature	$0.51 \times TDA + 2.88$	
VOP.RC.L	Vertical open	Remote condensing	Low temperature	$2.84 \times TDA + 6.85$	
HZO.RC.L	Horizontal open	Remote condensing	Low temperature	$0.68 \times TDA + 6.88$	
VCT.RC.M	Vertical transparent <i>door</i>	Remote condensing	Medium temperature	$0.48 \times TDA + 1.95$	
VCT.RC.L	Vertical transparent <i>door</i>	Remote condensing	Low temperature	$1.03 \times TDA + 2.61$	
SOC.RC.M	Service over counter	Remote condensing	Medium temperature	$0.62 \times TDA + 0.11$	
VOP.SC.M	Vertical open	Self-contained	Medium temperature	$2.34 \times TDA + 4.71$	
SVO.SC.M	Semivertical open	Self-contained	Medium temperature	$2.23 \times TDA + 4.59$	
HZO.SC.M	Horizontal open	Self-contained	Medium temperature	$1.14 \times TDA + 5.55$	
HZO.SC.L	Horizontal open	Self-contained	Low temperature	$2.63 \times TDA + 7.08$	
VCT.SC.I	Vertical transparent <i>door</i>	Self-contained	Ice cream	$1.63 \times TDA + 3.29$	
VCS.SC.I	Vertical solid <i>door</i>	Self-contained	Ice cream	$0.55 \times V + 0.88$	
HCT.SC.I	Horizontal transparent <i>door</i>	Self-contained	Ice cream	$1.33 \times TDA + 0.43$	
SVO.RC.L	Semivertical open	Remote condensing	Low temperature	$2.84 \times TDA + 6.85$	
VOP.RC.I	Vertical open	Remote condensing	Ice cream	$3.6 \times TDA + 8.7$	
SVO.RC.I	Semivertical open	Remote condensing	Ice cream	$3.6 \times TDA + 8.7$	
HZO.RC.I	Horizontal open	Remote condensing	Ice cream	$0.87 \times TDA + 8.74$	
VCT.RC.I	Vertical transparent <i>door</i>	Remote condensing	Ice cream	$1.2 \times TDA + 3.05$	
HCT.RC.M	Horizontal transparent <i>door</i>	Remote condensing	Medium temperature	$0.39 \times TDA + 0.13$	AHRI 1200
HCT.RC.L	Horizontal transparent <i>door</i>	Remote condensing	Low temperature	$0.81 \times TDA + 0.26$	
HCT.RC.I	Horizontal transparent <i>door</i>	Remote condensing	Ice cream	$0.95 \times TDA + 0.31$	
VCS.RC.M	Vertical solid <i>door</i>	Remote condensing	Medium temperature	$0.16 \times V + 0.26$	
VCS.RC.L	Vertical solid <i>door</i>	Remote condensing	Low temperature	$0.33 \times V + 0.54$	
VCS.RC.I	Vertical solid <i>door</i>	Remote condensing	Ice cream	$0.39 \times V + 0.63$	

<u>HCS.RC.M</u>	<u>Horizontal solid door</u>	<u>Remote condensing</u>	<u>Medium temperature</u>	<u>0.16 × V + 0.26</u>
<u>HCS.RC.L</u>	<u>Horizontal solid door</u>	<u>Remote condensing</u>	<u>Low temperature</u>	<u>0.33 × V + 0.54</u>
<u>HCS.RC.I</u>	<u>Horizontal solid door</u>	<u>Remote condensing</u>	<u>Ice cream</u>	<u>0.39 × V + 0.63</u>
<u>SOC.RC.L</u>	<u>Service over counter</u>	<u>Remote condensing</u>	<u>Low temperature</u>	<u>1.3 × TDA + 0.22</u>
<u>SOC.RC.I</u>	<u>Service over counter</u>	<u>Remote condensing</u>	<u>Ice cream</u>	<u>1.52 × TDA + 0.26</u>
<u>VOP.SC.L</u>	<u>Vertical open</u>	<u>Self contained</u>	<u>Low temperature</u>	<u>5.87 × TDA + 11.82</u>
<u>VOP.SC.I</u>	<u>Vertical open</u>	<u>Self-contained</u>	<u>Ice cream</u>	<u>7.45 × TDA + 15.02</u>
<u>SVO.SC.L</u>	<u>Semivertical open</u>	<u>Self-contained</u>	<u>Low temperature</u>	<u>5.59 × TDA + 11.51</u>
<u>SVO.SC.I</u>	<u>Semivertical open</u>	<u>Self-contained</u>	<u>Ice cream</u>	<u>7.11 × TDA + 14.63</u>
<u>HZO.SC.I</u>	<u>Horizontal open</u>	<u>Self-contained</u>	<u>Ice cream</u>	<u>3.35 × TDA + 9.0</u>
<u>SOC.SC.I</u>	<u>Service over counter</u>	<u>Self-contained</u>	<u>Ice cream</u>	<u>2.13 × TDA + 0.36</u>
<u>HCS.SC.I</u>	<u>Horizontal solid door</u>	<u>Self-contained</u>	<u>Ice cream</u>	<u>0.55 × V + 0.88</u>

a. Equipment class designations consist of a combination (in sequential order separated by periods [AAA].[BB].[C]) of the following: (AAA) An equipment family code (VOP = vertical open, SVO = semivertical open, HZO = horizontal open, VCT = vertical transparent doors, VCS = vertical solid doors, HCT = horizontal transparent doors, HCS = horizontal solid doors, and SOC = service over counter); (BB) An operating mode code (RC = remote condensing and SC = self-contained); and (C) A rating temperature code (M = medium temperature [38°F], L = low temperature [0°F], or I = ice cream temperature [15°F]). For example, "VOP.RC.M" refers to the "vertical open, remote condensing, medium temperature" equipment class.

b. V is the volume of the case (ft<sup>3</sup>) as measured in AHRI Standard 1200, [Appendix C](#).

c. TDA is the total display area of the case (ft<sup>2</sup>) as measured in AHRI Standard 1200, [Appendix D](#).

*Insert a new Appendix Z in the Energy Conservation Code-Commercial Provisions to read as follows:*

## **APPENDIX Z            NET-ZERO ENERGY COMPLIANCE PATH**

- Z1    GENERAL**
- Z2    MINIMUM PERFORMANCE REQUIREMENTS**
- Z3    RENEWABLE ENERGY**
- Z4    ENERGY METERING, MONITORING AND REPORTING**
- Z5    ENERGY REPORTING**
- Z6    NORMATIVE REFERENCES**

**Z1            GENERAL.** Appendix Z is intended to be an optional alternative compliance path for projects to comply with the *Energy Conservation Code-Commercial Provisions*.

The design of a *net-zero energy building* shall be achieved through the use of three complementary approaches, to be employed to the maximum extent feasible, in the following order:

1. Reducing building energy demand for heating, ~~and cooling, lighting and ventilation~~ through the use of passive design and improved envelope performance techniques.
2. Reducing total building energy demand through the installation of high-efficiency mechanical systems, hot water systems, and power systems, lighting, and process equipment.
3. Supplying remaining building energy needs from a-renewable sources of energy.

Appendix Z draws on existing requirements outlined in the *Energy Conservation Code-Commercial Provisions*. Additional minimum performance requirements for building thermal energy performance and airtightness testing have been set to ensure new construction achieves a high degree of energy conservation, ~~consistent with Passive House levels of building performance, in accordance with the Passive Building Standard for North America. Passive House-certified buildings use substantially less energy for space heating and cooling, while simultaneously improving occupant comfort, improving building resilience under extreme weather conditions, and reducing energy costs.~~

**Z1.1. Definitions.** In addition to definitions contained in Chapter 2 of the *Building Code* and in Section 3.2 of the *Energy Conservation Code-Commercial Provisions*, the following definitions shall apply to projects opting to use Appendix Z:

**Airtightness.** The rate of air leakage through the building envelope, measured in cubic feet per minute per square foot of building envelope (cfm/ft<sup>2</sup><sub>env</sub>), ~~typically measured at 0.00730.0109 psig (5075 Pa) of pressure difference~~differential.

**Annual cooling demand.** The total amount of thermal energy required to cool a building over the course of a year, measured in thousands of British thermal units per square foot of interior conditioned floor area, per year (kBtu/ft<sup>2</sup><sub>iCFA</sub>/yr).

**Annual heating demand.** The total amount of thermal energy required to heat a building over the course of a year, measured in thousands of British thermal units per square foot of interior conditioned floor area, per year (kBtu/sf<sub>ICFA</sub>/yr).

**Energy Use Intensity (EUI).** The annual energy use of the building expressed in kBtu divided by gross square feet (kbtu/ ft<sup>2</sup>).

**Low-carbon neighborhood thermal energy system.** A district-scale energy system that uses acceptable sources of renewable energy per section Z3.2 to produce steam, hot water, or chilled water for the purposes of providing for building heating, cooling, and/or domestic hot water needs.

**Net-zero energy building.** A highly energy-efficient building that produces on-site, or procures through the construction of new renewable energy generation, enough energy to meet or exceed the annual energy consumption of its operations.

**Renewable energy microgrid.** (As defined by the U.S. Department of Energy) A group of interconnected loads and distributed renewable energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid.

**Zero Energy Performance Index (zEPI).** A scale representing the ratio of the energy performance of a proposed design or an existing building compared to the mean energy performance of the building stock from the benchmark year of 2000 (Commercial Buildings Energy Consumption Survey, US Department of Energy, 2003 Average).

**Z1.2. Scope and intent.** The provisions of Appendix Z regulate the design, construction, commissioning and operation of buildings and their associated building sites for compliance with the *Energy Conservation Code-Commercial Provisions*. The intent of this Appendix is the reduction of energy use to achieve net-zero performance.

**Z1.3. Administration and enforcement.** Administration and enforcement of Appendix Z shall be governed by Chapter 1 of the *Building Code*, 12-A DCMR.

**Z1.4. Application.** The provisions of Appendix Z shall apply to each project that is new construction, or classified as a Level 3 alteration under the *Existing Building Code*, and for which this compliance path option has been chosen.

**Z1.5 Compliance.** Compliance with Appendix Z requires that the building and its site comply with the provisions of Sections Z2, Z3, Z4, and Z5.

**Z2 MINIMUM PERFORMANCE REQUIREMENTS.** Minimum performance requirements for building energy use intensity have been set to ensure maximum energy efficiency prior to adding renewable energy generation. The building and its site shall be designed and constructed to meet the mandatory prescriptive requirements in sections Z2.1, Z.2, Z.3, Z.4, and Z.5.

**Z2.1. Building energy use intensity.** Applicant shall submit, with the building permit application, *permit documents* with data and calculations sufficient to ascertain compliance with the net-zero energy performance target for buildings and their sites, using predictive modeling. Predictive modeling shall use a source energy unit of measurement, expressed in kBtu/sf-ft<sup>2</sup>/yr, based on the use of the *Zero Energy Performance Index (zEPI)* as outlined in section Z2.1.1. In a mixed-use building, all uses shall be included in demonstrating compliance, and an area-weighted calculation method shall be used to account for each use.

**Z2.1.1. Zero Energy Performance Index, zEPI.** Building design shall demonstrate a zEPI of 4030 or lower as determined in accordance with Equation 1.

$$zEPI = \underline{750.4} \times (EUI_p/EUI) \quad (\text{Equation 1})$$

Where:

EUI<sub>p</sub> = The annual energy use of the building in source kBtu/ft<sup>2</sup>, for the proposed design of the building and its site, calculated in accordance with Section Z2.1.2, not taking into account any on-site or off-site renewable energy.

EUI = The annual energy use of the building in source kBtu/ft<sup>2</sup> for a baseline building and its site, calculated in accordance with Section Z2.1.2, not taking into account any on-site or off-site renewable energy.

**Z2.1.2. Annual energy use indices.** The EUI<sub>p</sub> of the building and building site, and the EUI, shall be calculated in accordance with Appendix G to ASHRAE 90.1-200416, as modified by Sections Z2.1.2.1 and Z2.1.2.2, and *approved* modeling guidelines published by the *Department* in *administrative bulletins*. The annual energy use shall include all energy used for the building systems and its anticipated occupancies.

**Z2.1.2.1. Additional Modeling Rules and Procedures.** Modeling inputs shall be in accordance with the *COMNet Rules and Procedures Manual*.

**Z2.1.2.2. Electricity.** In calculating the annual energy use indices, consistent units shall be used for electric energy use, converting the electric energy use; measured at the utility meter or metered point of delivery; from kWh to kBtu. KWh shall be converted to kBtu by multiplying the annual electric energy use, in kWh, by 3.412 kBtu/kWh; and multiplying the result by the dimensionless conversion factor found in Table 1.

**TABLE ~~1~~Z2.1.2.2  
ELECTRICITY GENERATION ENERGY CONVERSION FACTOR  
BASED ON EPA eGRID SUB-REGION**

eGRID 2010 SUB-REGION ACRONYM	eGRID 2010 SUB-REGION NAME	CONVERSION FACTOR
RFCE	RFCE East	<u>0.54332</u> <u>8</u>



**Z2.2. Building Thermal Energy Performance and Airtightness.** Building thermal energy performance and thermal envelope tightness shall comply with Sections Z2.2.1 through Z2.2.3.

**Z2.2.1. Annual heating demand.** Building design shall demonstrate a maximum *annual heating demand* of 4.2 kBtu/ft<sup>2</sup><sub>iCFA</sub>/yr (4.8x10<sup>4</sup> kJ/m<sup>2</sup><sub>iCFA</sub>/yr).

**Z2.2.2. Annual cooling demand.** Building design shall demonstrate a maximum *annual cooling demand* of 6.4 kBtu/ft<sup>2</sup><sub>iCFA</sub>/yr (7.3x10<sup>4</sup> kJ/m<sup>2</sup><sub>iCFA</sub>/yr).

**Z2.3. Multiple buildings on a site.** Where there is more than one building on a site, each building shall comply with Sections Z2.2.1 and Z2.2.2 or the combined demands of all the buildings on the site shall comply with Sections Z2.2.1 and Z2.2.2.

**Z2.3.1. Assignment of energy to multiple buildings on a site.** For building sites ~~employing district energy systems and with multiple buildings and that are employing district energy systems~~, the energy use associated with the building site shall be assigned to each building proportionally to the gross floor area of each building as a fraction of the total gross floor area of all buildings on the building site. Where energy is derived from either renewable or waste energy, or both sources, either located on the building site, within individual buildings, or on individual buildings and delivered to multiple buildings, the energy so derived shall be assigned on a proportional basis to the buildings served, based on each served building gross floor area. Energy delivered from renewable or waste energy sources located on or within a building shall be assigned to that building.

**Exception:** Where it can be shown that energy to be used at the building site is associated with a specific building, that energy use shall be assigned to that specific building.

**Z2.4. Registered design professional in responsible charge of building energy simulation.** Where the *applicant* chooses to utilize Appendix Z as the path of compliance with the *Energy Conservation Code-Commercial Provisions*, ~~the code official is authorized to require~~ the owner ~~to~~shall engage the services of, and designate on the building permit application, a registered design professional who shall act as the registered design professional in responsible charge of building energy simulation. Building energy simulation services engaged by the registered design professional shall be certified by an *approved* accrediting entity as determined by the *code official*. ~~Where the circumstances justify it~~As authorized by the *code official*, the owner is ~~authorized~~allowed to designate a substitute registered design professional who shall perform the duties required of the original registered design professional in responsible charge of building energy simulation. The owner shall notify the *code official*, in writing, whenever the registered design professional in responsible charge of building energy simulation is changed or is unable to continue to perform his or her duties.

**Z2.5. Building Commissioning.** All systems shall be commissioned in accordance with this section and the *Energy Conservation Code-Commercial Provisions*. Energy systems commissioning and completion shall be performed for the following systems and their associated controls:

- Building envelope;
- HVAC (both mechanical and passive systems as well as HVAC controls);
- Lighting, ~~and~~ daylighting, and lighting control systems;
- Domestic hot water systems; and

- Renewable energy systems.

**Z2.6. Airtightness Testing.** A whole building pressurization testing shall be conducted in accordance with Section 11.3.1.2.4(a) of the *Energy Conservation Code – Commercial Provisions* to measure the airtightness of the building envelope. ~~whole-building test for airtightness of the building envelope shall be performed in accordance with the *U.S. Army Corps of Engineers Air Leakage Test Protocol for Building Envelopes*.~~ The owner shall verify that the airtightness specified in the final approved predictive energy model is achieved in the field by providing the code official with a copy of the test results before the ~~respective~~ the final *Certificate of Occupancy* is issued.

**Z3 RENEWABLE ENERGY.** The building and building site shall be provided with renewable energy equal to the EUI<sub>P</sub> on an annual basis and calculated in accordance with Section Z2.1.1. Sources of renewable energy shall comply with Sections Z3.1 through Z3.3.

**Z3.1. On-site combustion.** On-site combustion of fossil fuels shall not be permitted for the provision of thermal energy to the building except as specified by the code official.

**Z3.2. Acceptable sources of renewable energy.** ~~Renewable energy shall be generated on-site wherever feasible.~~ Acceptable sources of on-site renewable energy to be used on the building site include:

- Photovoltaic panels;
- Solar thermal systems;
- Wind turbines; and
- Biogas.

No other source of on-site renewable energy is acceptable for building design, unless the rationale for its selection is approved by the code official.

**Z3.3 On-site renewable energy.** Renewable energy shall be generated on-site wherever feasible. ~~Before procuring off-site renewable energy, a project must demonstrate one of the following:~~

1. A minimum of 5% of the total building energy consumption shall first be met by solar an acceptable source of renewable energy installed on the building roof or site.
2. For projects generating onsite renewable energy through solar photovoltaic systems, a minimum of 25% of total site area, including building footprint, shall be allocated for photovoltaic array and energy production.

**Exception:** Where there is not adequate solar access as determined by Chapter 13 of the *Energy Conservation Code-Commercial Provisions*.

**Z3.34. Procurement of off-site renewable energy.** The procurement of off-site renewable energy is acceptable only where the energy is procured from a qualified electricity supplier providing energy from Tier 1 and Tier 2 renewable sources meeting the minimum percentages of the District of Columbia Renewable Portfolio Standard. ~~Before procuring off-site renewable energy, a minimum of 5% of the total building energy consumption shall first be met by solar energy installed on the building roof or site, provided there is adequate solar access as~~

determined by Chapter 13 of the *Energy Conservation Code Commercial Provisions*. Acceptable ~~conditions~~ methods for the procurement of off-site renewable energy include any of the following or as approved by the code official:

- Owner shall provide the code official with documentation of a signed, legally-binding contract to procure off-site renewable energy through ~~signs~~ a power purchase agreement for a minimum period of ~~105~~ years for electricity generation from, for a new solar or wind-generation facilities ~~energy installation, with solar electricity suppliers that are either located within the District of Columbia, or in locations with transmission and distribution lines serving the District of Columbia~~ Maryland, or Virginia. The owner remains subject to, and must comply with, the District of Columbia's Renewable Portfolio Standard;
- Connection to a *renewable energy microgrid*; or
- Connection to a *low-carbon neighborhood thermal energy system*.

#### **Z4 ENERGY METERING, MONITORING AND REPORTING.**

**Z4.1 Scope.** The provisions of this Section Z4 shall apply to all projects that opted for Appendix Z as a path of code compliance.

**Z4.2. Purpose.** The purpose of this Section Z4 is to provide requirements that will ensure that buildings are constructed or altered in a way that will provide the capability for their energy use, production and reclamation to be measured, monitored and reported. This includes the design of energy distribution systems so as to isolate load types, the installation of meters, devices and a data acquisition system, and the installation of energy displays and other appropriate reporting mechanisms.

**Z4.3 Energy metering.** All forms of energy delivered to the building and building site, or produced on the building site or in the building, shall be metered and all energy load types measured.

**Z4.4. Ventilation flow rate.** In addition to requirements outlined in the *Energy Conservation Code-Commercial Provisions*, all centrally ventilated building systems shall be designed to enable the collection of real-time and historical ventilation flow rate data.

**Z4.5. Grid integration.** In places where equipment constraints in the distribution network render net metering impossible, onsite storage options shall be considered.

**Z5 ENERGY REPORTING.** Owners of buildings that used Appendix Z as a path for code compliance shall comply with this Section.

#### **Z5.1. Post Occupancy Measurement and Reporting.**

**Z5.1.1.** Owners of buildings that use Appendix Z as a path for code compliance shall ~~must~~ annually benchmark and report their energy and water performance using the Energy Star® Portfolio Manager tool, including renewable energy generation and green power usage, pursuant to rules in *20 DCMR 3513*, regardless of square footage.

**Z5.1.2. Energy Star Portfolio Manager account.** The *owner* of a *building* that used Appendix Z as a path for compliance with the *Energy Conservation Code-Commercial Provisions* shall create an Energy Star® Portfolio Manager account and property record on the U.S. Environmental Protection Agency’s benchmarking website, and share the property with the District of Columbia’s Department of Energy and Environment. The *code official* is authorized to require proof of compliance with this Section Z5.3.1 and proof that all utilities have been linked to the account.

**Z5.2. Performance Verification.** Within ~~36~~24 months of occupancy, the owner or owner’s representative shall submit documentation to the *code official* demonstrating 12 continuous months of operation with no less than 90% occupancy where the energy consumed by the building and building site as measured in accordance with Section Z4 are equal to or less than the renewable energy associated with the building and building site in accordance with Section Z3. Documentation shall be in a form acceptable to the *code official*.

**Z5.2.1. Normalization for abnormal conditions.** At the discretion of the *code official*, the owner or owner’s representative may submit documentation demonstrating that abnormal weather or occupancy conditions during the compliance period are responsible for the variance between the energy consumed by the energy and energy site and the renewable energy associated with the building and building site and that the building would comply with Z5.2 under normal conditions.

**Z6 NORMATIVE REFERENCES**

Section numbers indicate where the reference occurs in Appendix Z.

**U.S. Army Corps of Engineers**

Standard Reference number	Title	Referenced in code section number
Version 3: 2012-05-11	Air Leakage Test Protocol for Building Envelopes	Appendix Z, Z2.6

**Passive House Institute US (PHIUS)** 116 W Illinois St #5e Chicago, IL 60654

Standard reference number	Title	Referenced in code section number
Version 1.03 July 27 2016	Passive Building Standard for North America	Appendix Z, Z.1

**RESNET** P.O Box 4561 Oceanside, CA 92052 www.resnet.us

Standard reference number	Title	Referenced in code section number
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August 16, 2010      *COMNET Rules and Procedures*      Appendix Z, Z2.1.2.1  
*Manual*

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**DC Renewable Portfolio****Standard**

<u>Standard reference number</u>	<u>Title</u>	<u>Referenced in code section number</u>
Section 15-2901 RPS Compliance Requirements	<i>DC Renewable Portfolio Standard</i>	Appendix Z, Z3.3
Section 15-2902 Generator Certification		
Section 15-2999 Definitions		

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**ENERGY CONSERVATION CODE SUPPLEMENT OF 2017 –  
RESIDENTIAL PROVISIONS (12-I[RE] DCMR)**

*[Residential Provisions]*

**IECC SECTIONS AMENDED BY THIS SUPPLEMENT**

CHAPTER 1 [RE]	SCOPE AND ADMINISTRATION
CHAPTER 2[RE]	DEFNITIONS
CHAPTER 3 [RE]	GENERAL REQUIREMENTS
CHAPTER 4 [RE]	RESIDENTIAL ENERGY EFFICIENCY
CHAPTER 5[RE]	EXISTING BUILDINGS
CHAPTER 6[RE]	REFERENCED STANDARDS
APPENDIX RA	RECOMMENDED PROCEDURE FOR WORST-CASE TESTING OF ATMOSPHERIC VENTING SYSTEMS
APPENDIX RB	SOLAR READY PROVISIONS

**CHAPTER 1[RE] SCOPE AND ADMINISTRATION****PART 1—SCOPE AND APPLICATION****R101 SCOPE AND GENERAL REQUIREMENTS**

*Strike Chapter 1 [RE] of the International Energy Conservation Code in its entirety and insert a new Chapter 1 [RE] into the Energy Conservation Code-Residential Provisions in its place to read as follows:*

**PART 1—SCOPE AND APPLICATION****R101 SCOPE AND GENERAL REQUIREMENTS**

**R101.1 General.** Administration and enforcement of the *Energy Conservation Code-Residential Provisions* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**R101.2 Scope.** The scope of the *Energy Conservation Code-Residential Provisions* shall be as defined in Chapter 1 of Title 12-A DCMR.

**CHAPTER 2[RE] DEFINITIONS****R202 DEFINITIONS****R202 DEFINITIONS**

*Strike the definitions for Energy Simulation Tool, Energy Cost and High-Efficacy Lamps in Section R202 of the International Energy Conservation Code in their entirety and insert new definitions for Energy Modeling Software and High Efficacy Lamps in the Energy Conservation Code-Residential Provisions to read as follows:*

**ENERGY MODELING SOFTWARE.** An *approved* software program or calculation-based methodology that projects the annual energy use of a building.

**HIGH-EFFICACY LAMPS.** LED, compact fluorescent lamps (CFL's), ~~T-5~~ T-8 or smaller diameter linear fluorescent lamps, or lamps with a minimum efficacy of:

1. 60 lumens per watt for lamps over 40 watts;
2. 50 lumens per watt for lamps over 15 watts to 40 watts; and
3. 40 lumens per watt for lamps 15 watts or less.



**CHAPTER 3 [RE] GENERAL REQUIREMENTS**

**R301 DISTRICT OF COLUMBIA CLIMATE ZONE**

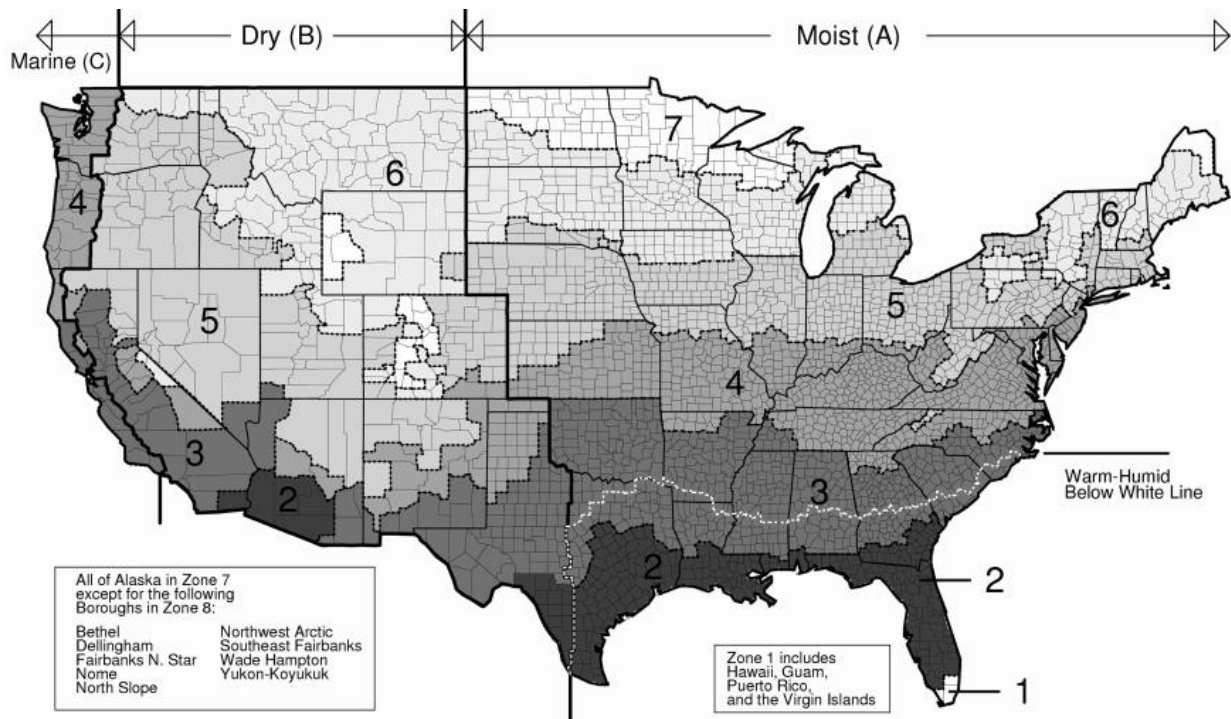
**R302 DESIGN CONDITIONS**

**R303 MATERIALS, SYSTEMS, AND EQUIPMENT**

*Strike Section R301 in its entirety, including all Tables, in the International Energy Conservation Code and insert new Sections R301 and R301.1, and new Figure R301.1, in the Energy Conservation Code-Residential Provisions in its place to read as follows:*

**R301 DISTRICT OF COLUMBIA CLIMATE ZONE**

**R301.1 General.** The District of Columbia, Virginia and Maryland are located in climate zone 4A per Figure R301.1.



**FIGURE R301.1 CLIMATE ZONES**

*Strike Section R302 in the International Energy Conservation Code in its entirety and insert new Section R302 in the Energy Conservation Code-Residential Provisions in its place to read as follows:*

**R302 DESIGN CONDITIONS**

**R302.1 Interior design conditions.**

The interior design temperatures used for heating and cooling load calculations shall be a maximum of 72°F (22°C) for heating and minimum of 75°F (24°C) for cooling.

Strike Section R303 in the International Energy Conservation Code in its entirety and insert new Section R303 in the Energy Conservation Code-Residential Provisions in its place to read as follows:

## **R303 MATERIALS, SYSTEMS, AND EQUIPMENT**

**R303.1 Identification.** Materials, systems and equipment shall be identified in a manner that will allow a determination of compliance with the applicable provisions of this code.

**R303.1.1 Building thermal envelope insulation.** An *R*-value identification mark shall be applied by the manufacturer to each piece of *building thermal envelope* insulation 12 inches (305 mm) or greater in width. Alternately, the insulation installers shall provide a certification listing the type, manufacturer and *R*-value of insulation installed in each element of the *building thermal envelope*. For blown or sprayed insulation (fiberglass and cellulose), the initial installed thickness, settled thickness, settled *R*-value, installed density, coverage area and number of bags installed shall be *listed* on the certification. For sprayed polyurethane foam (SPF) insulation, the installed thickness of the areas covered and *R*-value of installed thickness shall be *listed* on the certification. For insulated siding, the *R*-value shall be labeled on the product's package and shall be *listed* on the certification. The insulation installer shall sign, date and post the certification in a conspicuous location on the job site.

**R303.1.1.1 Blown or sprayed roof/ceiling insulation.** The thickness of blown-in or sprayed roof/ceiling insulation (fiberglass or cellulose) shall be written in inches (mm) on markers that are installed at least one for every 300 square feet (28 m<sup>2</sup>) throughout the attic space. The markers shall be affixed to the trusses or joists and marked with the minimum initial installed thickness with numbers not less than 1 inch (25 mm) in height. Each marker shall face the attic access opening. Spray polyurethane foam thickness and installed *R*-value shall be *listed* on certification provided by the insulation installer.

**R303.1.2 Insulation mark installation.** Insulating materials shall be installed such that the manufacturer's *R*-value mark is readily observable upon inspection.

**R303.1.3 Fenestration product rating.** *U*-factors of fenestration products (windows, doors and skylights) shall be determined in accordance with NFRC 100.

**Exception:** Where required, garage door *U*-factors shall be determined in accordance with either NFRC 100 or ANSI/DASMA 105.

*U*-factors shall be determined by an accredited, independent laboratory, and *labeled* and certified by the manufacturer.

Products lacking such a *labeled U*-factor shall be assigned a default *U*-factor from Table R303.1.3(1) or R303.1.3(2). The solar heat gain coefficient (SHGC) and *visible transmittance* (VT) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and *labeled* and certified by the manufacturer. Products lacking such a *labeled* SHGC or VT shall be assigned a default SHGC or VT from Table R303.1.3(3).

**TABLE R303.1.3(1)  
DEFAULT GLAZED FENESTRATION U-FACTORS**

FRAME TYPE	SINGLE PANE	DOUBLE PANE	SKYLIGHT	
			Single	Double
Metal	1.20	0.80	2.00	1.30
Metal with Thermal Break	1.10	0.65	1.90	1.10
Nonmetal or Metal Clad	0.95	0.55	1.75	1.05
Glazed Block	0.60			

**TABLE R303.1.3(2)  
DEFAULT DOOR U-FACTORS**

DOOR TYPE	U-FACTOR
Uninsulated Metal	1.20
Insulated Metal	0.60
Wood	0.50
Insulated, nonmetal edge, max 45% glazing, any glazing double pane	0.35

**TABLE R303.1.3(3)  
DEFAULT GLAZED FENESTRATION SHGC AND VT**

	SINGLE GLAZED		DOUBLE GLAZED		GLAZED BLOCK
	Clear	Tinted	Clear	Tinted	
SHGC	0.8	0.7	0.7	0.6	0.6
VT	0.6	0.3	0.6	0.3	0.6

**R303.1.4 Insulation product rating.** The thermal resistance (*R*-value) of insulation shall be determined in accordance with the U.S. Federal Trade Commission *R*-value rule (CFR Title 16, Part 460) in units of  $h \cdot ft^2 \cdot ^\circ F/Btu$  at a mean temperature of 75°F (24°C).

**R303.1.4.1 Insulated siding.** The thermal resistance (*R*-value) of insulated siding shall be determined in accordance with ASTM C 1363. Installation for testing shall be in accordance with the manufacturer’s instructions.

**R303.2 Installation.** Materials, systems and equipment shall be installed in accordance with the manufacturer’s instructions and the *International Building Code* or *International Residential Code*, as applicable.

**R303.2.1 Protection of exposed foundation insulation.** Insulation applied to the exterior of basement walls, crawlspace walls and the perimeter of slab-on-grade floors shall have a rigid, opaque and weather-resistant protective covering to prevent the degradation of the insulation’s thermal performance. The protective covering shall cover the exposed exterior insulation and extend not less than 6 inches (153 mm) below grade.

**R303.3 Maintenance information.** Maintenance instructions shall be furnished for equipment and systems that require preventive maintenance. Required regular maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label shall include the title or publication number for the operation and maintenance manual for that particular model and type of product.

**CHAPTER 4 [RE] RESIDENTIAL ENERGY EFFICIENCY****R401 GENERAL****R402 BUILDING THERMAL ENVELOPES****R403 SYSTEMS****R404 ELECTRICAL POWER LIGHTING SYSTEMS****R405 ADDITIONAL EFFICIENCY PACKAGE****R406 ENERGY RATING INDEX COMPLIANCE ALTERNATIVE****R401 GENERAL**

*Strike Sections R401.2 and R401.3 of the International Energy Conservation Code in their entirety and insert new Sections R401.2 and R401.3 into the Energy Conservation Code-Residential Provisions in their place to read as follows:*

**R401.2 Compliance.** Projects shall comply with one of the following:

1. Sections R401 through R405.
2. Section R406.

**R401.3 Certificate (Mandatory).** For new construction and Level 3-*alteration* projects, an *approved* permanent certificate shall be completed by the builder or registered design professional and posted on a wall in the space where the furnace is located, a utility room or an *approved* location inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant *R*-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and floor) and ducts outside conditioned spaces; *U*-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace or baseboard electric heater is installed in the residence, the certificate shall list “gas-fired unvented room heater,” “electric furnace” or “baseboard electric heater,” as appropriate. An efficiency shall not be *listed* for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.

**R402 BUILDING THERMAL ENVELOPE**

*Strike Section R402.1 of the International Energy Conservation Code in its entirety and insert new Section R402.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows:*

**R402.1 General (Prescriptive).**

The building thermal envelope shall meet the requirements of Sections R402.1.2 through R402.1.5.

Exception: The following low-energy buildings, or portions thereof, separated from the remainder of the building by building thermal envelope assemblies complying with this section shall be exempt from the building thermal envelope provisions of Section R402.

1. Those with a peak design rate of energy usage less than 3.4 Btu/h · ft<sup>2</sup> (10.7 W/m<sup>2</sup>) or 1.0 watt/ft<sup>2</sup> of floor area for space-conditioning purposes.
2. Those that do not contain conditioned space.

*Strike Section R402.1.1 of the International Energy Conservation Code in its entirety without substitution.*

*Strike Section R402.1.2 of the International Energy Conservation Code in its entirety and insert new section R402.1.2 in the Energy Conservation Code in its place to read as follows.*

**R402.1.2 Insulation and fenestration criteria.** The building thermal envelope shall meet the requirements of Table R402.1.2.

*Strike Table R402.1.2 of the International Energy Conservation Code in its entirety and insert new Table R402.1.2 in the Energy Conservation Code -Residential Provisions in its place to read as follows.*

**TABLE R402.1.2  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT<sup>a</sup>**

<b>FENESTRATION U-FACTOR<sup>b</sup></b>	0.30 U-Factor
<b>SKYLIGHT<sup>b</sup> U-FACTOR</b>	0.55 U-Factor
<b>GLAZED FENESTRATION SHGC<sup>b</sup></b>	0.40 Solar Heat Gain Coefficient (SHGC)
<b>CEILING</b>	R-49
<b>WOOD FRAME WALL AND RIM JOISTS</b>	R-19 in cavity + R-5 continuous on the exterior, <b>or</b> R-13 in cavity + R-10 continuous on the exterior, <b>or</b> R-15 continuous
<b>MASS WALL<sup>i</sup></b>	R-15 continuous on the exterior, or R-20 continuous on the interior
<b>FRAME FLOOR</b>	R-25 + R-5 continuous
<b>ELEVATED SLAB</b>	R-15 continuous
<b>BASEMENT WALL</b>	R-19 cavity + R-5 continuous on the exterior, <b>or</b> R-13 in cavity + R-10 continuous on the exterior, <b>or</b> R-15 continuous
<b>SLAB ON GRADE<sup>d</sup></b>	R-10 perimeter insulation for a depth of 2 ft.
<b><u>CONDITIONED CRAWLSPACE WALL</u></b>	R-19 cavity + R-5 continuous on the exterior, <b>or</b> R-13 in cavity + R-10 continuous on the exterior,

	or R-15 continuous
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For SI: 1 foot = 304.8 mm.

- a. 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.
- b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- c. The second *R*-value applies when more than half the insulation is on the interior of the mass wall.
- d. R-5 shall be added to the required slab edge R-values for heated slabs

**R402.1.3 R-value computation. (no change)**

**R402.1.4 U-factor alternative.**

*Strike Table R402.1.4 of the International Energy Conservation Code in its entirety and insert new Table R402.1.4 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**TABLE R402.1.4  
EQUIVALENT U-FACTORS<sup>a</sup>**

<b>FENESTRATION U-FACTOR</b>	0.30 U-Factor
<b>SKYLIGHT U-FACTOR</b>	0.55 U-Factor
<b>CEILING U-FACTOR</b>	0.026 U-Factor
<b>WOOD FRAME WALL U-FACTOR</b>	0.045 U-Factor
<b>MASS WALL U-FACTOR</b>	0.060 U-Factor
<b>FRAME FLOOR U-FACTOR</b>	0.033 U-Factor
<b><u>ELEVATED SLAB</u></b>	<u>0.066 U-Factor</u>
<b>MASS FLOOR U-FACTOR</b>	0.058 U-Factor
<b>BASEMENT WALL U-FACTOR</b>	0.045 U-Factor
<b>CONDITIONED CRAWLSPACE WALL U-FACTOR</b>	0.045 U-Factor

- a. Nonfenestration *U*-factors shall be obtained from measurement, calculation or an approved source.

**R402.1.5 Total UA alternative. (no change)**

**R402.2 Specific insulation requirements (Prescriptive).**

*Strike Section R402.2.1 of the International Energy Conservation Code in its entirety and insert new section R402.2.1 in the Energy Conservation Code in its place to read as follows.*

**R402.2.1 Ceilings with attic spaces.** Where Section R402.1.2 would require R-49 insulation in the ceiling but the depth of the roof rafters does not allow R49, the ceiling insulation value may be reduced to R-38. This reduction shall not apply to the *U*-factor alternative approach in Section R402.1.4 and the total UA alternative in Section R402.1.5.

*Strike Section R402.2.2 of the International Energy Conservation Code in its entirety without substitution.*

*Strike Section R402.2.3 of the International Energy Conservation Code in its entirety and insert new section R402.2.3 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R402.2.3 Eave baffle.** For air-permeable insulation in vented attics utilizing eave vents, a baffle shall be installed adjacent to soffit and eave vents. Baffles shall maintain an opening equal or greater than the size of the vent. The baffle shall extend over the top of the attic insulation. The baffle may be any solid material.

*Strike Section R402.2.4 of the International Energy Conservation Code in its entirety and insert new Section R402.2.4 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R402.2.4 Access hatches and doors.** Access doors from conditioned spaces to unconditioned spaces such as attics and crawl spaces shall be weatherstripped and insulated to a level equivalent to the insulation on the surrounding surfaces. Access shall be provided to all equipment that prevents damaging or compressing the insulation. A wood-framed or equivalent baffle or retainer is required to be provided when loose-fill insulation is installed, the purpose of which is to prevent the loose-fill insulation from spilling into the living space when the attic access is opened, and to provide a permanent means of maintaining the installed *R*-value of the loose-fill insulation.

**Exception:** Vertical doors that provide access from conditioned to unconditioned spaces shall be permitted to meet the fenestration requirements of Table R402.1.2.

*Strike Table R402.2.6 of the International Energy Conservation Code in its entirety and insert new Table R402.2.6 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**TABLE R402.2.6**  
**STEEL-FRAME CEILING, WALL AND FLOOR INSULATION**  
**(R-VALUE)**

<b><u>WOOD FRAME</u></b> <b><u>R-VALUE</u></b> <b><u>REQUIREMENT</u></b>	<b><u>COLD-FORMED STEEL</u></b> <b><u>EQUIVALENT R-VALUE</u></b> <sup>a</sup>
<sup>b</sup> <b><u>Steel Truss Ceilings</u></b>	
R-30	R-38 or R-30 + 3 or R-26 + 5
R-38	R-49 or R-38 + 3
R-49	R-38 + 5
<sup>b</sup> <b><u>Steel Joist Ceilings</u></b>	
R-30	R-38 in 2 × 4 or 2 × 6 or 2 × 8 R-49



	<u>in any framing</u>
<u>R-38</u>	<u>R-49 in 2 × 4 or 2 × 6 or 2 × 8 or 2 × 10</u>
<b>Steel-Framed Wall, 16" on center</b>	
<u>R-13</u>	<u>R-13 + 4.2 or R-19 + 2.1 or R-21 + 2.8 or R-0 + 9.3 or R-15 + 3.8 or R-21 + 3.1</u>
<u>R-13 + 3</u>	<u>R-0 + 11.2 or R-13 + 6.1 or R-15 + 5.7 or R-19 + 5.0 or R-21 + 4.7</u>
<u>R-20</u>	<u>R-0 + 14.0 or R-13 + 8.9 or R-15 + 8.5 or R-19 + 7.8 or R-19 + 6.2 or R-21 + 7.5</u>
<u>R-19 + 5</u>	<u>R-15 continuous or R-13 + 12.2 or R-15 + 11.8 or R-19 + 11.2 or R-21 + 10.9 or R-25 + 10.5</u>
<u>R-21</u>	<u>R-0 + 14.6 or R-13 + 9.5 or R-15 + 9.1 or R-19 + 8.4 or R-21 + 8.1 or R-25 + 7.7</u>
<b>Steel Framed Wall, 24" on center</b>	
<u>R-13</u>	<u>R-0 + 9.3 or R-13 + 3.0 or R-15 + 2.4</u>
<u>R-13 + 3</u>	<u>R-0 + 11.2 or R-13 + 4.9 or R-15 + 4.3 or R-19 + 3.5 or R-21 + 3.1</u>
<u>R-20</u>	<u>R-0 + 14.0 or R-13 + 7.7 or R-15 + 7.1 or R-19 + 6.3 or R-21 + 5.9</u>
<u>R-19 + 5</u>	<u>R-15 continuous or R-13 + 11.1 or R-15 + 10.4 or R-19 + 9.7 or R-21 + 9.2 or R-25 + 8.7</u>
<u>R-21</u>	<u>R-0 + 14.6 or R-13 + 8.3 or R-15 + 7.7 or R-19 + 6.9 or R-21 + 6.5 or R-25 + 5.9</u>
<b>Steel Joist Floor</b>	
<u>R-13</u>	<u>R-19 in 2 × 6, or R-19 + 6 in 2 × 8 or 2 × 10</u>
<u>R-19</u>	<u>R-19 + 6 in 2 × 6, or R-19 + 12 in 2 × 8 or 2 × 10</u>
<u>R-25 + 5</u>	<u>R-15 + 15</u>

- a. Cavity insulation *R*-value is listed first, followed by continuous insulation *R*-value.
- b. Insulation exceeding the height of the framing shall cover the framing.

*Strike Section R402.2.9 of the International Energy Conservation Code in its entirety without substitution.*

*Strike Section R402.2.10 of the International Energy Conservation Code in its entirety and insert new Section R402.2.10 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R402.2.10 Slab-on-grade floors.** Slab-on-grade floors with a floor surface less than 30 inches (762 mm) below grade shall be insulated in accordance with Table R402.1.2. The insulation shall extend downward from the top of the slab on the outside or inside of the foundation wall. Insulation located below grade shall be extended the distance provided in Table R402.1.2 by any combination of vertical insulation, insulation extending under the slab or insulation extending out from the building. Insulation extending away from the building shall be protected by pavement or by not less than 10 inches (254 mm) of soil. The top edge of the insulation installed between the *exterior wall* and the edge of the interior slab shall be permitted to be cut at a 45-degree (0.79 rad) angle away from the *exterior wall*. Slab-edge insulation is not required in jurisdictions designated by the *code official* as having a very heavy termite infestation.

*Strike Section R402.2.11 of the International Energy Conservation Code in its entirety and insert new Section R402.2.11 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R402.2.11 Crawl space walls.** As an alternative to insulating floors over crawl spaces, crawl space walls may be insulated when the crawl space is not vented to the outside. Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the underside of

the floor, including the band joist area, to the finished grade level and then vertically and/or horizontally for at least an additional 24 inches (610 mm). Exposed earth in unvented crawl space foundations shall be covered with a continuous Class I vapor retarder in accordance with the *International Building Code* or *International Residential Code*, as applicable. All joints of the vapor retarder shall overlap by 6 inches (153 mm) and be sealed or taped. The edges of the vapor retarder shall extend not less than 6 inches (153 mm) up the stem wall and shall be attached to the stem wall.

*Strike Section R402.2.13 of the International Energy Conservation Code in its entirety and insert new Section R402.2.13 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R402.2.13 Sunroom insulation.** *Sunrooms* enclosing conditioned space shall meet the insulation requirements of this code.

*Strike Section R402.3.5 of the International Energy Conservation Code in its entirety and insert new Section R402.3.5 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R402.3.5 Sunroom fenestration.** *Sunrooms* enclosing conditioned space shall meet the fenestration requirements of this code.

*Strike Table R402.4.1.1 of the International Energy Conservation Code in its entirety and insert new Table R402.4.1.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**TABLE R402.4.1.1  
AIR BARRIER AND INSULATION INSTALLATION**

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA
General requirements	A continuous six-sided air barrier shall be installed in the building envelope.  The exterior thermal envelope contains a continuous air barrier.  Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material. All ceiling, wall, floor and slab insulation shall achieve Grade I installation per the RESNET Standards or, alternatively, Grade II for surfaces that contain a layer of continuous, air impermeable insulation > R5.
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed.  Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.
Walls	The junction of the foundation and sill plate shall be sealed.  The junction of the top plate and the top of exterior walls shall be sealed.  Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum.  Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.

Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed. Doors adjacent to unconditioned space or ambient conditions shall be made substantially air-tight with weather stripping or equivalent gasket.	Continuous exterior insulation shall continue over window and door headers.  Skylight and window chases through unconditioned attic space must be insulated to exterior wall values per table 402.1.2.
Rim joists	Rim joists shall include continuous air barrier.	Rim joists shall be insulated per Table 402.1.2.
Floors (including above garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawlspace walls.
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.	Duct shafts or chases next to exterior or unconditioned space shall be insulated.
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	Walls next to unconditioned garage space shall be insulated.
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the drywall.	Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated.
Plumbing and wiring	Seal any plumbing or wiring that penetrates the building envelope.	Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.	
Common wall separating dwelling units	Air barrier is installed in common wall between dwelling units.	
HVAC register boots	HVAC register boots that penetrate building thermal envelope shall be sealed to the subfloor or drywall.	
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.	
Fireplace	An air barrier shall be installed on fireplace walls.	

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC-400.

Strike Section R402.4.1.2 of the International Energy Conservation Code in its entirety and insert new Section R402.4.1.2 in the Energy Conservation Code-Residential Provisions in its place to read as follows.

**R402.4.1.2 Air Leakage Testing.** Each dwelling unit shall comply with Table R402.4.1.2. ~~R401.4.1.2.~~ Testing shall be conducted in accordance with ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the approved third party conducting the test and provided to the code official before issuance of the certificate of occupancy or final inspection. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope. Approved sampling protocols approved by the code official may be used.

Insert new Table R402.4.1.2 in the Energy Conservation Code-Residential Provisions to read as follows.

**TABLE R402.4.1.2  
MAXIMUM ALLOWED AIR LEAKAGE RATES TESTING REQUIREMENTS**

	New construction	Level 3 Alteration affecting 80% or more of the aggregate work of the building (Gut Rehabilitation)
Single family detached, two family attached (duplex), townhouses, flats	3 ACH50	3 ACH50
Dwelling units in Multifamily buildings 3 stories and less	.30 CFM50/SF enclosure area of each unit or 3 ACH50	.30 CFM50/SF enclosure area of each unit or 3 ACH50

Strike Section R402.4.4 of the International Energy Conservation Code in its entirety and insert new Section R402.4.4 in the Energy Conservation Code-Residential Provisions in its place to read as follows.

**R402.4.4 Fuel Burning Appliances and Equipment.** For new construction, all new fuel burning appliances and equipment located inside the building envelope must be sealed combustion.

Existing buildings undertaking a Level 3 alteration at 80% of aggregate area must comply with one of the following:

1. New equipment and appliances shall be sealed combustion; or
2. Locate open combustion appliances and equipment outside the building thermal envelope or enclosed in a room, isolated from the thermal envelope. Such rooms shall be sealed and insulated in accordance with the envelope requirements of Table R402.1.2, where the walls, floors and ceilings shall meet not less than the basement wall R-value requirement. The door into the room shall be fully gasketed and any water lines and ducts in the room insulated in accordance with Section R403. The combustion air duct shall be insulated where it passes through conditioned space to a minimum of R-8.

In an existing building Level 3 *alteration* at 80% of aggregate area that contains open combustion equipment or appliances, a “worst-case testing of atmospheric venting systems” shall be conducted by an *approved* party in accordance with Appendix RA. Testing reports shall be provided to the *code official*. If the building fails the test in accordance with Appendix RA, the existing equipment must comply with either option 1 or 2.

**Exceptions:**

1. Power-vented equipment and appliances.
2. Fireplaces and stoves complying with Section R402.4.2 and Section R1006 of the *Residential Code*.

*Strike Section R402.5 of the International Energy Conservation Code in its entirety and insert new Section R402.5 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R402.5 Maximum fenestration U-factor and SHGC (Mandatory).** The area-weighted average maximum fenestration *U*-factor permitted using tradeoffs from Section R402.1.5 or R406 shall be 0.40 for vertical fenestration, and 0.75 for skylights.

*Insert new Sections R402.6 and R402.6.1 in the Energy Conservation Code-Residential Provisions to read as follows.*

**R402.6 Cool Roof Requirements.** Roof coverings for roof slopes less than or equal to two units vertical in 12 units horizontal (17 percent slope or less) for buildings and covered parking shall conform to this section. A minimum of 75 percent of the entire roof surface not used for roof penetrations, renewable energy power systems (e.g., photovoltaics or solar thermal collectors), harvesting systems for rainwater to be used on-site, or green roofing systems shall be covered with products that comply with one or both of the following:

1. Have a minimum three-year-aged Solar Reflective Index (SRI) of 64.
2. Comply with the criteria for roof products as defined in “ENERGY STAR® Program Requirements, Product Specification for Roof Products, Eligibility Criteria.”

**Exceptions:**

1. Building projects where an annual energy analysis simulation demonstrates that the total annual building energy consumption with the proposed roof is 2 percent less than it would be with a roof having a three-year-aged SRI of 64.
2. 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.
3. Terraces on setbacks comprising less than 25 percent of the area of the largest floor plate in the building.

4. Green roofs shall be permitted to comprise part or all of the 75 percent required area coverage.

**R402.6.1 Solar Reflective Index.** Initial and aged values of the SRI shall be calculated in accordance with ASTM E1980 for medium-speed wind conditions, using a convection coefficient of  $[2.1 \text{ BTU}/(\text{h} \cdot \text{ft}^2 \cdot ^\circ\text{F})]$  or the metric equivalent  $[12 \text{ W}/(\text{m}^2 \cdot \text{K})]$ . 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.

## **R403 SYSTEMS**

*Strike Section R403.3.1 of the International Energy Conservation Code in its entirety and insert new Section R403.3.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.3.1 Insulation (Mandatory).** Supply and return ducts outside of the *building thermal envelope* shall be insulated to a minimum of R-8.

**Exception:** Where ducts are less than 3 inches (76mm) in diameter, a minimum of R6 is allowed.

*Strike Section R403.3.2.1 of the International Energy Conservation Code in its entirety and insert new Section R403.3.2.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.3.2.1 Sealed air handler.** Air handlers shall have a manufacturer's designation for an air leakage of no more than 2 percent of the design air flow rate when tested in accordance with ASHRAE 193.

**Exception:** ENERGY STAR-certified heating and cooling systems are deemed to be compliant.

*Strike Section R403.3.3 of the International Energy Conservation Code in its entirety and insert new Section R403.3.3 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.3.3 Duct testing (Mandatory).** Testing shall be conducted by an *approved* third party. A written report of the result of the test shall be signed by the party conducting the test and provided to the code official before issuance of the certificate of occupancy or final inspection. Ducts shall be pressure tested to determine air leakage by one of the following methods:

1. Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.

2. Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer’s air handler enclosure. Registers shall be taped or otherwise sealed during the test.

**Exception:**

1. Where the ducts and air handlers are located entirely within the building thermal envelope.
2. Where ducts from an existing heating and cooling system are extended to an addition, duct systems with less than 40 linear feet (12.19 m) in unconditioned spaces.

*Strike Section R403.5.3 of the International Energy Conservation Code in its entirety and insert new Section R403.5.3 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.5.3 Hot water pipe insulation (Mandatory).** Insulate hot water pipe with a minimum thermal resistance (*R*-value) of R-3

*Strike Section R403.5.4 of the International Energy Conservation Code in its entirety without substitution.*

*Strike Section R403.6 of the International Energy Conservation Code in its entirety and insert new Section R403.6 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.6 Mechanical ventilation (Mandatory).** The building shall be provided with ventilation that meets the requirements of the *Residential Code* or the *Mechanical Code*, as applicable. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.

*Strike Section R403.6.1 of the International Energy Conservation Code in its entirety and insert new Section R403.6.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.6.1 Mechanical ventilation system fan efficacy.** Mechanical ventilation system fans shall meet the efficacy requirements of Table R403.6.1 or be certified to the most current version of ENERGY STAR.

**Exception:** Where mechanical ventilation fans are integral to tested and listed HVAC equipment, they shall be powered by an electronically commutated motor.

*Strike Table R403.6.1 of the International Energy Conservation Code in its entirety and insert new Table R403.6.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**TABLE R403.6.1  
MECHANICAL VENTILATION SYSTEM FAN EFFICACY**

FAN LOCATION	AIR FLOW RATE MINIMUM (CFM)	MINIMUM EFFICACY (CFM/WATT)	AIR FLOW RATE MAXIMUM (CFM)
Range hoods	Any	2.8 cfm/watt	Any

In-line fan	Any	2.8 cfm/watt	Any
Bathroom or, utility room	10	1.4 cfm/watt	< 90
Bathroom or, utility room	90	2.8 cfm/watt	Any

For SI: 1 cfm = 28.3 L/min.

*Strike Section R403.7 of the International Energy Conservation Code in its entirety and insert new Section R403.7 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.7 Equipment sizing and efficiency rating (Mandatory).** Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other *approved* heating and cooling calculation methodologies. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed. If available equipment cannot satisfy the latent and sensible loads calculated while complying with ACCA Manual S, the next larger size may be selected.

**Exceptions:**

1. Where the new cooling equipment utilizes multistage technology or variable refrigerant flow technology.
2. Where the new heating and/or cooling equipment is 1.5 tons or less.
3. Where ductwork is being extended from an existing equipment into an addition.
4. Where there is a replacement in kind of an existing system, as long as the BTU's of the new system are equivalent or smaller to the new equipment and the building thermal envelope is not being altered.

*Strike Section R403.8 of the International Energy Conservation Code in its entirety and insert new Section R403.8 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.8 Systems serving multiple dwelling units (Mandatory).** Systems serving multiple dwelling units shall comply with Sections ~~Section~~ 6 and ~~Section~~ 7 of the Energy Conservation Code-Residential Provisions ~~DC Commercial Energy Code~~ in lieu of Section R403.

**Exception:** Accessory Dwelling Unit (ADU) and *flats* are exempt.

*Strike Section R403.10.3 of the International Energy Conservation Code in its entirety and insert new Section R403.10.3 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R403.10.3 Covers.** Outdoor heated pools and outdoor permanent spas shall be provided with permanent, operable a-vapor-retardant cover or other *approved* vapor-retardant means.

**Exception:** Where more than 70 percent of the energy for heating, computed over an operation season, is from site-recovered energy, such as from a heat pump or solar energy source, covers or other vapor-retardant means shall not be required.



*Strike Section R404 of the International Energy Conservation Code in its entirety and insert new Section R404 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R404 ELECTRICAL POWER LIGHTING SYSTEMS**

*Strike Sections R404.1 and R404.1.1 of the International Energy Conservation Code in their entirety and insert new Sections R404.1 and R404.1.1 in the Energy Conservation Code-Residential Provisions in their place to read as follows.*

**R404.1 Lighting equipment (Mandatory).** Not less than 85 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps or not less than 85 percent of the permanently installed lighting fixtures shall contain only *high-efficacy lamps*. *High efficacy lamps* are either LED, compact fluorescent lamps (CFL’s), T-8 or smaller diameter linear fluorescent lamps, or lamps with a minimum efficacy of:

1. 60 lumens per watt for lamps over 40 watts;
2. 50 lumens per watt for lamps over 15 watts to 40 watts; and
3. 40 lumens per watt for lamps 15 watts or less.

**R404.1.1 Lighting equipment (Mandatory).** Fuel gas lighting systems shall not have continuously burning pilot lights.

*Strike Section R405 of the International Energy Conservation Code in its entirety and insert new Section R405 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R405 ADDITIONAL EFFICIENCY PACKAGE**

**R405.1 Requirements.** New buildings shall comply with at least one of the following:

1. Enhanced HVAC performance in accordance with Section R405.2.
2. Enhanced Building Envelope in accordance with Section R405.3.
3. Enhanced Air Leakage and Heat Recovery Ventilation in accordance with Section R405.4.
4. Enhanced Water Heating System in accordance with Section R405.5.

**Exception:** *Alterations* are exempt from Section R405.

**R405.2 Efficient Heating and Cooling Systems.** All heating and cooling equipment shall meet the minimum efficiency requirements of Table R405.2.

**TABLE R405.2**

Equipment Type	Efficiency
Split and Packaged Air Conditioners	≥ 15 SEER <sup>a</sup>

Split and Packaged Air Source Heat Pumps	$\geq 15$ SEER <sup>a</sup> , $\geq 9.0$ HSPF <sup>b</sup>
Gas-fired Furnace	$\geq 90\%$ AFUE <sup>c</sup> and Furnace Fan Efficiency $\leq 2.0\%$
Gas-fired Boiler	$\geq 90\%$ AFUE <sup>c</sup>
Ground Source Heat Pump	$\geq 17.1$ EER <sup>d</sup> and $\geq 3.6$ COP <sup>e</sup>

- a. SEER - Seasonal Energy Efficiency Ratio
- b. HSPF – Heating Seasonal Performance Factor
- c. AFUE – Annual Fuel Utilization Efficiency
- d. EER – Energy Efficiency Ratio
- e. COP – Coefficient of Performance

**R405.3 Enhanced Building Thermal Envelope.** *Building Thermal Envelope* shall comply with Table R405.3 in addition to Table R402.1.2.

**TABLE R405.3  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT**

FENESTRATION	Windows = 0.24 U-Factor ENERGY STAR Compliant Doors
SKYLIGHT U-FACTOR	0.45 U-Factor
GLAZED FENESTRATION SHGC	0.40 Solar Heat Gain Coefficient (SHGC)
CEILING	R60
MASS WALL	U-factor less than or equal to .035 or R-19 cavity + R-10 continuous, or R-13 in cavity + R-15 continuous, or R-25 continuous
WOOD FRAME	U-factor less than or equal to .035 or R-19 cavity + R-10 continuous, or R-13 in cavity + R-15 continuous, or R-25 continuous
METAL FRAME WALL	U-factor less than or equal to .035
CONTINUOUS SLAB INSULATION	R10 continuous

**R405.4 Enhanced Air Leakage and Heat Recovery Ventilation.** Buildings shall meet the minimum air leakage requirements of Table R405.4 and install a heat or energy recovery ventilation system.

**TABLE R405.4  
AIR LEAKAGE TESTING REQUIREMENTS**

	New construction
Single family detached, two family attached (duplex), townhouses, flats	2 ACH50
Dwelling units in Multifamily buildings 3 stories and less	.25 CFM50/SF enclosure area of each unit or 2 ACH50

**R405.5 Efficient Appliances and Water Heating.** All refrigerators, freezers, dishwashers, clothes washers, and ceiling fans must be ENERGY STAR Qualified, and water heater(s) shall meet the minimum efficiency requirements of Table R405.5.

**TABLE R405.5**

Equipment Type	Efficiency
Gas Storage Water Heaters	≥ 0.90 Energy Factor (EF)
Tankless Water Heaters	≥ 0.95 Energy Factor (EF) with electronic ignition
Electric Water Heaters	≥ 2.2 Energy Factor (EF)

**R406 ENERGY RATING INDEX COMPLIANCE ALTERNATIVE**

*Strike Section R406.2 (including Table R406.2) of the International Energy Conservation Code in their entirety and insert new Section R406.2 and Table R406.2 in the Energy Conservation Code-Residential Provisions in their place to read as follows.*

**R406.2 Mandatory requirements.** Compliance with this section requires that the provisions identified in Sections R401 through R404 labeled as “mandatory” be met. The building thermal envelope shall be greater than or equal to Table R406.2.

**TABLE R406.2  
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT<sup>a</sup>**

<b>FENESTRATION U-FACTOR<sup>b</sup></b>	0.35 U-Factor
<b>SKYLIGHT<sup>b</sup> U-FACTOR</b>	0.60 U-Factor
<b>GLAZED FENESTRATION SHGC<sup>b</sup></b>	No Requirement
<b>CEILING</b>	R-38
<b>WOOD FRAME WALL</b>	R-13
<b>MASS WALL</b>	R-5 exterior continuous or R-10 interior continuous
<b>FRAME FLOOR</b>	R-19

MASS FLOOR	R-15
BASEMENT WALL	R-10 continuous or R-13 in cavity
SLAB c R-VALUE & DEPTH	R-10 for the first 2 feet
CONDITIONED CRAWLSPACE WALL	R-10 continuous or R-13 in cavity

For SI: 1 foot = 304.8 mm.

- a. 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.
- b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- c. R-5 shall be added to the required slab edge R-values for heated slabs.

*Strike Section R406.4 (including Table R406.4) of the International Energy Conservation Code in their entirety and insert new Section R406.4 and Table 406.4 in the Energy Conservation Code-Residential Provisions in their place to read as follows.*

**R406.4 ERI-based compliance.** Compliance based on an ERI analysis requires that the *rated design* be shown to have an ERI less than or equal to ~~58~~54 when compared to the *ERI reference design*.

**R406.4.1 Renewable energy.** The use of renewable energy is not allowed to meet the minimum requirement of ~~54~~58 as listed in R406.4.

## CHAPTER 5 (RE) EXISTING BUILDINGS

## R501 GENERAL

## R502 ADDITIONS

## R503 ALTERATIONS

## R501 GENERAL

*Strike Sections R501.1 through 501.6 of the International Energy Conservation Code in their entirety and insert new Section R501.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R501.1 Scope.** The scope and intent of this chapter shall be governed by Section 101.10 of the *Building Code*, Title 12-A DCMR.

**R501.1.1 Additions, alterations or repairs: General.** Additions, alterations or repairs to an existing building, building system or portion thereof shall comply with section R502, R503 or R504. Unaltered portions of the existing building or building system shall not be required to comply with this code.

*Strike Section R501.2 of the International Energy Conservation Code in its entirety and insert new Section R501.2 in the Energy Conservation Code Residential Provisions in its place to read as follows.*

**R501.2 Existing buildings.** The *Energy Conservation Code* shall not be used to require the removal, alteration or abandonment of, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of the *Energy Conservation Code*.

*Strike Section R501.4 of the International Energy Conservation Code in its entirety without substitution.*

*Strike Section R501.6 of the International Energy Conservation Code in its entirety and insert new Section R501.6 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R501.6 Historic buildings.** Any building or other structure that is listed (either as an individual listing or as a contributing resource to a listed historic district) in the D.C. or National Register of Historic Places shall be exempt from provisions of the *Energy Conservation Code*, provided that the D.C. Historic Preservation Officer or the Keeper of the National Register of Historic Places certifies that compliance with the that provision of the *Energy Conservation Code* will cause the loss of irreplaceable historic components that may lead to the de-listing of the building or other structure.

## R502 ADDITIONS

*Strike Section R502.1.2 of the International Energy Conservation Code in its entirety and insert new Section R502.1.2 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R502.1.2 Existing plus addition compliance (Energy Rating Index Compliance Alternative).** The addition shall be deemed to comply where the annual site energy use of the addition and the existing building, and any alterations that are part of the project, is less than or equal to the annual site energy use of the existing building when modeled in accordance with Section R406. The addition and any alterations that are part of the project shall comply with Section R406 in its entirety.

### **R503 ALTERATIONS**

*Strike Section R503.1.1 of the International Energy Conservation Code and insert new Section R503.1.1 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R503.1.1 Building envelope.** Building envelope assemblies that are part of the alteration shall comply with Section R402.1.2 or R402.1.4, Sections R402.2.1 through R402.2.12, R402.3.1, R402.3.2, R402.4.1.1, R402.4.3 and R402.4.4.

**Exception:** The following alterations need not comply with the requirements for new construction provided the energy use of the building is not increased:

1. Storm windows installed over existing fenestration.

*[Retain current exceptions 2 through 6 as they are in IECC 2015]*

*[Retain current Section R503.1.1.1]*

*Insert new Section R503.1.1.2 in the Energy Conservation Code-Residential Provisions to read as follows.*

**R503.1.1.2 Additional Insulation Requirements for Level 3 Alterations affecting 80 percent or more of the aggregate area of the building.** Existing exterior wall, ceiling, and floor assemblies that are not part of the scope of work of the *alteration* but are in an existing building undertaking an *Level 3 alteration* affecting 80 percent or more of the aggregate area of the building are required to comply with the following minimum insulation requirements:

1. Existing exterior walls shall be insulated to a minimum of R-7.5 continuous insulation or R-13 cavity insulation. Air permeable cavity insulation shall also be sufficient to fill the cavity.
2. Existing ceilings must be insulated to R-49 or have the cavity filled with insulation to the maximum extent possible.
3. Existing floors must be insulated to R-25 or have the cavity filled with insulation to the maximum extent possible.

**Exception:** Existing exterior walls where space constraints would make it impractical to meet this section without substantial reconfiguration of interior spaces or features.

*Insert new Section R503.1.1.3 in the Energy Conservation Code-Residential Provisions to read as follows.*

**R503.1.1.3 Air Leakage Testing.** *Level 3 alterations* affecting 80 percent or more of the aggregate area of the building must comply with air leakage requirements and procedures per Section R402.4.1.2.

*Strike Sections R503.1.2 through R503.1.4 of the International Energy Conservation Code in their entirety and insert new Sections R503.1.2 through R503.1.4 in the Energy Conservation Code-Residential Provisions in their place to read as follows.*

**R503.1.2 Heating and cooling systems.** New heating, cooling and duct systems that are part of the alteration shall comply with Sections R403.1, R403.2, R403.3 R403.4, R403.6, and R403.7.

**Exception:** Where ducts from an existing heating and cooling system are extended, duct systems with less than 40 linear feet (12.19 m) in unconditioned spaces shall not be required to be tested in accordance with Section R403.3.3.

**R503.1.3 Service hot water systems.** New service hot water systems that are part of the alteration shall comply with Section R403.5.

**R503.1.4 Lighting.** New lighting fixtures that are part of the alteration shall comply with Section R404.

*Strike Section R503.2 of the International Energy Conservation Code in its entirety and insert new Section R503.2 in the Energy Conservation Code-Residential Provisions in its place to read as follows.*

**R503.2 Change in space conditioning.** Any nonconditioned or low-energy space, as defined in R402.1 that is altered to become *conditioned space* shall be required to be brought into full compliance with this code.

**CHAPTER 6 [RE]**

**REFERENCED STANDARDS**

**ASTM**

ASTM International  
 100 Barr Harbor  
 West Conshohocken, PA 19428-2959

*Insert the following new standard references in Chapter 6 [RE] of the Energy Conservation Code-Residential Provisions under subheading ASTM to read as follows:*

<b>Standard reference number</b>	<b>Title</b>	<b>Referenced in code section number</b>
E408-71 (2008)	Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques	R402.6
C1549-09	Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer	R402.6
C1371-04a	Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers	R402.6
E1980-11	Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces	R402.6
E1918-06	Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field	R402.6

**EPA**

Environmental Protection Agency  
 Ariel Rios Building  
 1200 Pennsylvania Avenue, NW  
 Washington, D.C. 20460

*Insert the following new referenced standards in Chapter 6 [RE] of the Energy Conservation Code-Residential Provisions under subheading EPA to read as follows:*

<b>Standard reference number</b>	<b>Title</b>	<b>Referenced in code section number</b>
ENERGY STAR	Energy Star Program Requirements, Product Specification for Roof Products, Eligibility Criteria, version 2.2 (October 2010)	R402.6



*Appendix RA to the International Energy Conservation Code is adopted in the District of Columbia as **APPENDIX RA, RECOMMENDED PROCEDURE FOR WORST-CASE TESTING OF ATMOSPHERIC VENTING SYSTEMS**, to the Energy Conservation Code-Residential Provisions.*

*Appendix RB to the International Energy Conservation Code is adopted in the District of Columbia, as amended by the Energy Conservation Code Supplement, as **APPENDIX RB, SOLAR-READY PROVISIONS**, to the Energy Conservation Code-Residential Provisions.*

## **APPENDIX RB SOLAR-READY PROVISIONS**

### **SECTION RB101 SCOPE**

### **SECTION RB102 DEFINITIONS**

### **SECTION RB103 SOLAR-READY ZONE**

#### **SECTION RB101 SCOPE**

**RB101.1 General.** These provisions shall be applicable for new construction and Level 3 alteration affecting 80% or more of the aggregate area of the building.

#### **SECTION RB102 DEFINITIONS**

**RB102.1 General.** For purposes of this Appendix, the following terms are defined as follows:

**SOLAR-READY ZONE.** A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

#### **SECTION RB103 SOLAR-READY ZONE**

##### **RB103.1 General.**

A residential building with a roof area of 600 square feet (55.74 m<sup>2</sup>) or more oriented between 110 degrees and 270 degrees of true north shall comply with Sections RB103.2 through RB103.8.

##### **Exceptions:**

1. Residential buildings with a permanently installed on-site renewable energy system with a minimum size of 2 kilowatts (KW) per dwelling unit.
2. A building with a solar-ready zone that is shaded for more than 70 percent of daylight hours annually.

**RB103.2 Construction document requirements for solar-ready zone.** Construction documents shall indicate the solar-ready zone.

**RB103.3 Solar-ready zone.** The total solar-ready zone area shall be not less than 300 square feet (27.87 m<sup>2</sup>) exclusive of mandatory access or set back areas as required by the Fire Code. Residential buildings with a total floor area less than or equal to 2,000 square feet (185.8 m<sup>2</sup>) per dwelling shall have a solar-ready zone area of not less than 150

square feet (13.94 m<sup>2</sup>). The *solar-ready zone* shall be composed of areas not less than 5 feet (1524 mm) in width and not less than 80 square feet (7.44 m<sup>2</sup>) exclusive of access or set back areas as required by the ~~International~~ *Fire Code*.

**RB103.4 Obstructions.** *Solar-ready zones* shall be free from obstructions, including but not limited to vents, chimneys, and roof-mounted equipment.

**RB103.5 Roof load documentation.** The structural design loads for roof dead load and roof live load shall be clearly indicated on the *construction documents*.

**RB103.6 Interconnection pathway.** *Construction documents* shall indicate pathways for routing of conduit or plumbing from the solar-ready zone to the electrical service panel or service hot water system.

**RB103.7 Electrical service reserved space.** The main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled “For Future Solar Electric.” The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

**RB103.8 Construction documentation certificate.** A permanent certificate, indicating the *solar-ready zone* and other requirements of this section, shall be posted near the electrical distribution panel, water heater or other conspicuous location by the builder or *registered design professional*.

**RB103.9 Shading.** The *solar-ready zone* shall be set back from any existing or new, permanently affixed object on the building or site that is located south, east or west of the *solar-ready zone* a distance not less than two times the object’s height above the nearest point on the roof surface. Such objects include, but are not limited to, taller portions of the building itself, parapets, chimneys, antennas, signage, rooftop equipment, trees and roof plantings.

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov). Comments must be received no later than thirty (30) after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-J DCMR EXISTING BUILDING CODE SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia adopts the 2015 edition of the *International Existing Building Code* (IEBC), as amended by this Supplement.

**IEBC CHAPTERS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

CHAPTER 1	SCOPE AND ADMINISTRATION
CHAPTER 2	DEFINITIONS
CHAPTER 4	PRESCRIPTIVE COMPLIANCE METHODS
CHAPTER 7	ALTERATIONS-LEVEL 1
CHAPTER 8	ALTERATIONS-LEVEL 2
CHAPTER 9	ALTERATIONS-LEVEL 3
CHAPTER 10	CHANGE OF OCCUPANCY
CHAPTER 11	ADDITIONS
CHAPTER 15	CONSTRUCTION SAFEGUARDS

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<sup>1</sup> The *District of Columbia Existing Building Code* (2017), referred to as the “*Existing Building Code*,” consists of the 2015 edition of the *International Existing Building Code* (*International Existing Building Code*), published by the International Code Council (ICC), as amended by the *Existing Building Code Supplement of 2017* (12-J DCMR). The *International Existing Building Code* is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be obtained at: <https://codes.iccsafe.org/public/public/collections/>.

*Strike Chapter 1 of the International Existing Building Code in its entirety and insert a new Chapter 1 into the Existing Building Code in its place to read as follows:*

**CHAPTER 1           SCOPE AND ADMINISTRATION**

**101    GENERAL**

**101           GENERAL**

**101.1 Scope and Intent.** The scope and intent of the *Existing Building Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR

**101.2** Administration and enforcement of the *Existing Building Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**CHAPTER 2            DEFINITIONS****202    GENERAL DEFINITIONS****202            GENERAL DEFINITIONS**

*Strike the definitions for ADDITION, EXISTING BUILDING, and WORK AREA in the International Existing Building Code in their entirety and insert a new definition for each in the Existing Building Code in their place to read as follows:*

**ADDITION.** An extension or increase in the building area, aggregate floor area, number of stories or height of a building or structure.

**EXISTING BUILDING.** Any building or structure that ~~was~~ has been erected and legally occupied (excluding buildings occupied pursuant to a temporary certificate of occupancy). ~~or issued a certificate of occupancy at least one year before a construction permit application for that building or structure was made to~~

**WORK AREA.** That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes spaces reconfigured solely to facilitate mechanical, electrical, plumbing, fire protection or fire alarm systems. Work area excludes newly installed or reconfigured mechanical, electrical, plumbing, fire protection or fire alarm systems. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code.

*Insert a new definition, FIRE RESISTANCE RATING, in Section 202 of the Existing Building Code to read as follows:*

**FIRE RESISTANCE RATING.** The period of time a building element, component or assembly maintains the ability to confine a fire, continues to perform a given structural function, or both, as determined by the tests, or the methods based on tests, prescribed in Section 703 of the *Building Code*. The fire resistance rating of existing building assemblies which have not been rated in accordance with Section 703 of the *Building Code* shall be determined in accordance with the procedures set forth in *Guidelines on Fire Ratings of Archaic Materials and Assemblies*, published in the *Existing Building Code* as Resource A.

## CHAPTER 4            PRESCRIPTIVE COMPLIANCE METHODS

## 403    ALTERATIONS

## 403            ALTERATIONS

*Strike Section 403.3.1 of the International Existing Building Code in its entirety and insert new Section 403.3.1 in the Existing Building Code in its place to read as follows:*

**403.3.1 Design live load.** Where the *alteration* does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the *alteration*. If the approved live load is less than that required by Section 1607 of the *Building Code*, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the *alteration* does result in increased design live load, the live load required by Section 1607 of the *Building Code* shall be used.

**Exception:** Buildings erected before July 1, 1925: In the alteration of buildings erected before July 1, 1925, the engineer of record is authorized to apply a maximum reduction of thirty percent (30%) of the specified minimum live loads in Table 1607.1 of the *Building Code* for live loads above 40 psf (1.92 kN/m<sup>2</sup>), provided that official live load placards are posted on the public areas of the affected floors showing this reduced live load. Live loads shall not be reduced to less than 40 psf (1.92 kN/m<sup>2</sup>).

## CHAPTER 7            ALTERATIONS-LEVEL 1

## 704    MEANS OF EGRESS

## 704            MEANS OF EGRESS

*Insert a new Section 704.2 into the Existing Building Code to read as follows:*

**704.2 Allowance for Fire Resistance Upgrading.** When improving the fire resistance rating of the enclosure of stairways, exit access corridors or exit passageways complying with Section 1005 of the *Building Code*, a tolerance of up to 1-1/2 inches (38 mm) shall be allowed in the minimum width of those elements of egress. When improving the fire resistance rating of a wall assembly on one side of stairways, exit access corridors or exit passageways, a tolerance of up to 3/4 inches (19 mm) shall be allowed in the minimum width of those elements of egress.



**CHAPTER 8            ALTERATIONS-LEVEL 2****801    GENERAL****804    FIRE PROTECTION****805    MEANS OF EGRESS****801            GENERAL**

*Strike Section 801.1 of the International Existing Building Code in its entirety and insert a new Section 801.1 into the Existing Building Code in its place to read as follows:*

**801.1 Scope.** Level 2 *alterations* as described in Section 504 shall comply with the requirements of this chapter.

**Exceptions:**

1. Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 705.2 shall be permitted to comply with Chapter 7.
2. Sections 803.2.1, 805.3 and 805.4 shall not be mandatory for Level 2 alteration work areas of less than 500 square feet (46.5 m<sup>2</sup>) provided:
  - 2.1. There is no increase in hazard; and
  - 2.2. The alterations do not adversely affect the existing means of egress or any required fire resistance rating.

*Strike Section 801.3 of the International Existing Building Code in its entirety and insert a new Section 801.3 in the Existing Building Code in its place to read as follows:*

**801.3 Compliance.** All new construction elements, components, systems and spaces shall comply with the requirements of the *Building Code*.

**Exceptions:**

1. Windows may be added without requiring compliance with the light and ventilation requirements of the *Building Code*.
2. Newly installed electrical equipment shall comply with the requirements of Section 808.
3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 805.6.
4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm). A lower clearance than that set forth in Exceptions to Subsection 1208.2 of the *Building Code* is permitted in special cases where the code

official determines that a lower clearance will pose no undue health or safety hazard to the occupants.

## 804 FIRE PROTECTION

*Strike Section 804.3 of the International Existing Building Code in its entirety and insert new Section 804.3 in the Existing Building Code in its place to read as follows:*

**804.3 Standpipes.** Where the work area includes exits or corridors located more than 50 feet (15 240 mm) above or below the lowest level of fire department access, a standpipe system shall be provided. Standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. Standpipe systems shall be installed in accordance with the *Building Code*.

### Exceptions:

1. Installation of a manual, wet standpipe system is permitted to achieve compliance with this section.
2. The interconnection of multiple standpipe risers shall not be required.

## 805 MEANS OF EGRESS

*Strike Section 805.3.1.1 of the International Existing Building Code in its entirety and insert new Section 805.3.1.1 to the Existing Building Code in its place to read as follows:*

**805.3.1.1 Single-exit buildings.** Only one exit is required from buildings and spaces of the following occupancies:

1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed fifty (50) and the exit access travel distance does not exceed 75 feet (22 860 mm).

**Exception:** In Group A, B, E, F, M, U and S occupancies, the exit access travel distance may be increased to 100 feet (30 480 mm) when the area served by the single exit and all egress components of the single exit are protected with automatic sprinklers.

2. Group B, F-2 and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m<sup>2</sup>), when the exit access travel distance does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be one (1) hour.

**Exception:** In Group B occupancies not more than three (3) stories in height provided the exit access travel distance does not exceed 100 feet (30 480 mm) and

the building is equipped with an approved automatic fire suppression system and automatic fire alarm system with smoke detectors located in all corridors, lobbies and common areas.

3. Open parking structures where vehicles are mechanically parked.
4. In Group R-4 occupancies, the maximum occupant load excluding staff is 16.
5. Groups R-1 and R-2 not more than two stories in height, when there are not more than four dwelling units per floor and the exit access travel distance does not exceed 50 feet (15 240 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.

**Exception:** Group R-2 occupancies may be not more than three stories in height where the building is equipped with an automatic fire suppression system and automatic fire alarm system.

6. In multilevel dwelling units in buildings of occupancy Group R-1 or R-2, an exit shall not be required from every level of the dwelling unit provided that one of the following conditions is met:
  - 6.1. The travel distance within the dwelling unit does not exceed 75 feet (22 860 mm); or
  - 6.2. The building is not more than three stories in height and all third-floor space is part of one or more dwelling units located in part on the second floor; and no habitable room within any such dwelling unit shall have a travel distance that exceeds 50 feet (15 240 mm) from the outside of the habitable room entrance door to the inside of the entrance door to the dwelling unit.
7. In Group R-2, H-4, H-5 and I occupancies and in rooming houses and child care centers, a single exit is permitted in a one-story building with a maximum occupant load of 10 and the exit access travel distance does not exceed 75 feet (22 860 mm).
8. In buildings of Group R-2 occupancy that are equipped throughout with an automatic fire sprinkler system, a single exit shall be permitted from a basement or story below grade if every dwelling unit on that floor is equipped with an approved window providing a clear opening of at least 5 square feet (0.47 m<sup>2</sup>) in area, a minimum net clear opening of 24 inches (610 mm) in height and 20 inches (508 mm) in width and a sill height of not more than 44 inches (1118 mm) above the finished floor.
9. In buildings of Group R-2 occupancy of any height with not more than four dwelling units per floor, with a smokeproof enclosure or outside stair as an exit

and with such exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling units served thereby.

10. In buildings of Group R-3 occupancy equipped throughout with an automatic fire sprinkler system, only one exit shall be required from basements or stories below grade.
11. In Group E occupancies that satisfy all of the following conditions:
  - 11.1. Not more than two stories above the level of exit discharge.
  - 11.2. The floor area of the story does not exceed 3,000 square feet (279 m<sup>2</sup>).
  - 11.3. Total occupant load served by the single exit does not exceed 49 persons per floor.
  - 11.4. Automatic sprinkler protection throughout the building, and a building fire alarm system.
12. In Group A-3, A-4, B, E, M and R occupancies located not more than one story below grade that satisfy all the following conditions:
  - 12.1. The floor area of the story does not exceed 2,500 square feet (233 m<sup>2</sup>).
  - 12.2. The area served by the single exit and all egress components of the single exit are equipped with an approved automatic fire suppression system.
  - 12.3. The building is equipped with an automatic fire alarm system.
13. In Group A occupancies located not more than one story above the level of exit discharge that satisfy all the following conditions:
  - 13.1. The floor area of the Group A occupancy does not exceed 2,000 square feet (186 m<sup>2</sup>).

**Exception:** Where the entire building is protected by an automatic sprinkler system, the floor area shall not exceed 3,000 square feet (279 m<sup>2</sup>).
  - 13.2. The occupant load of the assembly area served by the single exit does not exceed 2/3 of the capacity of the single exit.
  - 13.3. The area served by the single exit and all egress components of the single exit are protected with an automatic sprinkler system.

- 13.4. All portions of the level of discharge with access to the single exit egress path shall be protected by an automatic sprinkler system or shall be separated from the egress path in by an enclosure with a fire resistance rating of not less than 1-hour.
- 13.5. The building is provided with an automatic fire alarm system in accordance with the *Building Code* and NFPA 72.
14. In below-grade parking garages of Group S-2, provided:
  - 14.1. The parking levels are protected with automatic sprinklers and a fire alarm system;
  - 14.2. The travel distance to the exit does not exceed 400 feet (121 920 mm); and
  - 14.3. A car ramp is available for exit in addition to the single exit.
15. Group R-2 occupancies in buildings of any height that are provided with an approved, automatic fire suppression system, a single exit from a dwelling unit (*i.e.*, apartment) is permitted, provided both of the following conditions are met:
  - 15.1. Travel distance within the dwelling unit to the exit access corridor does not exceed 125 feet (38 100 mm); and
  - 15.2. Travel distance from corridor door to an exit does not exceed 200 feet (60 960 mm).

*Strike Section 805.4.1.1 of the International Existing Building Code in its entirety and insert new Section 805.4.1.1 to the Existing Building Code in its place to read as follows:*

**805.4.1.1 Occupant load and travel distance.** In any *work area*, all rooms and spaces having an occupant load greater than 50 or in which the travel distance to an exit exceeds 75 feet (22 860 mm) shall have a minimum of two egress doorways.

**Exceptions:**

1. Storage rooms having a maximum occupant load of ten.
2. Where the *work area* is served by a single exit in accordance with Section 805.3.1.1.
3. In Group B occupancies, only one egress doorway is required when conditions 3.1, 3.2, and 3.3 are met, and either condition 3.4 or 3.5, as applicable, is also met.

- 3.1. The space is confined, restricted or isolated by the demising partitions of the existing adjacent spaces such that two egress doorways complying with the remoteness requirements of the *Building Code* cannot be provided;
- 3.2. The common path of travel within the space is not more than 100 feet (30 480 mm);
- 3.3. The occupant load of the space does not exceed 49;
- 3.4. In non-sprinklered, non-high-rise buildings, automatic smoke detection is provided both in the spaces served by the single egress doorway and throughout the means of egress to the building exits; or
- 3.5. In high-rise buildings, both the spaces served by the single egress doorway and the means of egress to the building exit are provided with automatic sprinklers.

*Strike Section 805.6 of the International Existing Building Code in its entirety and insert new Section 805.6 to the Existing Building Code in its place to read as follows:*

**805.6 Dead-end corridors.** Dead-end corridors in any *work area* shall not exceed 35 feet (10 670 mm).

**Exceptions:**

1. Where dead-end corridors of greater length are permitted by the *Building Code*.
2. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 50 feet (15 240 mm) in buildings equipped throughout with an automatic fire alarm system installed in accordance with the *Building Code*.
3. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 75 feet (22 860 mm) where the floor containing the dead-end corridor is equipped with automatic sprinkler protection in accordance with the *Building Code*.
4. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 100 feet (30 480 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the *Building Code*.
5. In other than Group A and H occupancies, the maximum length of an extended dead-end corridor shall not exceed 50 feet (15 240 mm) on floors equipped with an automatic sprinkler system installed in accordance with the *Building Code*.

6. In other than Group A and H occupancies, the maximum length of an extended dead-end corridor shall not exceed 75 feet (22 860 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the *Building Code*.

**CHAPTER 9            ALTERATIONS-LEVEL 3****902    SPECIAL USE AND OCCUPANCY****903    BUILDING ELEMENTS AND MATERIALS****904    FIRE PROTECTION****902                    SPECIAL USE AND OCCUPANCY**

*Strike Section 902.1 of the International Existing Building Code in its entirety and insert a new Section 902.1 into the Existing Building Code in its place to read as follows:*

**902.1 High-rise buildings.** Any building having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 902.1.1 and 902.1.2.

**Exception:** Existing high-rise buildings that are stripped of all systems and interior walls in all areas other than those used as a parking garage (open or enclosed), leaving no more than the structure, shaft walls and the exterior envelope assemblies, shall be rebuilt in full compliance with Section 403 of the *Building Code*.

*Maintain Sections 902.1.1 and 902.1.2 of the International Existing Building Code*

**903                    BUILDING ELEMENTS AND MATERIALS**

*Insert a new Section 903.4 into the Existing Building Code to read as follows:*

**903.4 Air-borne sound.** Walls, partitions and floor/ceiling assemblies separating *dwelling units* and *sleeping units* from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. Walls, partitions and floor/ceiling assemblies separating Group A-2 occupancies from *dwelling units* shall have a sound transmission class (STC) of not less than 55 and shall be field tested in accordance with ASTM E 90 to achieve a rating of not less than 50 for air-borne noise. The following shall be sealed, lined, insulated or otherwise treated to maintain the required ratings: penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts. This requirement shall not apply to *dwelling unit* and *sleeping unit* entrance doors; however, such doors shall be tight fitting to the frame and sill.

**Exception:** Group A-2 occupancies that do not utilize amplified music as part of their use shall be exempt from these provisions.

**904                    FIRE PROTECTION**

*Strike Section 904.1.1 of the International Existing Building Code in its entirety and insert a new Section 904.1.1 into the Existing Building Code in its place to read as follows:*



**904.1.1 High-rise buildings.** An automatic sprinkler system shall be provided in *work areas* in accordance with Section 903 of the *Building Code*, as provided for in Sections 904.1.1.1 through 904.1.1.3.

**904.1.1.1** Where Level 3 *work areas* occur on 75 percent or more of the building floors, excluding mechanical, parking and non-occupiable levels, automatic sprinkler protection shall be provided throughout the entire building in accordance with Section 903 of the *Building Code*.

**904.1.1.2** Where an automatic sprinkler system with sprinkler control valves and water flow devices is provided for each floor throughout the building in accordance with Section 903 of the *Building Code*, modifications to the minimum type of construction and fire resistance rating requirements of the *Construction Codes* are permitted as described in Section 403.2 of the *Building Code*.

**904.1.1.3 Additional requirements for alterations to 100% percent of floors.** Where Level 3 alteration *work areas* occur on all floors, excluding mechanical, parking and non-occupiable levels, the building shall comply with the following additional requirements:

1. **Emergency voice/alarm communication systems.** Provide an emergency voice/alarm communication system in accordance with Section 403.4.4 of the *Building Code*.
2. **Emergency responder radio coverage.** Provide a two-way fire department communications system in accordance with Section 403.4.5 of the *Building Code*.
3. **Fire command center.** Provide a *fire command center* in accordance with Sections 403.4.6 and 911.1 of the *Building Code*.

**Exception:** Where any of the following features does not exist in the building or cannot be readily provided as part of a Level 3 *alteration*, such feature is not required to be added for compliance with the *fire command center* requirements of Sections 403.4.6 and 911.1 of the *Building Code*:

- a. Annunciator unit visually indicating the location of the elevators and whether they are operational; or
  - b. Status indicators and controls for air-handling systems; or
  - c. Emergency and standby power status indicators.
4. **Standby power and emergency power systems.** Provide standby power and emergency power systems in accordance with Section 403.4.8 of the *Building Code*.

*Insert new Section 904.1.4 in the Existing Building Code to read as follows:*

**904.1.4 Residential buildings that comply with group R-3 occupancies or the Residential Code. Group R-3 and Residential Code buildings.** An automatic sprinkler system shall be provided in all buildings with Group R-3 occupancies and in all buildings subject to the Residential Code.

**Exceptions:**

1. An automatic sprinkler system shall not be required in Group R-3 occupancies under the jurisdiction of the *Building Code* where the existing water service cannot provide adequate flow and pressure without the installation of a tank or pump, unless the water service is otherwise being replaced.
2. An automatic sprinkler system shall not be required for buildings under the jurisdiction of the *Residential Code* where the existing water service cannot provide adequate flow and pressure without the installation of a tank or pump, unless the water service is otherwise being replaced.

**CHAPTER 10          CHANGE OF OCCUPANCY****1012   CHANGE OF OCCUPANCY CLASSIFICATION****1012          CHANGE OF OCCUPANCY CLASSIFICATION**

*Insert new Section 1012.1.5 in the Existing Building Code to read as follows:*

**1012.1.5 Air-borne sound.** All buildings undergoing a change of occupancy classification shall comply with Section 903.4.

## CHAPTER 11 ADDITIONS

## 1102 HEIGHTS AND AREAS

## 1102 HEIGHTS AND AREAS

*Strike Section 1102.3 of the International Existing Building Code in its entirety and insert new Section 1102.3 in the Existing Building Code to read as follows:*

**1102.3 Fire protection systems.** Existing fire areas increased by the addition shall comply with Chapter 9 of the *Building Code* for buildings that are under the jurisdiction of the *Building Code*. Existing fire areas increased by the addition shall comply with Section 313 of the *Residential Code* for buildings under the jurisdiction of the *Residential Code*

**Exceptions:**

1. An automatic sprinkler system shall not be required in Group R-3 occupancies under the jurisdiction of the *Building Code* where the addition is less than 50 percent of the building area of the existing building and the water service is not being replaced.
2. An automatic sprinkler system shall not be required for buildings under the jurisdiction of the *Residential Code* where the addition is less than 50 percent of the building area of the existing building and the water service is not being replaced.
3. An automatic sprinkler system shall not be required in Group R-3 occupancies under the jurisdiction of the *Building Code* where the existing water service cannot provide adequate flow and pressure without the installation of a tank or pump, unless the water service is otherwise being replaced.
4. An automatic sprinkler system shall not be required for buildings under the jurisdiction of the *Residential Code* where the existing water service cannot provide adequate flow and pressure without the installation of a tank or pump, unless the water service is otherwise being replaced.

**CHAPTER 15            CONSTRUCTION SAFEGUARDS****1501    GENERAL**

*Strike Chapter 15 of the International Existing Building Code in its entirety and insert a new Chapter 15 into the Existing Building Code in its place to read as follows:*

**1501            GENERAL**

**1501.1 Scope.** The provisions of Chapter 33 of the *Building Code* shall govern safety during construction that is under the jurisdiction of this code and the protection of adjacent public and private properties.

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov). Comments must be received no later than thirty (30) days after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

**DISTRICT OF COLUMBIA  
CONSTRUCTION CODES SUPPLEMENT OF 2017  
12-K DCMR GREEN CONSTRUCTION CODE SUPPLEMENT OF 2017<sup>1</sup>**

The District of Columbia adopts the 2012 edition of the *International Green Construction Code* (IGCC), as amended by this Supplement.

**IGCC CHAPTERS AMENDED OR NEWLY CREATED IN THIS SUPPLEMENT:**

CHAPTER 1	SCOPE AND ADMINISTRATION
CHAPTER 2	DEFINITIONS
CHAPTER 3	<del>JURISDICTIONAL REQUIREMENTS</del> <u>GREEN BUILDING ACT AND ASHRAE 189.1</u>
CHAPTER 4	SITE DEVELOPMENT AND LAND USE
CHAPTER 5	MATERIAL RESOURCE CONSERVATION AND EFFICIENCY
CHAPTER 6	ENERGY CONSERVATION, EFFICIENCY, AND CO <sub>2</sub> <sup>E</sup>
CHAPTER 7	WATER RESOURCE CONSERVATION, QUALITY AND EFFICIENCY
CHAPTER 8	INDOOR ENVIRONMENTAL QUALITY AND COMFORT
CHAPTER 9	COMMISSIONING
<u>CHAPTER 10</u>	<u>EXISTING BUILDINGS</u>
<u>CHAPTER 11</u>	<u>EXISTING BUILDINGS SITE DEVELOPMENT</u>
CHAPTER 12	REFERENCED STANDARDS
APPENDIX A	PROJECT ELECTIVES

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<sup>1</sup> The *District of Columbia Green Construction Code (2017)*, referred to as the “*Green Construction Code*,” consists of the 2015 edition of the *International Green Construction Code (International Green Construction Code)*, published by the International Code Council (ICC), as amended by the *District of Columbia Green Construction Code Supplement of 2017 (12-K DCMR)*. The *International Green Construction Code* is copyrighted by the ICC and therefore is not republished here. However, a copy of the text may be obtained at: <https://codes.iccsafe.org/public/document/toc/548/>.

*Strike Chapter 1 of the International Green Construction Code in its entirety and insert a new Chapter 1 in the Green Construction Code in its place to read as follows:*

## **CHAPTER 1 SCOPE AND ADMINISTRATION**

### **101 GENERAL**

#### **101 GENERAL**

**101.1 Scope and intent.** Scope and intent of the *Green Construction Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**101.2 Administration and enforcement.** Administration and enforcement of the *Green Construction Code* shall be governed by Chapter 1 of the *Building Code*, Title 12-A DCMR.

**CHAPTER 2 DEFINITIONS****202 DEFINITIONS****202 DEFINITIONS**

*Insert new definitions in the Green Construction Code to read as follows:*

**DISTRICT FINANCED.** (1) Financing of a project or contract where funds or resources to be used for construction and development costs, excluding ongoing operational costs, are received from the District, or funds or resources which, in accordance with a federal grant or otherwise, the District administers, including a contract, grant, loan, tax abatement or exemption, land transfer, land disposition and development agreement, or tax increment financing, or any combination thereof, provided, that federal funds may be applied to the financing percentage only if permitted by federal law and grant conditions; or (2) Financing whose stated purpose is, in whole or in part, to provide for the new construction or substantial rehabilitation of affordable housing.

**DISTRICT INSTRUMENTALITY FINANCED.** See “*District financed.*”

**ELECTRIC VEHICLE.** An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles.

**ELECTRIC VEHICLE CONNECTOR.** A device that, by insertion into an electric vehicle inlet, establishes an electrical connection to the electric vehicle for the purpose of power transfer and information exchange.

**ELECTRIC VEHICLE SUPPLY EQUIPMENT.** The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

**FLOOR AREA, GROSS (For Section 302).** *Gross floor area* shall have the same meaning ascribed to it as in the *Zoning Regulations*, Title 11 DCMR, and as interpreted by the Zoning Administrator.

**GROSS FLOOR AREA (For Section 302).** See *Floor area, gross.*

**NEW CONSTRUCTION (For Section 302).** The construction of any building or structure whether as a stand-alone, or an addition to, a building or structure. The term “new construction” includes new buildings and additions or enlargements of existing buildings, exclusive of any *alterations* or repairs to any existing portion of a building.



**PROJECT (For Section 302).** Construction that is all or a part of one development scheme, built at one time or in phases.

**RESIDENTIAL OCCUPANCIES (For Section 302).** Residential Group R-2, R-3 or R-4 occupancies, and buildings regulated by the *Residential Code*.

**SUBSTANTIAL IMPROVEMENT (For Section 302).** Any repair, *alteration*, or addition of a building or structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the building or structure before the repair, *alteration*, or addition is started.

*Strike Chapter 3 of the International Green Construction Code in its entirety and insert new Chapter 3 in the Green Construction Code in its place to read as follows:*

## **CHAPTER 3 GREEN BUILDING ACT AND ASHRAE 189.1**

### **301 GENERAL**

### **302 GREEN BUILDING ACT REQUIREMENTS**

#### **301 GENERAL**

##### **301.1 General.**

The scope of the *Green Construction Code*, and alternative paths for complying with the *Green Construction Code*, are set forth in 12-A DCMR § 101.4.9. This chapter applies only to projects subject to the Green Building Act of 2006, effective March 8, 2007 (D.C. Law 16-234; D.C. Official Code §§ 6-1451.01 *et seq.* (2018 Repl.)), as amended (“Green Building Act” or “GBA”).

#### **302 GREEN BUILDING ACT REQUIREMENTS**

**302.1 Green Building Act of 2006 requirements.** An applicant for permits subject to Section 302.2 or Section 302.3 shall comply with Sections 302.4 through 302.12 and the Green Building Act. Other components of the Green Building Act are administered by other District of Columbia agencies. The applicant shall have the option of requesting a Green Building Act Preliminary Design Review Meeting (“GBA PDRM”) with the Department, at the discretion of the applicant.

**302.2 Publicly-owned or publicly financed projects.** This section shall apply to each *project* that is new construction or a *substantial improvement*; and, is either:

1. A District-owned or District instrumentality-owned *project*; or
2. A *District financed* or *District instrumentality financed project*, where the financing represents at least 15 percent of the *project’s* total cost.

**302.2.1 Energy Star Target Finder Tool.** Each *project* of 10,000 square feet (929 m<sup>2</sup>) or more of *gross floor area* shall be designed and constructed to achieve a minimum score of seventy-five (75) points on the Energy Star Target Finder Tool. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section.

##### **Exceptions:**

1. Building occupancies for which the Energy Star tool is not available.
2. *Alterations.*

**302.2.2 Non-residential projects.** A *project* which does not contain *residential occupancies* that equal or exceed 50 percent of the gross floor area of the *project*,

including allocable area of common space, shall be deemed a non-residential *project* and shall be designed and constructed so as to achieve no less than the applicable LEED standard listed in Section 302.4, at the Silver level or higher. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section.

**Exceptions:**

1. Educational Group E (covered by Section 302.2.3).
2. Space designed and occupied for *residential occupancies* in a non-residential *project* (covered by Section 302.2.4).
3. Space designed and occupied for non-residential uses located in a residential *project* (covered by Section 302.2.5).
4. Space designed and occupied for non-residential uses located in a District-owned or a District instrumentality-owned building (covered by either Section 302.2.6 or Section 302.2.7 as applicable).

**302.2.3 Educational Group E.** A *project* of Educational Group E shall be designed and constructed to meet the LEED standard for Schools, at the Gold level or higher. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section. This section shall apply only to the following: (1) schools owned, operated or maintained by the District of Columbia Public Schools (DCPS); and (2) District of Columbia public charter schools.

**Exceptions:**

1. Where sufficient funding is not available to meet the applicable LEED standard for Schools at the Gold level, then the *project* shall meet the LEED standard for Schools at no less than the Certified Level of the LEED standard for Schools.—Prior to submitting a permit application under this exception, the applicant shall obtain an exemption based on insufficient funding from DDOE pursuant to Section 302.12.
2. Where a *project* for Educational Group E occupancy is located in only a portion of a building, then only that portion of the building that is the subject of the *project* shall comply with this Section 302.2.3.

**302.2.4 Project containing residential occupancies.** Where a *project* contains 10,000 square feet (929 m<sup>2</sup>) or more of *gross floor area* for *residential occupancies* including the allocable area of common space, then the *residential occupancies* of the *project* shall be designed and constructed to meet or exceed the Enterprise Green Communities Criteria, or a substantially equivalent standard as determined by the *code official*. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section. A self-certification checklist shall be

submitted to the *code official* with the application for the certificate of occupancy of the residential component of the *project*. The residential component of the project shall not be required to meet a LEED standard.

**302.2.5 Interior construction of a mixed use space in a residential project.** Where *residential occupancies* exceed 50 percent of the *gross floor area* of the *project*, including allocable area of common space, and the *project* contains at least 50,000 contiguous square feet (4645 m<sup>2</sup>) of *gross floor area*, exclusive of common space of the non-residential occupancies, then the space designated for non-residential occupancies shall be designed and constructed to meet or exceed one or more of the applicable LEED standards listed in Section 302.4 at the Certified Level. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section.

**302.2.6 Interior tenant fit-out alteration in a District-Owned or a District Instrumentality-Owned project.** Where a *project* in a District-owned or a District instrumentality-owned building involves the *alteration* of 30,000 square feet (2787 m<sup>2</sup>) or more of *gross floor area* for a single non-residential occupancy, exclusive of common space, for which space a certificate of occupancy for non-residential use has been or would be issued, then the portion of the *project* subject to *alteration* shall be designed and constructed to meet or exceed one or more of the LEED standards listed in Section 302.4 at the Certified Level. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section.

**302.2.7 Interior tenant fit-out in new construction.** Where a *project* in a District-owned or a District-instrumentality-owned building involves the fit-out for tenant occupancy of shell space or spaces of 30,000 square feet (2787 m<sup>2</sup>) or more of *gross floor area*, exclusive of common space, for a single non-residential occupancy, for which space a certificate of occupancy would be issued, the portion of the *project* subject to tenant fit-out shall be designed and constructed to meet or exceed one or more of the applicable LEED standards listed in Section 302.4 at the Certified Level. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section.

**302.3 Privately-owned projects.** All privately-owned *projects* that are (a) new construction or *substantial improvement*; and (b) 50,000 square feet (4645 m<sup>2</sup>) or more of *gross floor area* shall comply with Section 302.3. Privately-owned *projects* shall mean *projects* owned or developed by a non-governmental *person* which are not within the scope of Section 302.2. This category shall also include, but shall not be limited to, *projects* involving the following District of Columbia participation:

1. Improved and unimproved real property acquired by sale from the District or a District instrumentality to a private entity;
2. Unimproved real property leased from the District or a District instrumentality to a

private entity: and

3. Any *project* where some portion but less than 15 percent of the *project's* total *project* cost is *District financed* or *District instrumentality financed*. Privately-owned *projects* receiving 15% or greater of the *project's* cost from the District or a District instrumentality shall comply with Section 302.2.

**302.3.1 Energy Star Target Finder Tool.** Each *project* of 50,000 square feet (4645 m<sup>2</sup>) or more of *gross floor area* shall estimate the *project's* energy performance using the Energy Star Target Finder Tool and submit this data to the *code official* with the permit application.

**Exception:** Building occupancies for which the Energy Star tool is not available.

**302.3.2 Privately-owned non-residential projects.** In addition to compliance with Section 302.3.1, each non-residential *project* of 50,000 square feet (4645 m<sup>2</sup>) or more of *gross floor area* shall be designed and constructed to meet or exceed one or more of the LEED standards listed in Section 302.4 at the Certified Level. A “non-residential project” shall mean a *project* where 50 percent or more of the *gross floor area*, including allocable area of common space, is occupied or intended for occupancy for uses that are not *residential occupancies*. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section.

**302.3.3 Interior construction of mixed use space in a residential project.** Where *residential occupancies* exceed 50 percent of the *gross floor area* of the *project*, including allocable area of common space, and the *project* contains at least 50,000 contiguous square feet (4645 m<sup>2</sup>) of *gross floor area*, exclusive of common space of the non-residential occupancies, then the space designated for non-residential occupancies shall be designed and constructed to meet or exceed one or more of the applicable LEED standards listed in Section 302.4 at the Certified Level. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section.

**302.3.4 Educational Group E.** A project of Educational Group E occupancy shall be designed and constructed to meet the LEED standard for Schools, at the Gold level or higher. The applicant shall provide plans and supporting documents in sufficient detail and clarity to enable the *code official* to verify compliance with this section. This section shall apply only to the following: (1) schools owned, operated or maintained by the District of Columbia Public Schools (DCPS); and (2) District of Columbia public charter schools.

**Exceptions:**

1. Where sufficient funding is not available to meet the applicable LEED standard for Schools at the Gold level, then the *project* shall meet the LEED standard for Schools

at no less than the Certified Level of the LEED standard for Schools. Prior to submitting a permit application under this exception, the applicant shall obtain an exemption based on insufficient funding from DDOE pursuant to Section 302.12.

2. Where a *project* for Educational Group E occupancy is located in only a portion of a building, then only that portion of the building that is the subject of the *project* shall comply with this Section 302.3.4.

**302.3.5 Terminology.** Where the term “gross floor space” is used in the Green Building Act, the term shall mean *gross floor area*.

**302.4 LEED standards.** Applicants, in consultation with the U.S. Green Building Council (USGBC) listed in Chapter 12, shall utilize one or more of the following LEED standards listed in Chapter 12, as appropriate for the type of *project* or occupancy.-:

1. Building Design and Construction.
2. Interior Design and Construction.
3. Homes.

- ~~1. New Construction & Major Renovations~~
- ~~2. Commercial Interiors~~
- ~~3. Core & Shell~~
- ~~4. Healthcare.~~
- ~~5. Retail: Commercial Interiors.~~
- ~~6. Retail: New Construction & Major Renovations.~~
- ~~7. Schools.~~

**302.4.1 LEED version.** An applicant for permits subject to Sections 302.2.2 through 302.2.7 (excluding residential *projects* subject to Section 302.2.4) or Section 302.3.2 through 302.3.4~~3~~ shall either register the *project* with the USGBC or shall meet the LEED requirements without USGBC registration and provide verification of compliance in accordance with alternatives 2 or 3 of Section 302.5.1.

#### **302.4.1.1 LEED version applicable to certain projects.**

**302.4.1.1.1 Prior USGBC registration.** Where an applicant has registered a *project* with the USGBC using an earlier version of the LEED standards listed in Section 302.4 and Chapter 12, then the applicant may elect to have verification of the *project* based upon such earlier LEED version, provided that the USGBC will continue the certification process under the earlier version.

**302.4.1.1.2 Verification of compliance without USGBC registration.** Where an applicant elects to meet the LEED requirements without USGBC registration, the applicant shall use the LEED standards listed in Section 302.4.

**Exception:** Where the applicant has engaged in at least one of the following interactions with the District of Columbia, then the applicant may elect to have verification of the *project* based upon an earlier LEED version, provided that the earliest version of the appropriate LEED standard that shall be used is the version in effect one year prior to whichever of the interactions of the applicant with the District of Columbia came first:

1. The approval of a land disposition agreement;
2. The submission of an application to the Board of Zoning Adjustment for a variance or special exception relief;
3. The submission of an application to the Zoning Commission for a planned unit development or other approval requiring Zoning Commission action;
4. The submission of an application to the Historic Preservation Review Board or Mayor's Agent for the Historic Preservation Review Board;
5. The filing of a building permit application for the primary scope of work of *project*, but not applications for other types of permits, including, but not limited to, applications for raze permits, trade permits, foundation and earthwork permits or miscellaneous; or
6. Other substantial land-use interactions with the District as determined by the *code official*.

**302.4.1.2 Enterprise Green Communities version.** An applicant for permits subject to Section 302.2.4 shall register the *project* with Enterprise Green Communities or with the entity that certifies compliance with an *approved* substantially equivalent standard; or, the applicant shall meet the applicable standard without registration of the *project* and provide verification of compliance in accordance with alternatives 2 or 3 of Section 302.5.1.

**302.4.1.2.1 Prior registration.** Where an applicant has registered a *project* with Enterprise Green Communities or with an entity that certifies compliance with an *approved* substantially equivalent standard, using an earlier version of the applicable standards than listed in Chapter 12, then the applicant may elect to have verification of the *project* based upon such earlier version, provided that the certifying organization will continue the certification process under the earlier version.

**302.4.1.2.2 Verification of compliance without registration.** Where an

applicant elects to meet the Enterprise Green Communities Criteria (or an *approved* substantially equivalent standard) without registration, the applicant shall use the Enterprise Green Communities Criteria listed in Chapter 12 or, if applicable, the *approved* substantially equivalent standard.

**Exception:** Where the applicant has engaged in at least one of the interactions with the District of Columbia listed in Section 302.4.1.1.2, then the applicant may elect to have verification of the *project* based upon an earlier version of the appropriate standard; provided, that the earliest version of the appropriate standard that shall be used is the version in effect one year prior to whichever of the interactions of the applicant with the District of Columbia listed in Section 302.4.1.1.2 came first.

**302.5 Verification.** Evidence that a *project* meets or exceeds the LEED standard required by Sections 302.2.2 through 302.2.7 or Sections 302.3.2 through 302.3.43, or the Enterprise Green Communities Criteria (or *approved* substantially equivalent standard) required by Section 302.2.4, shall be submitted to the *code official* within twenty-four (24) calendar months after the *project's* receipt of the first certificate of occupancy issued for occupiable space in a *story above grade plane*.

**302.5.1 Evidence required.** For purposes of this section, verification of compliance shall be established by the following:

1. A certification by the USGBC that the *project* meets or exceeds the applicable LEED standard required by Sections 302.2.2 through 302.2.7 or Sections 302.3.2 through 302.3.43, or, if applicable, a certification by Enterprise Green Communities (or entity that certifies an *approved* substantially equivalent standard) that the *project* meets or exceeds the applicable standard required by Section 302.2.4; or
2. A determination by the *code official* that the *project* meets or exceeds the LEED standard required by Sections 302.2.2 through 302.2.7 or Section 302.3.2 through 302.3.43, or the Enterprise Green Communities Criteria (or *approved* substantially equivalent standard) required by Section 302.2.4; or
3. A certification by an *approved agency* or *approved source* that the *project* meets or exceeds the LEED standard required by Sections 302.2.2 through 302.2.7 or Section 302.3.2 through 302.3.4, or the Enterprise Green Communities Criteria (or *approved* substantially equivalent standard) required by Section 302.2.4.

**302.5.2 Extension.** The *code official*, for good cause and upon written request, is authorized to extend the period for verification of compliance for up to three consecutive one-year periods.

**302.6 Financial security.** Before issuance of the first certificate of occupancy for occupiable



space in a *story above grade plane* of a privately-owned project subject to the provisions of Sections 302.3.2 through 302.3.4, the applicant shall provide to the *code official* evidence of financial security to cover the amount of fine that would be imposed under the Green Building Act for non-compliance with the provisions of Sections 302.3.2 through 302.3.4.

**302.6.1 Amount of financial security.** The amount of the potential fine on a *project*, and thus the amount of financial security, shall be as follows:

1. \$7.50 per square foot of *gross floor area* of construction if the *project* is less than 100,000 square feet (9290 m<sup>2</sup>) of *gross floor area* of the *project*.
2. \$10.00 per square foot of *gross floor area* of construction if the *project* is equal to or greater than 100,000 square feet (9290 m<sup>2</sup>) of *gross floor area* of the *project*.

The amount of a fine for non-compliance under this sub-section, and thus the amount of security, shall not exceed three million dollars (\$3,000,000). When applying the provisions of this Section 302.6 to interior construction of a mixed use space in a residential project covered by Section 302.3.3, the *gross floor area* of the *project* shall be deemed to mean the contiguous *gross floor area*, exclusive of common space, of the non-residential occupancies. The amount of this fine shall be subject to modification based upon the form of security for performance as provided for in Sections 302.6.2.1 through 302.6.2.3.

**302.6.2 Security for performance/form of delivery.** The financial security requirement shall be met through one of the following four methods:

**302.6.2.1 Cash.** If this option is elected, cash shall be deposited in an escrow account in a financial institution in the District in the names of the *applicant* and the District. A copy of a binding escrow agreement of the financial institution shall be submitted to the *code official* in a form satisfactory to the Office of the Attorney General, which provides that the funds can be released upon direction of the District where remitted pursuant to Section 302.7. If cash is used as the financial security, the amount of the financial security posted shall be discounted by 20 percent.

**302.6.2.2 Irrevocable letter of credit.** If this option is elected, an irrevocable letter of credit benefitting the District shall be submitted to the *code official* in a form satisfactory to the Office of the Attorney General from a financial institution authorized to do business in the District. The irrevocable letter of credit, issued by the financial institution, shall comply with applicable regulatory requirements. If an irrevocable letter of credit is used as the financial security, the amount of the financial security posted shall be discounted by 20 percent.

**302.6.2.3 Bond.** If this option is elected, a bond benefitting the District, which complies with applicable regulatory requirements, shall be submitted to the *code official* in a form satisfactory to the Office of the Attorney General. If a bond is

used as the financial security, the amount of the financial security posted shall be discounted by 20 ~~twenty~~ percent (~~20%~~).

**302.6.2.4 Binding pledge.** If this option is elected, a binding pledge shall be submitted to the *code official* in a form approved by the Office of the Attorney General. The binding pledge shall be recorded as a covenant in the land records of the District against legal title to the land in which the *project* is located and shall bind the *owner* and any successors in title to pay any fines levied under Section 302.7.1.

**302.7 Enforcement.** Where a *project* fails to provide pursuant to Section 302.5 satisfactory verification of the *project's* compliance with the requirements of Sections 302.3.2 through 302.3.43 within the prescribed time frame and any extensions thereof granted by the *code official* pursuant to Section 302.5.2, the *code official* is authorized to draw down on the financial security submitted as cash, irrevocable letter of credit or bond, by submission by the District of the original security documentation, provided that where a binding pledge has been provided, to enforce such pledge agreement pursuant to its terms. The amounts thus drawn down from the financial security shall be deposited in the Green Building Fund set up under the Green Building Act.

**302.7.1 Financial security drawdowns.** If a *project* fails to provide satisfactory verification of compliance, the drawdowns of the financial security in the form of cash, irrevocable letter of credit, or bond shall be as follows:

1. Failure to provide proof of compliance within twenty-four (24) calendar months after the *project's* receipt of the first certificate of occupancy for occupiable space in a *story above grade plane*: 100 percent drawdown; or
2. Miss up to three (3) LEED points in the applicable LEED standard: 50 percent drawdown; or
3. Miss more than three (3) LEED points in the applicable LEED standard: 100 percent drawdown.

**302.7.2 Binding pledge fines.** If a *project* fails to provide satisfactory verification of compliance within twenty-four (24) calendar months after the *project's* receipt of the first certificate of occupancy for occupiable space in a *story above grade plane* and a binding pledge is used as the form of financial security, one or more fines shall be due and payable per the amounts set out in Section 302.6.1 as may be modified pursuant to Section 302.7.1.

**302.8 Release of financial security.** If, within twenty-four (24) calendar months following the issuance of the first certificate of occupancy for occupiable space in a *story above grade plane*, the *project* fulfills the requirements of Section 302.5, the financial security shall be released by the District of Columbia and, as applicable, returned.

**302.9 Remediation.** If within ~~24 twenty-four (24)~~ months after receipt of the first certificate of occupancy for occupiable space in a *story above grade plane*, or within the extension periods granted to the project per Section 302.5.2, the project does not meet the requirements of Section 302.5, the project *owner* shall, at its own cost, design and renovate the *existing building* to meet or exceed the current edition of the LEED standard for Existing Buildings: Building Operations and & Maintenance at the Certified Level. The *project owner* shall submit sufficient data to the *code official* to verify compliance with this section. The *project owner* shall provide to the *code official* certification, by the *owner's registered design professional* or an *approved agency or an approved source* that the *project* complies with this section.

**302.10 Additional fine.** If within ~~48 forty-eight (48)~~ calendar months after receipt of the first certificate of occupancy for occupiable space in a *story above grade plane*, a *project* subject to Section 302.34 fails to provide satisfactory verification in accordance with the provisions of Section 302.5 or Section 302.9, the *project owner* shall pay a monthly fine of \$0.02 per square foot of *gross floor area* of the *project* to the District of Columbia. The fine shall be a civil penalty, due and payable annually. The fine shall be in addition to any fines issued under Section 302.7 and shall not be subject to the \$3,000,000 limit under Section 302.6.1.

**302.11 Appeals.** Determinations made by the *code official* under Sections 302.2 through 302.10 may be appealed pursuant to Section 112 of the *Building Code*.

**302.12 Exemptions.** A request for an exemption from application of the Green Building Act, or the implementing regulations set forth in Section 302, to any *project* may be made to DDOE pursuant to the provisions of 20 DCMR Chapter 35 and D.C. Official Code § 6-1451.10 (2018 Repl.).

## CHAPTER 4 SITE DEVELOPMENT AND LAND USE

- 401 GENERAL
- 402 PRESERVATION OF NATURAL RESOURCES
- 403 STORMWATER MANAGEMENT
- 404 LANDSCAPE IRRIGATION AND OUTDOOR FOUNTAINS
- 405 MANAGEMENT OF VEGETATION, SOILS, AND EROSION CONTROL
- 406 BUILDING SITE WASTE MANAGEMENT
- 407 TRANSPORTATION IMPACT
- 408 HEAT ISLAND MITIGATION
- 409 SITE LIGHTING

### 401 GENERAL

*Strike Section 401.2 of the International Green Construction Code in its entirety and insert anew Section 401.2 in the Green Construction Code in its place to read as follows:*

**401.2 Predesign site inventory and assessment.** An inventory and assessment of the natural resources and baseline conditions of the building site shall be submitted with the *construction documents*. The inventory and assessment shall:

1. Identify how soils will be prepared, amended and placed in a manner that establishes or restores the ability of the soil to support the vegetation that has been protected and that will be planted;
2. Identify *invasive plant species* on the site for removal; and
3. Identify *native plant species* on the site.

### 402 PRESERVATION OF NATURAL RESOURCES

*Strike Section 402 of the International Green Construction Code in its entirety without substitution.*

### 403 STORMWATER MANAGEMENT

*Strike Section 403 of the International Green Construction Code in its entirety without substitution.*

### 404 LANDSCAPE IRRIGATION AND OUTDOOR FOUNTAINS

*Strike Sections 404.1, 404.1.1 and 404.1.2 of the International Green Construction Code in their entirety and insert new Sections 404.1, 404.1.1 and 404.1.2 in the Green Construction Code in their place to read as follows:*

**404.1 Landscape irrigation systems.** Irrigation of exterior landscaping shall comply with Sections 404.1.1 and 404.1.2.

**Exception:** Projects under the jurisdiction of the *Residential Code*.

**404.1.1 Water for outdoor landscape irrigation.** ~~In accordance with Section 614.1.2, o~~  
Outdoor landscape irrigation systems shall be designed and installed to reduce potable water use by 50 percent through plant selection, water efficient irrigation technology, the elimination of a permanently installed irrigation system, and/or, where permitted by District regulation or ordinances, with *alternate onsite nonpotable water* complying with Section 1115 of the *Plumbing Code* and local regulations. Designers shall use the EPA Water Sense Interactive Water Budget Tool to determine whether the design meets the 50% reduction threshold.

**Exceptions:** *Potable* water is permitted to be used as follows:

1. During the establishment phase of newly planted landscaping and during periods of drought in excess of thirty (30) days.
2. To irrigate food production.
3. To supplement *nonpotable* water irrigation of shade trees provided in accordance with Section 408.2.3 of the *Green Construction Code*.

**404.1.2 Irrigation system design and installation.** Where in-ground irrigation systems are provided, the systems shall comply with all of the following:

1. The design and installation of outdoor irrigation systems shall be under the supervision of an irrigation professional accredited or certified by an appropriate local or national body.
2. Landscape irrigation systems shall not direct water onto building exterior surfaces, foundations or exterior paved surfaces. Systems shall not generate runoff.
3. Where an irrigation control system is used, the system shall be one that regulates irrigation based on weather, climate or soil moisture data, or time of day. The controller shall have integrated or separate sensors to suspend irrigation events during rainfall.
4. Irrigation zones shall be based on plant water needs with plants of similar need grouped together. Turfgrass shall not be grouped with other plantings on the same zone.

*Strike Section 404.2 of the International Green Construction Code in its entirety without substitution.*

**405 MANAGEMENT OF VEGETATION, SOILS, AND EROSION CONTROL**

*Strike Sections 405.1 and 405.1.1 of the International Green Construction Code in their entirety and insert new Sections 405.1 and 405.1.1 into the Green Construction Code in their place to read as follows:*

**405.1 Soil and water quality protection.** Soil and water quality shall be protected in accordance with Sections 405.1.1 and 405.1.4.

**405.1.1 Soil and water quality protection plan.** A soil and water quality protection plan shall be submitted by the owner or the owner's authorized agent and *approved* prior to construction. The protection plan shall address the following:

1. A soils map, site plan, or grading plan that indicates designated soil management areas for all site soils, including, but not limited to:
  - 1.1. Soils that will be retained in place and designated as vegetation and soil protection areas.
  - 1.2. Topsoils that will be stockpiled for future reuse and the locations for the stockpiles.
  - 1.3. Soils that will be disturbed during construction and plans to restore disturbed soils and underlying subsoils to soil reference conditions.
  - 1.4. Soils that will be restored and re-vegetated.
  - 1.5. Locations for all laydown and storage areas, parking areas, haul roads and construction vehicle access, temporary utilities and construction trailer locations.
  - 1.6. Treatment details for each zone of soil that will be restored, including the type, source and expected volume of materials, including compost amendments, mulch and topsoil.
  - 1.7. A narrative of the measures to be taken to ensure that areas not to be disturbed and areas of restored soils are protected from compaction by vehicle traffic or storage, erosion, and contamination until project completion.
2. A written periodic maintenance protocol for landscaping, including, but not limited to:
  - 2.1. A schedule for periodic watering of new planting that reflects different water needs during the establishment phase of new plantings as well as after establishment. Where development of the building site changed the amount of water reaching the preserved natural resource areas, include appropriate

measures for maintaining the natural areas.

- 2.2. A schedule for the use of fertilizers appropriate to the plants species, local climate and the pre-establishment and post-establishment needs of the installed landscaping. Nonorganic fertilizers shall be discontinued following plant establishment.

*Strike Sections 405.1.2 and 405.1.3 of the International Green Construction Code in their entirety without substitution.*

*Strike Sections 405.1.4, 405.1.4.1 and 405.1.4.2 of the International Green Construction Code in their entirety and insert new Sections 405.1.4, 405.1.4.1 and 405.1.4.2 in their its place in the Green Construction Code to read as follows:*

**405.1.4 Soil reuse and restoration.** Soils that are being placed or replaced on a *building site* shall be prepared, amended and placed in a manner that establishes or restores the ability of the soil to support the vegetation that has been protected and that will be planted. Soil reuse and restoration shall be in accordance with Sections 405.1.4.1 and 405.1.4.2.

**405.1.4.1 Preparation.** Before placing stockpiled or imported topsoils, compliance with all of the following shall occur:

1. Areas shall be cleared of debris including, but not limited to, *building materials*, plaster, paints, road base type materials, petroleum based chemicals, and other harmful materials;
2. Areas of construction-compacted subsoil shall be scarified; and
3. The first lift of replaced soil shall be mixed into this scarification zone to improve the transition between the subsoil and overlying soil horizons.

**Exceptions:** Scarification is prohibited in all of the following locations:

1. Where scarification would damage existing tree roots.
2. On inaccessible slopes.
3. On or adjacent to trenching and drainage installations.
4. On areas intended by the design to be compacted such as abutments, footings, and inslopes.
5. *Brownfields*.
6. Other locations where scarification would damage existing structures, utilities

and vegetation being preserved.

**405.1.4.2 Restoration.** Soils disturbed during construction shall be restored in areas that will not be covered by buildings, structures or hardscapes. Soil restoration shall comply with Items 1 and 2:

1. **Organic matter.** To provide appropriate organic matter for plant growth and for water storage and infiltration, soils shall be amended with a mature, stable compost material so that not less than the top 12 inches (305 mm) of soil contains not less than three percent (~~3%~~) organic matter. Sphagnum peat or organic amendments that contain sphagnum peat shall not be used. Soil organic matter shall be determined in accordance with ASTM D 2974. Organic materials selected for onsite amendment or for blending of imported soils shall be renewable within a 50 ~~fifty~~ (~~50~~)-year cycle.

**Exception:** Where the reference soil for a building site has an organic level depth other than 12 inches (305 mm), soils shall be amended to organic matter levels and organic matter depth that are comparable to the site's reference soil.

2. **Additional soil restoration criteria.** In addition to compliance with Item 1 Organic Matter, soil restoration shall comply with not less than three of the following criteria:
  - 2.1. **Compaction.** Bulk densities within the root zone shall not exceed the densities specified in Table 405.1.4 and shall be measured using a soil cone penetrometer in accordance with ASAE S313.3. The root zone shall be not less than 12 inches (305 mm), nor less than the site's reference soil, whichever results in the greater depth of measurement. Data derived from a soil cone penetrometer shall be reported in accordance with ASAE EP542.
  - 2.2. **Infiltration rates.** Infiltration rates or saturated hydraulic conductivity of the restored soils shall be comparable to the site's reference soil. Infiltration rates shall be determined in accordance with ASTM D 3385 or ASTM D 5093. For sloped areas where the methods provided in the referenced standards cannot be used successfully, alternate methods *approved* by the *code official* shall be permitted provided that the same method is used to test both reference soil and onsite soil.
  - 2.3. **Soil biological function.** Where remediated soils are used, the biological function of the soils' mineralizable nitrogen shall be permitted as a proxy assessment of biological activity.
  - 2.4. **Soil chemical characteristics.** Soil chemical characteristics appropriate for plant growth shall be restored. The pH, cation exchange capacity and nutrient profiles of the original undisturbed soil



or the site’s reference soil shall be similar in restored soils. Salinity suitable for regionally appropriate vegetation shall be established. Soil amendments and fertilizers shall be selected from those which minimize nutrient loading to waterways or groundwater.

**TABLE 405.1.4  
MAXIMUM CONE PENETROMETER READINGS**

SURFACE RESISTANCE (PSI)		SUBSURFACE RESISTANCE (PSI)	
<b>All Textures Sand</b>	<b>Sand (includes loamy sand, sandy loam, sandy clay loam, and sandy clay)</b>	<b>Silt (includes loam, silt loam, silty clay loam, and silty clay)</b>	<b>Clay (includes clay loam)</b>
110	260	260	225

*Strike Sections 405.1.5 and 405.1.6 of the International Green Construction Code in their entirety without substitution.*

*[no change to Sections 405.1.5 and 405.1.6]*

*Strike Section 405.2 of the International Green Construction Code in its entirety and insert new Section 405.2 in the Green Construction Code in its place to read as follows*

**405.2** **Invasive plant species.** *Invasive plant species shall not be planted on a building site. Containment or removal of any *invasive plant species* currently on the site is required.*

*Strike Section 405.3 of the International Green Construction Code in its entirety and insert new Section 405.3 in the Green Construction Code in its place to read as follows:*

**405.3** **Native plant landscaping.** *Where new landscaping is installed as part of a site plan or within the building site, not less than 50 percent of the newly landscaped area shall be planted with native plant species.*

**Exceptions:**

1. Locations where non-native plant species are required by laws or regulations of the District of Columbia;
2. Vegetative roofs for buildings or structures; or
3. Trees.

**406 BUILDING SITE WASTE MANAGEMENT**

*Strike Section 406.1 of the International Green Construction Code in its entirety and insert new Section 406.1 in the Green Construction Code in its place to read as follows:*

**406.1 Building site waste management requirements.** Not less than 75 percent of the land-clearing debris from a building site shall be diverted from landfills. Land-clearing debris includes rock, trees, stumps and associated vegetation. The building site development shall comply with the following additional requirements:

1. The effective destruction and disposal of *invasive plant species*.
2. Where the site is located in a federal or state designated quarantine zone for invasive insect species, building site vegetation management shall comply with the quarantine rules.
3. Receipts or other documentation related to diversion shall be maintained through the course of construction. When requested by the *code official*, evidence of diversion shall be provided.

*Insert a new Section 406.3 in the Green Construction Code to read as follows:*

**406.3 Verification.** Prior to issuance of the first certificate of occupancy for occupiable space in a *story above grade plane*, or prior to final inspection, if a new certificate of occupancy is not required, the *Department* is authorized to require the *owner*, contractor or an *approved agency* to provide verification of the project's compliance with Section 406.1.

**407 TRANSPORTATION IMPACT**

*Strike Sections 407.1 through 407.3 of the International Green Construction Code in their entirety without substitution.*

*Strike Sections 407.4, 407.4.1 and 407.4.2 of the International Green Construction Code in their entirety and insert new Sections 407.4 and 407.4.1 in their place in the Green Construction Code to read as follows:*

~~**407.4 Reserved vehicle parking.** Reserved parking spaces shall be designated as required by this section. Such parking spaces shall be provided with *approved* signage that specifies the permitted usage. Where parking is provided for a building that has a *total building floor area* greater than 10,000 square feet (929 m<sup>2</sup>) and that has an building occupant load greater than 100, at least 2 percent, but not less than 1 percent, of the parking spaces provided shall be designated and marked as reserved parking for *high occupancy, low emission, hybrid, and electric vehicles*.~~

**407.4 Preferred vehicle parking.** Preferred parking spaces required by this section shall be those in the parking facility that are located on the shortest route of travel from the parking facility to a building entrance, but shall not take precedence over parking spaces that are required

to be accessible in accordance with the *Building Code*. Where buildings have multiple entrances with adjacent parking, parking spaces required by this section shall be dispersed and located near the entrances. Such parking spaces shall be provided with approved signage that specifies the permitted usage. Parking spaces equipped with *electric vehicle supply equipment* will be considered preferred vehicle parking locations for purposes of this requirement.

**407.4.1 Low-emission, hybrid, and electric vehicle parking.** Where parking is provided for a building that has a total building floor area greater than 10,000 square feet (929 m<sup>2</sup>) and that has a building occupant load greater than 300, at least 5 percent of the parking spaces provided, but not less than two spaces, shall be designated as preferred parking for low emission, hybrid, and electric vehicles.

## 408 HEAT ISLAND MITIGATION

*Strike Section 408.1 of the International Green Construction Code in its entirety and insert new Section 408.1 in the Green Construction Code in its place to read as follows:*

**408.1 General.** The heat island effect of building and building site development shall be mitigated in accordance with Section 408.2.

*Strike Section 408.2.2 of the International Green Construction Code in its entirety and insert new Section 408.2.2 in the Green Construction Code in its place to read as follows:*

**408.2.2 Shading by structures.** Where shading is provided by a building or structure or a building element or component, such building, structure, component or element shall comply with the following:

1. Where open trellis-type free standing structures, such as, but not limited to, covered walkways, and trellises or pergolas, are covered with native plantings, the plantings shall be designed to achieve mature coverage within five (5) years; and
2. Shade provided onto the hardscape by an adjacent building or structure located on the same lot shall be calculated and credited toward compliance with this section based on the projected peak sun angle on the summer solstice.

*Strike Section 408.3 of the International Green Construction Code in its entirety without substitution.*

## 409 SITE LIGHTING

*Strike Section 409.1 of the International Green Construction Code in its entirety and insert new Section 409.1 in the Green Construction Code in its place to read as follows:*

**409.1 Light pollution control.** Uplight, light trespass, glare, and color temperature shall be

limited for all exterior lighting equipment as described in Sections 409.2, 409.3, and 409.4. The provisions of this section shall only apply to new construction and Level 3 *alterations* complying with the applicable requirements of the *Existing Building Code*.

**Exceptions:** Lighting used for the following exterior applications is exempt where equipped with a control device independent of the control of the non-exempt lighting:

1. Specialized signal, directional signage, and marker lighting associated with transportation or premises way-finding.
2. Signage that complies with lighting requirements set forth in regulations adopted pursuant to the *Sign Legislation*.
3. Lighting integral to equipment or instrumentation and installed by its manufacturer.
4. Theatrical purposes, including performance, stage, film production, and video production.
5. Athletic playing areas where lighting is equipped with hoods or louvers for glare control, provided that they are fully shielded and emit no light above the horizontal plane of the hood.
6. Temporary lighting.
7. Lighting for industrial production, material handling, transportation sites, and associated storage areas where lighting is equipped with hoods or louvers for glare control, provided that they are fully shielded and emit no light above the horizontal plane of the hood.
8. Theme elements in theme and amusement parks.
9. Roadway lighting required by governmental authorities.
10. Lighting used to highlight features of public monuments and registered landmark structures.
11. Lighting classified for and used in hazardous areas.
12. Lighting for swimming pools and water features.
13. Lighting for the national flag in lighting zones 2, 3 and 4.
14. Required exit signs and exterior means of egress illumination.

*Strike Section 409.1.1 and Table 409.1.1 of the International Green Construction Code in their entirety and insert new Section 409.1.1 and Table 409.1.1 in the Green Construction Code in their place to read as follows:*

**409.1.1 Exterior lighting zones.** The lighting zone for the building site shall be determined from Table 409.1.1 as clarified by *Administrative Bulletins*.

**TABLE 409.1.1 EXTERIOR LIGHTING ZONES**

LIGHTING ZONE	DESCRIPTION
1	Developed areas of national parks, state parks, forest land and rural areas
2	Areas predominantly consisting of residential zoning, neighborhood business districts, light industrial with limited nighttime use and residential mixed use areas
3	All other areas (not included in other zones)
4	High-activity commercial districts

*Strike Section 409.2 and Table 409.2 of the International Green Construction Code in their entirety and insert new Section 409.2 and Table 409.2 in the Green Construction Code in their place to read as follows:*

**409.2 Uplight.** Exterior lighting shall comply with the requirements of Table 409.2 for the exterior lighting zones (LZ) appropriate to the *building site*.

**Exceptions:** Lighting used for the following exterior applications shall be exempt from the requirements of Table 409.2:

1. Lighting for *building* facades, landscape features, and public monuments in exterior lighting zones 3 and 4.
2. Lighting for *building* facades in exterior lighting zone 2.
3. Lighting installed below canopies.
4. Lighting for flag poles.

**TABLE 409.2  
UPLIGHT RATINGS a, b**

	LIGHTING ZONE (LZ)			
	1	2	3	4
Maximum luminaire uplight rating	U0	U1	U2	U3

- a. Uplight ratings (U) are defined by IESNA TM-15-07 Addendum A.

- b. The rating shall be determined by the actual photometric geometry in the specified mounting orientation.

*[no change to Section 409.3]*

*Insert a new Section 409.4 in the Green Construction Code to read as follows:*

**409.4 Color Temperature.** Maximum color temperature for lights complying with Section 409 shall be 3000 degrees Kelvin or lower.

**CHAPTER 5 MATERIAL RESOURCE CONSERVATION AND EFFICIENCY****503 CONSTRUCTION WASTE MANAGEMENT****504 WASTE MANAGEMENT AND RECYCLING****505 MATERIAL SELECTION****507 BUILDING ENVELOPE MOISTURE CONTROL****503 CONSTRUCTION WASTE MANAGEMENT**

*Strike Section 503.1 of the International Green Construction Code in its entirety and insert new Section 503.1 in the Green Construction Code in its place to read as follows:*

**503.1 Construction material and waste management requirements.** Not less than 50  ~~fifty~~ percent (~~50%~~) of nonhazardous construction waste shall be diverted from disposal, by recycling or salvage of construction materials and waste.

The *owner*, contractor or *approved agency* shall maintain receipts and other documentation through the course of construction relating to diversion. The percentage of materials diverted shall be calculated by weight or volume, but not both. For the purposes of this section, construction materials and waste shall include, but are not limited to (1) all materials delivered to the site and intended for installation prior to the issuance of the certificate of occupancy, including related packaging; and (2) construction materials and waste removed during *demolition* or *razing*. Construction and waste materials shall not include land-clearing debris. Land-clearing debris shall include trees, stumps, rocks, and vegetation and shall be managed in accordance with Section 406.1.

*Insert a new Section 503.2 in the Green Construction Code to read as follows:*

**503.2 Verification.** Prior to issuance of the first certificate of certificate of occupancy for occupiable space in a *story above grade plane*, or prior to final inspection, if a new certificate of occupancy is not required, the *Department* is authorized to require the *owner*, contractor or an *approved agency* to provide verification of the project's compliance with Section 503.1. When requested by the *code official*, evidence of diversion shall be provided, which may include, but is not limited to, hauling receipts.

**504 WASTE MANAGEMENT AND RECYCLING**

*Strike Section 504 of the International Green Construction Code in its entirety without substitution.*

**505 MATERIAL SELECTION**

*Strike Section 505 of the International Green Construction Code in its entirety and insert new Section 505 in its place in the Green Construction Code to read as follows:*

**505.1 Material selection and properties.** For projects that are 25,000 square feet (2323m<sup>2</sup>) and larger, building materials shall conform to Section 505.2, 505.3 or 505.4.

**Exception:** Electrical, mechanical, plumbing, security and fire detection, and alarm equipment and controls, automatic fire sprinkler systems, elevators and conveying systems shall not be required to comply.

**505.2 Reduced Impact Materials.** The *building project* shall comply with any two of the following: Sections 505.2.1, 505.2.2, or 505.2.3. Calculations shall only include materials *permanently installed* in the project. A value of 45 percent of the total construction cost shall be permitted to be used in lieu of the actual total cost of materials.

**505.2.1 Recycled Content and Salvaged Material Content.**

The sum of the *recycled content* and the *salvaged material* content shall constitute a minimum of 30 percent, based on cost, of the total materials in the *building project*.

**505.2.1.1 Recycled Content.** The *recycled content* of a material shall be the *postconsumer recycled content* plus one-half of the *preconsumer recycled content*, determined by weight (mass). The recycled fraction of the material in a product or an assembly shall then be multiplied by the cost of the product or assembly to determine its contribution to the requirement.

The annual average industry values, by country of production, for the *recycled content* of steel products manufactured in basic oxygen furnaces and electric arc furnaces shall be permitted to be used as the *recycled content* of the steel. For the purpose of calculating the *recycled content* contribution of concrete, the constituent materials in concrete (*e.g.*, the cementitious materials, aggregates, and water) shall be permitted to be treated as separate components and calculated separately.

**505.2.1.2 Salvaged Material Content.** The *salvaged material* content shall be determined based on the actual cost of the *salvaged material* or the cost of a comparable alternative component material.

**505.2.2 Regional Materials.** A minimum of 40 percent of building materials or products used, based on cost, shall be regionally extracted/harvested/recovered and manufactured within a radius of 500 mi (800 km) of the project *site*. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.



**Exception:** For building materials or products shipped in part by rail or water, the total distance to the project shall be determined by weighted average, whereby that portion of the distance shipped by rail or water shall be multiplied by 0.25 and added to that portion not shipped by rail or water, provided that the total does not exceed 500 mi (800 km).

**505.2.3 Biobased Products.** A minimum of five percent (~~5%~~) of building materials used, based on cost, shall be *biobased products*. *Biobased products* shall:

1. Comply with the minimum biobased contents of the USDA's BioPreferred Program;
2. Contain the "USDA Certified *Biobased Product*" label; or
3. Be composed of solid wood, engineered wood, bamboo, wool, cotton, cork, agricultural fibers, or other biobased materials with at least 50 percent biobased content.

**505.2.3.1 Wood Building Components.** Wood building components, including but not limited to structural framing, sheathing, flooring, subflooring, wood window sash and frames, doors, and architectural millwork, used to comply with this requirement shall contain not less than 60 percent certified wood content tracked through a chain of custody process, either by physical separation or percentage-based approaches, or wood that qualifies as a *salvaged material*. Certified wood content shall be certified by the Forest Stewardship Council. Wood building components from a *vendor* shall be permitted to comply when the annual average amount of certified wood products purchased by the *vendor*, for which they have chain of custody *verification* not older than two years, is 60 percent or greater of their total annual wood products purchased.

**505.3 Whole building life cycle assessment.** Life cycle assessment shall conform to the requirements of ASTM E2921. The requirements for the execution of a whole building life cycle assessment shall be performed in accordance with the following:

1. The assessment shall demonstrate that the building project achieves not less than a 20 percent improvement in environmental performance for global warming potential and at least two (2) of the following impact measures, as compared to a reference design of similar usable floor area, function and configuration that meets the minimum energy requirements of this code and the structural requirements of the *International Building Code*. For relocatable buildings, the reference design shall be comprised of the number of reference buildings equal to the estimated number of uses of the relocatable building.
  - 1.1. Primary energy use.
  - 1.2. Acidification potential.

- 1.3. Eutrophication potential.
- 1.4. Ozone depletion potential.
- 1.5. Smog potential.
2. The life cycle assessment tool shall be *approved* by the *code official*.
3. Building operational energy shall be included. For relocatable buildings, an average building operational energy shall be estimated to reflect potential changes in location, siting, and configuration by adding or subtracting modules, or function.
4. For relocatable buildings, average transportation energy, material and waste generation associated with reuse of relocatable buildings shall be included in the assessment.

**505.4 Multi-attribute material declaration and certification.** Not less than 25 percent of the total building materials used in the project, based on cost, shall comply with Section 505.4.1 or 505.4.2. Where a material complies with both Sections 505.4.1 and 505.4.2, the material value shall be multiplied by two.

**505.4.1 Environmental product declaration.** A building material with a Type III environmental product declaration that is verified by a program operator. The environmental product declaration shall comply with the provisions of ISO 14025 and ISO 21930 and be externally verified.

**505.4.2 Multi-attribute standard.** A material specific assessment that is verified by an approved agency shall be submitted for each product in accordance with the following standards, as applicable. The assessment shall be verified as meeting the minimum performance level specified in each standard, which focuses on the life-cycle stages from development to end of life. These stages shall include material selection, energy and water use during development, performance, human and environmental impact, and end of life.

1. NSF/ANSI 140 for carpet.
2. NSF/ANSI 332 for resilient floor coverings.
3. NSF/ANSI 336 for commercial furnishings fabric.
4. NSF/ANSI 342 for wall coverings.
5. NSF/ANSI 347 for single-ply roofing membranes.
6. NSC 373 for natural dimension stone.
7. TCNA ANSI/A138.1 for ceramic tiles, glass tiles, and tile installation materials.

8. UL 100 for gypsum boards and panels.

9. UL 102 for door leafs.

**507 BUILDING ENVELOPE MOISTURE CONTROL**

*Strike Section 507 of the International Green Construction Code in its entirety.*

**CHAPTER 6 ENERGY CONSERVATION, EFFICIENCY, AND CO2E**

*Strike Chapter 6 of the International Green Construction Code in its entirety.*

**CHAPTER 7 WATER RESOURCE CONSERVATION, QUALITY AND EFFICIENCY**

- 702 FIXTURES, FITTINGS, EQUIPMENT AND APPLIANCES**
- 703 HVAC SYSTEMS AND EQUIPMENT**
- 704 WATER TREATMENT DEVICES AND EQUIPMENT**
- 705 METERING**
- 706 NONPOTABLE WATER REQUIREMENTS**
- 707 RAINWATER COLLECTION AND DISTRIBUTION SYSTEMS**
- 708 GRAY WATER SYSTEMS**
- 709 RECLAIMED WATER SYSTEMS**
- 710 ALTERNATE ONSITE NONPOTABLE WATER SOURCES**

**702 FIXTURES, FITTINGS, EQUIPMENT AND APPLIANCES**

*Strike Section 702.1 including Table 702.1 of the International Green Construction Code in their entirety and insert new Section 702.1 and Table 702.1 in the Green Construction Code in their place to read as follows:*

**702.1 Fitting and fixture consumption.** Fixtures shall comply with Table 702.1.

**TABLE 702.1  
MAXIMUM FIXTURE AND FITTING FLOW RATES  
FOR REDUCED WATER CONSUMPTION**

<b>FIXTURE OR FIXTURE FITTING TYPE</b>	<b>MAXIMUM FLOW RATE</b>
Showerhead <sup>a</sup>	2.0 gpm and WaterSense labeled
Lavatory faucet and bar sink—private	1.5 gpm and WaterSense labeled
Lavatory faucet—public (metered)	0.25 gpc <sup>b</sup>
Lavatory faucet—public (nonmetered)	0.5 gpm
Kitchen faucet—private	1.8 gpm
Kitchen and bar sink faucets in other than dwelling units and guestrooms	1.8 gpm
Urinal	0.5 gpf and WaterSense labeled or nonwater urinal
Water closet—public	1.28 gpf average <sup>c</sup>
Water closet—tank type, private	1.28 gpf and WaterSense labeled <sup>c</sup>
Water closet—flushometer type, private	1.28 gpf

Prerinse spray valves	1.3 gpm and WaterSense labeled
Drinking fountains (manual)	0.7 gpm
Drinking fountains (metered)	0.25 gpc <sup>b</sup>

For SI: 1 foot = 304.8 mm, 1 gallon per cycle (gpc) = 3.8 Lpc, 1 gallon per flush (gpf) = 3.8 Lpf, 1 gallon per minute (gpm) = 3.8 Lpm.

- a. Includes hand showers, body sprays, rainfall panels and jets. Showerheads shall be supplied by automatic compensating valves that comply with ASSE 1016 or ASME A112.18.1/CSA B125.1 and that are specifically designed to function at the flow rate of the showerheads being used.
- b. Gallons per cycle of water volume discharged from each activation of a metered faucet.
- c. The effective flush volume for a dual-flush water closet is defined as the composite, average flush volume of two reduced flushes and one full flush.

*Strike Section 702.6 of the International Green Construction Code in its entirety and substitute a new Section 702.6 in the Green Construction Code in its place to read as follows:*

**702.6 Appliances.** Sections 702.6.1 through 702.6.4 shall regulate appliances that are not related to space conditioning.

**702.6.1 Clothes washers.** Clothes washers of the type in the ENERGY STAR program as defined in “ENERGY STAR<sup>®</sup> Program Requirements, Product Specification for Clothes Washers, Eligibility Criteria,” shall have a water factor (WF) not exceeding 6.0 and a modified energy factor (MEF) of not less than 2.0.

**702.6.2 Ice makers.** Ice makers producing cubed-type ice shall be ENERGY STAR qualified as commercial ice machines. Ice makers of a type not currently ENERGY STAR qualified, such as flake, nugget or continuous-type ice makers, shall not exceed the total water use of 25 gallons per 100 pounds (208 L per 100 kg) of ice produced.

**Exception:** Under counter ice makers.

**702.6.3 Steam cookers.** Steam cookers with drain connections shall consume no more than 5 gal (18.9 L)/hour/pan, and those without drain connections shall consume no more than 2 gal (7.6 L)/hour/pan.

**702.6.4 Dishwashers.** Dishwashers shall be ENERGY STAR qualified where an ENERGY STAR category exists for the specific dishwasher type. Where an ENERGY STAR category does not exist, the dishwasher shall be in accordance with Table 702.6.4.

**TABLE 702.6.4  
MAXIMUM WATER CONSUMPTION FOR COMMERCIAL DISHWASHERS**

<b>DISHWASHER TYPE</b>	<b>MAXIMUM WATER CONSUMPTION</b>
Rackless conveyor	2.2 gallons per minute
Utensil washer	2.2 gallons per rack

For SI: 1 gallon per minute = 3.785 Lpm.

*Strike Section 702.7 of the International Green Construction Code in its entirety without substitution.*

**702.7 Hot and tempered water distribution.** [Deleted]

*Strike Section 702.9 of the International Green Construction Code in its entirety without substitution.*

**702.9 Water-powered pumps.** [Deleted]

*Strike Section 702.11 of the International Green Construction Code in its entirety without substitution.*

**702.11 Dipper wells.** [Deleted]

*Strike Section 702.13 of the International Green Construction Code in its entirety and insert new Section 702.13 in the Green Construction Code in its place to read as follows:*

**702.13 Automated vehicle wash facilities.** Not less than 50 percent of the water used for the rinsing phase of the wash cycle at automated vehicle wash facilities shall be collected to be reused for the washing phase. Towel and chamois washing machines shall have high-level water cut-offs.

**702.13.1 Nonpotable water use.** Except for water recirculated within the facility, potable and nonpotable water use for automobile washing shall not exceed 40 gallons (151 L) per vehicle for in-bay automatic washing, and 35 gallons (132.5 L) per vehicle for conveyor and express type car washing.

**Exception:** Bus and large commercial vehicle washing facilities.

*Strike Section 702.17 of the International Green Construction Code in its entirety without substitution.*

**702.17 Combination ovens** [Deleted]

*Strike Section 702.18 of the International Green Construction Code in its entirety without substitution.*

**702.18 Autoclaves and sterilizers.** [Deleted]

*Strike Section 702.19 of the International Green Construction Code in its entirety without substitution.*

**702.19 Liquid ring vacuum pumps.** [Deleted]

*Strike Section 702.20 of the International Green Construction Code in its entirety without substitution.*

**702.20 Film processors** [Deleted]**703 HVAC SYSTEMS AND EQUIPMENT**

*Strike Section 703.1 of the International Green Construction Code in its entirety without substitution.*

**703.1 Hydronic closed systems.** [Deleted]

*Strike Section 703.2 of the International Green Construction Code in its entirety without substitution.*

**703.2 Humidification System.** [Deleted]

*Strike Section 703.3 of the International Green Construction Code in its entirety without substitution.*

**703.3 Condensate coolers and tempering.** [Deleted]

*Strike Section 703.4 of the International Green Construction Code in its entirety and insert new Section 703.4 in the Green Construction Code to read as follows:*

**703.4 Condensate drainage recovery.** For new construction and level 3 alteration projects with individual HVAC equipment that is twenty (20) tons or larger, and where a water reclamation system is being installed or already in place to collect and reuse condensate, condensate shall be collected and reused onsite for applications such as, but not limited to, water features, fountains, green roofs, gray water collection systems and rainwater collection systems

*Strike Section 703.6 of the International Green Construction Code in its entirety without substitution.*

**703.6 Humidifier discharge.** [Deleted]

*Strike Section 703.7.5 of the International Green Construction Code in its entirety without substitution.*



**703.7.5 Water quality.** [Deleted]

*Strike Section 703.8 (including Sections 703.8.1 and 703.8.2) of the International Green Construction Code in its entirety without substitution.*

**703.8 Wet-hood exhaust scrubber systems** [Deleted]

~~*Strike Sections 703.8.1 and 703.8.2 of the International Green Construction Code in their entirety without substitution.*~~

**703.8.1 Washdown systems** [Deleted]**703.8.2 Water sources** [Deleted]**704 WATER TREATMENT DEVICES AND EQUIPMENT**

*Strike Section 704.1.4 of the International Green Construction Code in its entirety and insert new Section 704.1.4 in the Green Construction Code in its place to read as follows:*

**704.1.4 Efficiency and listing.** Water softeners that regenerate in place, that are connected to the water system they serve by piping not exceeding 1 ¼ inches (31.8 mm) in diameter, or that have a volume of 3 cubic feet (0.085 m<sup>3</sup>) or more of cation exchange media shall have a rated salt efficiency of not less than 4,000 grains of total hardness exchange per pound of salt (571 g of total hardness exchange per kg of salt), based on sodium chloride equivalency and shall be listed and labeled in accordance with NSF 44. All other water softeners shall have a rated salt efficiency of not less than 3,000 grains of total hardness exchange per pound of salt (429 g of total hardness exchange per kg of salt), based on sodium chloride equivalency.

*Strike Section 704.2 of the International Green Construction Code in its entirety and insert new Section 704.2 in the Green Construction Code in its place to read as follows:*

**704.2 Reverse osmosis water treatment systems.** Point-of-use reverse osmosis treatment systems shall be listed and labeled in accordance with NSF 58. Point-of-use reverse osmosis systems shall be equipped with an automatic shutoff valve that prevents the production of reject water when there is no demand for treated water.

*Strike Section 704.3 of the International Green Construction Code in its entirety and insert new Section 704.3 in the Green Construction Code in its place to read as follows:*

**704.3 Onsite reclaimed water treatment systems.** Onsite reclaimed water treatment systems shall be listed and labeled to NSF 350. These systems shall include gray water, rainwater, and other nonpotable water reuse treatment systems and waste water treatment systems used to produce nonpotable water for water closet and urinal flushing, surface irrigation and similar applications.

**705                    METERING**

*Strike Table 705.1.1, Metering Requirements, of the International Green Construction Code in its entirety and insert new Table 705.1.1 in the Green Construction Code in its place to read as follows:*

**TABLE 705.1.1 METERING REQUIREMENTS**

<b>APPLICATION</b>	<b>REQUIREMENTS</b>
Irrigation	Irrigation systems that are automatically controlled shall be metered.
Tenant spaces	Tenant spaces that are estimated to consume over 1000 gallons of water per day shall be metered individually.
Onsite water collection systems	The makeup water lines supplying onsite water collection systems shall be metered.
Ornamental water features	Ornamental water features with a permanently installed water supply shall be required to utilize a meter on makeup water supply lines.
Pools and in-ground spas	Indoor and outdoor pools and in-ground spas shall be required to utilize a meter on makeup water supply lines.
Cooling towers	Cooling towers of 100 tons capacity or greater or groups of towers shall be required to utilize a meter on makeup water and blow-down water supply lines.
Steam boilers	The makeup water supply line to steam boilers anticipated to draw more than 100,000 gallons annually or having a rating of 500,000 Btu/h or greater shall be metered.
Industrial processes	Industrial processes consuming more than 1,000 gallons per day on average shall be metered individually.
Evaporative coolers	Evaporative coolers supplying in excess of 0.6 gpm, on average, makeup water shall be.
Fluid coolers and chillers	Water-cooled fluid coolers and chillers that do not utilize closed-loop recirculation shall be metered.
Roof spray systems	Roof spray systems for irrigating vegetated roofs or thermal conditioning shall be metered.

For SI: 1 gallon = 3.8 L, 1 gallon per minute = 3.8 Lpm, 1 ton = 12,000 Btu, 1 British thermal unit per hour = 0.00029 kWh.

**708                    GRAY WATER SYSTEMS**

*Strike Section 708 of the International Green Construction Code in its entirety without substitution.*

**709 RECLAIMED WATER SYSTEMS**

*Strike Section 709 of the International Green Construction Code in its entirety without substitution.*

**710 ALTERNATE ONSITE NONPOTABLE WATER SOURCES**

*Strike Section 710 of the International Green Construction in its entirety without substitution.*

**CHAPTER 8 INDOOR ENVIRONMENTAL QUALITY AND COMFORT****801 GENERAL****802 BUILDING CONSTRUCTION FEATURES, OPERATIONS AND MAINTENANCE FACILITATION****803 HVAC SYSTEMS****804 SPECIFIC INDOOR AIR QUALITY AND POLLUTANT CONTROL MEASURES****806 MATERIAL EMISSIONS AND POLLUTANT CONTROL****807 ACOUSTICS****808 DAYLIGHTING****801 GENERAL**

*Strike Section 801.2 of the International Green Construction Code in its entirety and insert new Section 801.2 in the Green Construction Code in its place to read as follows:*

**801.2 Demolition and construction phase indoor air quality management plan required.**

An indoor air quality management plan shall be developed and submitted with permit application materials. Such plan shall address the methods and procedures to be used during design and construction to obtain compliance with Sections 802 through 805.

**802 BUILDING CONSTRUCTION FEATURES, OPERATIONS AND MAINTENANCE FACILITATION**

*Strike Section 802.3 of the International Green Construction Code in its entirety and insert new Section 802.3 in the Green Construction Code in its place to read as follows:*

**802.3 Air-handling system filters.** Filter racks shall be designed to prevent airflow from bypassing filters. Access doors and panels provided for filter replacement shall be fitted with flexible seals to provide an effective seal between the doors and panels and the mating filter rack surfaces. Filter access panels and doors shall not be obstructed.

**803 HVAC SYSTEMS**

*Strike Section 803.1.2.1 of the International Green Construction Code in its entirety and insert new Section 803.1.2.1 in the Green Construction Code in its place to read as follows:*

**803.1.2.1 Ventilation.** Ventilation during construction shall be achieved through openings in the building envelope using one or more of the following methods:

1. Natural ventilation in accordance with the provisions of the *Building Code* or the *Mechanical Code*.
2. Fans that produce a minimum of three air changes per hour.

3. Exhaust in the work area at a rate of not less than 0.05 cfm/ft<sup>2</sup> (0.24 L/s/m<sup>2</sup>) and not less than 10 percent greater than the supply air rate so as to maintain negative pressurization of the space.

**Exception:** For interior tenant alterations that cannot meet ventilation requirements, other air quality measures shall be used to control emissions sources and improve air quality. Measures are allowed to include portable filtration units, sweeping compounds, point source filtration at cutting and grinding operations, vacuum drywall sanding, low-dust drywall compounds, and other measures acceptable to the *code official* and as outlined in the Construction Phase Indoor Air Quality Management Plan.

*Strike Section 803.2 of the International Green Construction Code in its entirety without substitution.*

**803.2 Thermal environmental conditions for human occupancy.** [Deleted]

*Strike Sections 803.3 and 803.3.1 of the International Green Construction Code in their entirety without substitution.*

**803.3 Isolation of pollution sources.** [Deleted]

**803.3.1 Printer, copier and janitorial rooms.** [Deleted]

*Strike Sections 803.4 and 803.4.1 of the International Green Construction Code in their entirety and insert new Sections 803.4 and 803.4.1 in their place in the Green Construction Code to read as follows:*

**803.4 Isolation of pollutant sources.** The isolation of pollutant sources related to print, copy and janitorial rooms shall be in accordance with Section 803.4.1.

**803.4.1 Printer, copier and janitorial rooms.** Enclosed rooms or spaces that are that are used primarily as a print or copy facility containing five (5) or more printers, copy machines, scanners, facsimile machines, 3D printers, or similar machines in any combination, and rooms used primarily as janitorial rooms or closets where the use or storage of chemicals occurs, shall comply with all of the following:

1. The enclosing walls shall extend from the floor surface to the underside of the floor, roof deck or solid ceiling above and shall be constructed to resist the passage of airborne chemical pollutants and shall be constructed and sealed as required for one (1)-hour fire-resistance-rated construction assemblies. Alternatively, for janitorial rooms and closets, all chemicals shall be stored in *approved* chemical safety storage cabinets.
2. Doors in the enclosing walls shall be automatic or self-closing.
3. An HVAC system shall be provided that:

- 3.1 Provides exhaust airflow to the outdoors at a rate of not less than 0.50 cfm per square foot ( $2.4 \text{ L/s/m}^2$ );
- 3.2 Maintains a negative pressure of not less than 7 Pa (0.146 Psf) within the room; and
- 3.3 Prohibits the recirculation of air from the room to other portions of the building.

*Strike Section 803.5 of the International Green Construction Code in its entirety and insert new Section 803.5 in the Green Construction Code to read as follows:*

**803.5 Filters.** Filters for air conditioning systems that serve occupied spaces and handle a component of outdoor air shall be rated at MERV 11 or higher, in accordance with ASHRAE Standard 52.2, and system equipment shall be designed to be compatible. The air handling system design shall account for pressure drop across the filter. Filter performance shall be shown on the filter manufacturer's data sheet.

#### **804 SPECIFIC INDOOR AIR QUALITY AND POLLUTANT CONTROL MEASURES**

*Strike Section 804.2 and Table 804.2 of the International Green Construction Code in its entirety without substitution.*

**804.2 Post-construction, pre-occupancy baseline IAQ testing and Table 804.2.** [Deleted]

#### **806 MATERIAL EMISSIONS AND POLLUTANT CONTROL**

*Strike Section 806 of the International Green Construction Code in its entirety and insert new Section 806 in its place in the Green Construction Code to read as follows:*

**806.1 Scope.** To facilitate better indoor air quality for building occupants, projects shall comply either with Section 806.1.1 or with Sections 806.1.2 through 806.1.7.

If complying with Section 806.1 by meeting the requirements of Section 806.1.1, all testing results shall be submitted to the code official prior to the final inspection.

If complying with Section 806.1 by meeting the requirements of Sections 806.1.2 through 806.1.7, a log of all materials used covered by those sections, showing the allowable limits and the actual product concentrations utilized in the project, shall be submitted prior to the final inspection. For compliance using Sections 806.1.2 through 806.1.7, project teams shall maintain all spec sheets for relevant materials, and shall make them available to the code official upon request.

**806.1.1 Post-construction, pre-occupancy baseline IAQ testing.** After all interior finishes are installed, the building shall be tested for indoor air quality and the testing

results shall indicate that the levels of VOCs meet the levels detailed in Table 806.1.1 using testing protocols in accordance with ASTM D5197, ASTM D5466, ASTM D6196, ASTM D6345, and ISO 7708. Test samples shall be taken in not less than one location in each 25,000 square feet (1860 m<sup>2</sup>) of floor area or in each contiguous floor area.

**TABLE 806.1.1  
MAXIMUM CONCENTRATION OF AIR POLLUTANTS**

<b>MAXIMUM CONCENTRATION OF AIR POLLUTANTS RELEVANT TO IAQ</b>	<b>MAXIMUM CONCENTRATION, <math>\mu\text{g}/\text{m}^3</math> (unless otherwise noted)</b>
1-Methyl-2-pyrrolidinone <sup>a</sup>	160
1,1,1-Trichloroethane	1000
1,3-Butadiene	20
1,4-Dichlorobenzene	800
1,4-Dioxane	3000
2-Ethylhexanoic acid <sup>a</sup>	25
2-Propanol	7000
4-Phenylcyclohexene (4-PCH) <sup>a</sup>	2.5
Acetaldehyde	140
Acrylonitrile	5
Benzene	60
t-Butyl methyl ether	8000
Caprolactam <sup>a</sup>	100
Carbon disulfide	800
Carbon monoxide	9 ppm and no greater than 2 ppm above outdoor levels
Carbon tetrachloride	40
Chlorobenzene	1000
Chloroform	300
Dichloromethane	400
Ethylbenzene	2000
Ethylene glycol	400
Formaldehyde	27
n-Hexane	7000
Naphthalene	9
Nonanal <sup>a</sup>	13
Octanal <sup>a</sup>	7.2
Particulates (PM 2.5)	35 (24-hr)
Particulates (PM 10)	150 (24-hr)
Phenol	200
Styrene	900

Tetrachloroethene	35
Toluene	300
Total volatile organic compounds (TVOC)	500
Trichloroethene	600
Xylene isomers	700

- a. This chemical has a limit only where carpets and fabrics with styrene butadiene rubber (SBR) latex backing material are installed as part of the base building systems.

**806.1.2 Emissions from composite wood products.** Composite wood products used interior to the *approved* weather covering of the building shall comply with the emission limits cited in Table 806.1.2. Compliance with emission limits shall be demonstrated following the requirements of Section 93120 of Title 17, *California Code of Regulations*.

**Exceptions:**

1. Composite wood products that are made using adhesives that do not contain urea-formaldehyde (UF) resins.
2. Composite wood products that are sealed with an impermeable material on all sides and edges.
3. Composite wood products that are used to make elements considered to be furniture, fixtures and equipment (FF&E) that are not permanently installed.

**TABLE 806.1.2  
COMPOSITE PRODUCTS EMISSIONS**

PRODUCT	FORMALDEHYDE LIMIT <sup>b</sup> (ppm)
Hardwood plywood	0.05
Particle board	0.09
Medium-density fiberboard	0.11
Thin medium-density fiberboard <sup>a</sup>	0.13

For SI: 1 inch = 25.4 mm.

- a. Maximum thickness of 5/16 inch.
- b. Phase 2 Formaldehyde Emissions Standards, Table 1, Section 93120, Title 17, *California Code of Regulations*; compliance shall be demonstrated in accordance with ASTM D6007 or ASTM E1333.

**806.1.3 Adhesives and sealants.** A minimum of ~~85~~ ~~eighty-five~~ percent (85%) by weight or volume, of specific categories of site-applied adhesives and sealants used on the interior side of the building envelope, shall comply with the VOC content limits in Table 806.1.3(1) or alternative VOC emission limits in Table 806.1.3(2). The VOC content



shall be determined in accordance with the appropriate standard being either U.S. EPA Method 24 or SCAQMD Method 304, 316A or 316B. The exempt compound content shall be determined by either SCAQMD Methods 302 and 303 or ASTM D3960. Table 806.1.3(1) adhesives and sealants regulatory category and VOC content compliance determination shall conform to the SCAQMD Rule 1168. The provisions of this section shall not apply to adhesives and sealants subject to state or federal consumer product VOC regulations. HVAC duct sealants shall be classified as “Other” category within the SCAQMD Rule 1168 sealants table.

**Exception:** HVAC air duct sealants are not required to meet the emissions or the VOC content requirements when the air temperature in which they are applied is less than 40°F (4.5°C).

Table 806.1.3(2) adhesive alternative emissions standards compliance shall be determined utilizing test methodology incorporated by reference in the CDPH/EHLB/Standard Method V.1.1. The alternative emissions testing shall be performed by a laboratory that has the CDPH/EHLB/Standard Method V.1.1 test methodology in the scope of its ISO 17025 Accreditation.

**TABLE 806.1.3(1)  
SITE-APPLIED ADHESIVE AND SEALANT VOC LIMITS**

ADHESIVE	VOC LIMIT <sup>a, b</sup>
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Dry wall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Architectural sealants	250
Architectural sealant primer	
Nonporous	250
Porous	775
Modified bituminous sealant primer	500
Other sealant primers	750
CPVC solvent cement	490
PVC solvent cement	510
ABS solvent cement	325

Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140

- a. VOC limit less water and less exempt compounds in grams/liter.
- b. For low-solid adhesives and sealants, the VOC limit is expressed in grams/liter of material as specified in SCAQMD Rule 1168. For all other adhesives and sealants, the VOC limits are expressed as grams of VOC per liter of adhesive or sealant less water and less exempt compounds as specified in SCAQMD Rule 1168.

**TABLE 806.1.3(2)  
VOC EMISSION LIMITS**

VOC	LIMIT
Individual VOCs	$\leq \frac{1}{2}$ CA chronic REL <sup>a</sup>
Formaldehyde	$\leq 16.5 \mu\text{g}/\text{m}^3$ or $\leq 13.5 \text{ppb}$ <sup>b, c</sup>

- a. CDPH/EHLB/Standard Method V.1.1 Chronic Reference Exposure Level (CREL).
- b. Effective January 1, 2012, limit became less than or equal to the CDPH/EHLB/Standard Method V.1.1 CREL ( $\leq 9 \mu\text{g}/\text{m}^3$  or  $\leq 7 \text{ppb}$ ).
- c. Formaldehyde emission levels need not be reported for materials where formaldehyde is not added by the manufacturer of the material.

**806.1.4 Architectural paints and coatings.** A minimum of eighty-five percent (85%) by weight or volume, of site-applied interior architectural coatings shall comply with VOC content limits in Table 806.1.4(1) or the alternate emissions limits in Table 806.1.4(2). The exempt compound content shall be determined by ASTM D3960.

Table 806.1.4(2) architectural coating alternate emissions standards compliance shall be determined utilizing test methodology incorporated by reference in the CDPH/EHLB/Standard Method V.1.1. The alternative emissions testing shall be performed by a laboratory that has the CDPH/EHLB/Standard Method V.1.1 test methodology in the scope of its ISO 17025 Accreditation.

**TABLE 806.1.4(1)  
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS<sup>c, d, e</sup>**

CATEGORY	Effective: January 1, 2010	Effective: January 1, 2012
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	LIMIT <sup>a</sup> g/l	LIMIT <sup>a</sup> g/l
Flat coatings	50	—
Nonflat coatings	100	—
Nonflat – High-gloss coatings	150	—
Specialty coatings:		
Aluminum roof coatings	400	—
Basement specialty coatings	400	—
Bituminous roof coatings	50	—
Bituminous roof primers	350	—
Bond breakers	350	—
Concrete curing compounds	350	—
Concrete/masonry sealers	100	—
Driveway sealers	50	—
Dry fog coatings	150	—
Faux finishing coatings	350	—
Fire-resistive coatings	350	—
Floor coatings	100	—
Form-release compounds	250	—
Graphic arts coatings (Sign paints)	500	—
High-temperature coatings	420	—
Industrial maintenance coatings	250	—
Low solids coatings	120 <sup>b</sup>	—
Magnesite cement coatings	450	—
Mastic texture coatings	100	—
Metallic pigmented coatings	500	—
Multi-color coatings	250	—
Pretreatment wash primers	420	—
Primers, sealers, and undercoaters	100	—
Reactive penetrating sealers	350	—
Recycled coatings	250	—
Roof coatings	50	—
Rust-preventative coatings	400	250
Shellacs, clear	730	—
Shellacs, opaque	550	—
Specialty primers, sealers, and undercoaters	350	100
Stains	250	—
Stone consolidants	450	—
Swimming pool coatings	340	—
Traffic marking coatings	100	—
Tub and tile refinish coatings	420	—
Waterproofing membranes	250	—
Wood coatings	275	—

Wood preservatives	350	—
Zinc-rich primers	340	—

- a. Limits are expressed as VOC Regulatory (except as noted), thinned to the manufacturer’s maximum thinning recommendation, excluding any colorant added to tint bases.
- b. Limit is expressed as VOC actual.
- c. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
- d. Values in this table are derived from those specified by the California Air Resources Board *Suggested Control Measure for Architectural Coatings*, dated February 1, 2008.
- e. Table 806.1.4(1) architectural coating regulatory category and VOC content compliance determination shall conform to the California Air Resources Board *Suggested Control Measure for Architectural Coatings*.

**TABLE 806.1.4(2)  
ARCHITECTURAL COATINGS VOC EMISSION LIMITS**

VOC	LIMIT
Individual	½ CA chronic REL <sup>a</sup>
Formaldehyde	≤ 16.5 µg/m <sup>3</sup> or ≤ 13.5 ppb <sup>b</sup>

- a. CA Chronic Reference Exposure Level (CREL).
- b. Formaldehyde emission levels need not be reported for materials where formaldehyde is not added by the manufacturer of the material.

**806.1.5 Flooring.** A minimum of ~~85~~ eighty-five percent (~~85%~~) of the total area of flooring installed within the interior of the building shall comply with the requirements of Table 806.1.5(2). Where flooring with more than one distinct product layer is installed, the emissions from each layer shall comply with these requirements. The test methodology used to determine compliance shall be from CDPH/EHLB/Standard Method V.1.1. The emissions testing shall be performed by a laboratory that has the CDPH/EHLB/Standard Method V.1.1 test methodology in the scope of its ISO 17025 Accreditation.

Where post-manufacture coatings or surface applications have not been applied, the flooring listed in Table 806.1.5(1) shall be deemed to comply with the requirements of Table 806.1.5(2).

**TABLE 806.1.5(1)  
FLOORING DEEMED TO COMPLY WITH VOC EMISSION LIMITS**

Ceramic and concrete tile
Organic-free, mineral-based
Clay pavers
Concrete pavers
Concrete
Metal

**TABLE 806.5(2)  
FLOORING VOC EMISSION LIMITS**

VOC	LIMIT
Individual	≤ ½ CA chronic REL <sup>a</sup>
Formaldehyde	≤ 16.5 µg/m <sup>3</sup> or ≤ 13.5 ppb

a. CA Chronic Reference Exposure Level (CREL).

**806.1.6 Acoustical ceiling tiles and wall systems.** A minimum of 85 percent of acoustical ceiling tiles and wall systems, by area, shall comply with the requirements of Table 806.6(2). Where ceiling and wall systems with more than one distinct product layer are installed, the emissions from each layer shall comply with these requirements. The test methodology used to determine compliance shall be from CDPH/EHLB/Standard Method V.1.1. The emissions testing shall be performed by a laboratory that has the CDPH/EHLB/Standard Method V.1.1 test methodology in the scope of its ISO 17025 Accreditation.

Where post-manufacture coatings or surface applications have not been applied, the ceiling or wall systems listed in Table 806.6(1) shall be deemed to comply with the requirements of Table 806.6(2).

**TABLE 806.6(1)  
CEILING AND WALL SYSTEMS DEEMED TO  
COMPLY WITH VOC EMISSION LIMITS**

Ceramic and concrete tile
Organic-free, mineral-based
Gypsum plaster
Clay masonry
Concrete masonry
Concrete
Metal

**TABLE 806.6(2)  
ACOUSTICAL CEILING TILES AND WALL  
SYSTEMS VOC EMISSION LIMITS**

VOC	LIMIT
-----	-------

Individual	$\leq \frac{1}{2}$ CA chronic REL <sup>a</sup>
Formaldehyde	$\leq 16.5 \mu\text{g}/\text{m}^3$ or $\leq 13.5$ ppb

- a. CA Chronic Reference Exposure Level (CREL).

**806.1.7 Insulation.** A minimum of 85 percent of insulation shall comply with the requirements of Table 806.7(1) or Table 806.7(2). The test methodology used to determine compliance shall be from CDPH/EHLB/Standard Method V.1.1. The emissions testing shall be performed by a laboratory that has the CDPH/EHLB/Standard Method V.1.1 test methodology in the scope of its ISO 17025 Accreditation.

**TABLE 806.7(1)  
INSULATION VOC EMISSION LIMITS**

VOC	LIMIT
Individual	$\leq \frac{1}{2}$ CA chronic REL <sup>a</sup>
Formaldehyde	$\leq 16.5 \mu\text{g}/\text{m}^3$ or $\leq 13.5$ ppb

- a. CA Chronic Reference Exposure Level (CREL).

**TABLE 806.7(2)  
INSULATION MANUFACTURED WITHOUT FORMALDEHYDE  
VOC EMISSION LIMITS**

VOC	LIMIT
Individual	$\leq \frac{1}{2}$ CA chronic REL <sup>a</sup>

- a. CA Chronic Reference Exposure Level (CREL).

**807 ACOUSTICS**

*Strike Section 807 of the International Green Construction Code in its entirety without substitution.*

**808 DAYLIGHTING**

*Strike Section 808 of the International Green Construction Code in its entirety without substitution.*

**CHAPTER 9 COMMISSIONING**

*Strike Chapter 9 of the International Green Construction Code in its entirety without substitution.*

**CHAPTER 10 EXISTING BUILDINGS**

*Strike Chapter 10 of the International Green Construction Code in its entirety without substitution.*

**CHAPTER 11 EXISTING BUILDINGS SITE DEVELOPMENT**

*Strike Chapter 11 of the International Green Construction Code in its entirety without substitution.*





<b>ASTM</b>	ASTM International 100 Barr Harbor West Conshohocken, PA 19428-2959	
Standard reference number	Title	Referenced in code section number
E2921-13	Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes and Rating Systems	505.3

<b>CAN/CGSB</b>	Standards Council of Canada 600-55 Metcalfe Street Ottawa, ON K1P 6L5 Canada	
Standard reference number	Title	Referenced in code section number
CAN/CGSB 149.10-M86	Determination of the Airtightness of Building Envelopes by the Fan Depressurization Method	A106.11
CAN/CGSB 149.15-96	Determination of the Overall Envelope Airtightness of Buildings by the Fan Pressurization Method Using the Building's Air Handling Systems	A106.11

<b>CEE</b>	Consortium for Energy Efficiency 98 North Washington Street, Suite 101 Boston, MA 02114-1918	
Standard reference number	Title	Referenced in code section number
CEE Tier 1, Tier 2, and Tier 3	CEE Directory of Efficient Products	A106.15

<b>ECP</b>	Enterprise Community Partners, Inc 10 G Street, NE, Suite 450 Washington, DC 20002	
Standard reference number	Title	Referenced in code section number
2015	Enterprise Green Communities On-Line Certification	302.2.4

<b>EPA</b>	Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, NW Washington, DC 20460	
Standard reference number	Title	Referenced in code section number
ENERGY STAR	Energy Star Target Finder Tool	302.2.1 302.3.1

<b>ISO</b>	International Organization for Standardization ISO Central Secretariat Chemin de Blandonnet 8 CP 401 1214 Vernier, Geneva, Switzerland	
Standard reference number	Title	Referenced in code section number
14025—2006	Environmental Labels and Declarations—Type III Environmental Declarations—Principles and Procedures	505.4.1
21930-2007	Sustainability in Building Construction—Environmental Declaration of Building Products	505.4.1

<b>NSC</b>	Natural Stone Council P.O. Box 539 Hollis, NH 03049	
Standard reference number	Title	Referenced in code section

		number
NSC 373—2013	Sustainability Assessment for Natural Dimension Stone	505.4.2

<b>NSF</b>	NSF International 789 Dixboro Road Ann Arbor, MI 48105	
Standard reference number	Title	Referenced in code section number
NSF/ANSI 140—13	Sustainability Assessment for Carpet	505.4.2
NSF/ANSI 332—12	Sustainability Assessment for Resilient Floor Coverings	505.4.2
NSF/ANSI 336—11	Sustainability Assessment for Commercial Furnishings Fabric	505.4.2
NSF/ANSI 342—12	Sustainability Assessment for Wall Coverings	505.4.2
NSF/ANSI 347—12	Sustainability Assessment for Single-Ply Roofing Membranes	505.4.2

<b>TCNA</b>	Tile Council of North America 100 Clemson Research Boulevard Anderson, SC 29625	
Standard reference number	Title	Referenced in code section number
A138/A138.1—2012	Standard Specification for Sustainable Ceramic Tiles, Glass Tiles, and Tile	505.4.2

<b>UL</b>	UL LLC 333 Pfingsten Road Northbrook, IL 60062-2096	
Standard reference number	Title	Referenced in code section number
UL 100—2012	Sustainability for Gypsum Boards and Panels	505.4.2
UL 102—2012	Sustainability for Door Leafs	505.4.2
UL 391—2010	Standard for Solid-Fuel and Combination-Fuel Central and Supplementary Furnaces	804.1.3

<b>USGBC</b>	US Green Building Council 2101 L Street, NW, Suite 500 Washington, DC 20037	
Standard reference number	Title	Referenced in code section number
<del>LEED-NC v4</del> <u>BD+C v4</u>	<del>New Construction &amp; Major Renovations</del> <u>Building Design and Construction</u>	302.4
<del>LEED-CI v4</del> <u>ID+C v4</u>	<del>Commercial Interiors</del> <u>Interior Design and Construction</u>	302.4
<del>LEED-CS v4</del>	<u>Core &amp; Shell</u>	302.4
<del>LEED v4</del>	<u>Healthcare</u>	302.4
<del>LEED v4</del>	<u>Retail: Commercial Interiors</u>	302.4
<del>LEED v4</del>	<u>Retail: New Construction &amp; Major Renovations</u>	302.4
<del>LEED v4</del>	<u>Schools</u>	302.4
<del>LEED-EB v4</del> <u>O+M v4</u>	<del>Existing Buildings:</del> <u>Building Operations &amp; Maintenance</u>	302.9
<del>LEED Homes v4</del>	<u>Homes</u>	302.4

*Appendix A to the International Green Construction Code is adopted and incorporated into the Green Construction Code as Appendix A with the following modifications:*

## **APPENDIX A PROJECT ELECTIVES**

### **A101 GENERAL**

### **A102 APPLICABILITY AND CONFORMANCE**

### **A103 DEFINITIONS**

### **A104 SITE PROJECT ELECTIVES**

### **A105 MATERIAL RESOURCE CONSERVATION AND EFFICIENCY**

### **A106 ENERGY CONSERVATION, EFFICIENCY AND EARTH ATMOSPHERIC QUALITY**

### **A107 WATER RESOURCE CONSERVATION AND EFFICIENCY**

### **A108 INDOOR ENVIRONMENTAL QUALITY AND COMFORT**

### **A101 GENERAL**

*Strike Section A101.1 in Appendix A of the International Green Construction in its entirety and insert new Section A101.1 in Appendix A of the Green Construction Code in its place to read as follows:*

**A101.1 Scope.** Appendix A shall only apply to projects within the scope of the *Green Construction Code* as set forth in Section 101.4.9.3 of the *Building Code* that are either new construction, Level 2 and 3 alterations, or *core-and-shell* projects (where less than sixty percent (60%) of the interior occupiable area is completed with permanent lighting, wall partitions, HVAC equipment, and plumbing systems).

### **A102 APPLICABILITY AND CONFORMANCE**

*Strike Section A102.2 in Appendix A of the International Green Construction Code in its entirety and insert new Section A102.2 in Appendix A of the Green Construction Code in its place to read as follows:*

**A102.2 Required number and selection of project electives.** New construction projects shall attain a total of eighteen (18) project electives, Level 3 *alterations* and *core-and-shell* projects shall attain thirteen (13) project electives, first time tenant fit-outs 10,000 square feet and larger shall attain ten (10) project electives, and Level 2 *alterations* 50,000 square feet and larger, where 10,000 square feet of the space is being reconfigured, shall attain ten (10) project electives. For first-time tenant fit-outs and level 2 alterations, up to three (3) of the project electives can come from base building features.

Selected project electives shall be applied as mandatory requirements, and shall be communicated to the code official in the manner and form specified by the *code official*. Electives shall be disallowed if an elective is deemed by the code official not to meet the substantial intent of the elective.

**A104 SITE PROJECT ELECTIVES**

*Strike Table A104, Site Project Electives, in Appendix A of the International Green Construction Code in its entirety and insert new Table A104 in its place in Appendix A of the Green Construction Code to read as follows:*

**TABLE A104  
SITE PROJECT ELECTIVES**

<b>SECTION</b>	<b>DESCRIPTION</b>	<b>MINIMUM NUMBER OF ELECTIVES REQUIRED AND ELECTIVES SELECTED</b>	
A104.2	Wildlife corridor	Yes	No
A104.3	Bird Collision Deterrence – 40 percent % or less glazing or with no single façade having more than 75 percent glazing	Yes	No
A104.3	Bird Collision Deterrence – 40 percent % or more glazing or at least 75 percent % glazing on any one surface	<del>Yes</del> 2 Electives	<del>No</del>
A104.4	Brownfield site	Yes	No
A104.5	Site restoration	Yes	No
A104.6	Mixed use development	Yes	No
A 104.7	Changing and shower facilities	Yes	No

A104.8	Long-term bicycle parking and storage	Yes	No
A104.9	Heat island	Yes	No
A104.9.1	Site hardscape project elective 1	1 elective	
A104.9.2	Site hardscape project elective 2	1 elective	
A104.9.4	Roof covering project elective – 25 percent vegetative roof coverage	Yes	No
A104.9.4	Roof covering project elective – 50 percent vegetative roof coverage	Yes	No
A104.9.4	Roof covering project elective – 75 percent vegetative roof coverage	Yes	No
A104.10	Native plant landscaping – 75 percent native plants	Yes	No
A104.10	Native plant landscaping – 100 percent native plants	Yes	No
A104.11. <u>1</u>	<i>Electric vehicle</i> charging infrastructure project elective– <u>infrastructure to support one vehicle charging space per each 3 ten parking spaces, but not less than four spaces</u>	Yes	No
A104.11. <u>2</u>	<i>Electric vehicle</i> charging infrastructure project elective– <u>all necessary electric vehicle supply equipment</u> for one vehicle charging space per each <u>120 parking spaces, but not less than two spaces</u>	Yes	No
A104.11. <u>3</u>	<u>Electric vehicle charging infrastructure project elective– all necessary electric vehicle supply equipment</u> for one vehicle charging space per each <u>ten parking spaces, but not less than four spaces</u>	<u>Yes</u>	<u>No</u>

*Strike Sections A104.1, A104.1.1, and A104.1.2, in Appendix A of the International Green Construction Code in their entirety without substitution.*

*Strike Section A104.3 in Appendix A of the International Green Construction Code in its entirety and substitute new Section A104.3 in Appendix A of the Green Construction Code in its place to read as follows:*

**A104.3 Bird collision deterrence.** Projects that comply with LEED Pilot Credit 55: Bird Collision Deterrence (October 16, 2015), shall be recognized as a project elective. Compliance includes satisfaction of all the requirements in LEED Pilot Credit 55, including, but not limited to, adoption of post-construction and façade monitoring plans. Project teams seeking the bird collision deterrence elective(s) shall submit their post-construction and façade monitoring plans prior to the final inspection.

Projects with 40 percent or less glazing, excluding party or common walls, and with no single façade having more than 75 percent glazing, shall receive one (1) project elective.

Projects complying with the LEED Pilot Credit 55 with either 40 percent or more total glazing, or more than 75 percent glazing on any one façade, shall receive two (2) project electives.

The following modifications to LEED Pilot Credit apply:

1. LEED Pilot Credit 55 provides for a general outline of applicable building materials and their threat factors (see the Bird Collision Deterrence: Summary of Material Threat Factors table in the pilot credit). Teams can also comply using manufacturer's products listed in the resources section of the American Bird Conservancy's website ([www.abcbirds.org](http://www.abcbirds.org)).
2. Subject to the exceptions in LEED Pilot Credit 55, all non-emergency interior and exterior lighting must be turned off, at minimum, from midnight until 6 a.m.

*Strike Sections A104.7 and A104.8 in Appendix A of the International Green Construction Code in their entirety and substitute new Sections A104.7 and A104.8 in Appendix A of the Green Construction Code in their place to read as follows:*

**A104.7 Changing and shower facilities project elective.** Projects that provide changing and shower facilities shall receive a project elective.

**A104.8 Long-term bicycle parking and storage project elective.** Projects that provide not less than 90 percent of long term bicycle parking within a building or provide the parking with a permanent cover including, but not limited to, roof overhangs, awnings, or bicycle storage lockers, shall be recognized as a single project elective.



*Strike Section A104.9 in Appendix A of the International Green Construction Code in its entirety and insert new Section A104.9 in Appendix A of the Green Construction Code in its place to read as follows:*

**A104.9 Heat island.** Project electives related to heat island impact shall comply with Sections A104.9.1, A104.9.2 or A104.9.4. Compliance with multiple electives shall be recognized.

*Strike Section A104.9.3 in Appendix A of the International Green Construction Code in its entirety without substitution.*

*Strike Section A104.9.4 in Appendix A of the International Green Construction Code in its entirety and insert new Section A104.9.4 in Appendix A of the Green Construction Code in its place to read as follows:*

**A104.9.4 Roof covering project elective.** Projects that install vegetative roofs shall be recognized as a project elective. Projects will receive one (1) project elective for 25 percent coverage of total roof square footage, one (1) additional elective credit for 50 percent coverage, or three (3) total elective credits for 75 percent coverage.

*Insert a new Section A104.10 in Appendix A of the Green Construction Code to read as follows:*

**A104.10 Native plant landscaping project elective.** Projects that install native plant landscaping beyond the code minimum shall be recognized as a project elective. Projects shall receive one (1) project elective for 75 percent native plant landscaping coverage, and an additional project elective for 100 percent coverage. Projects shall have minimum of 3 percent of site covered in landscaping to achieve the electives. Intensive green roofs (minimum of six (6) inches of soil media depth) are allowed to count towards this credit. Extensive green roofs (less than six (6) inches of soil media depth) are not allowed to count towards this elective.

*Insert ~~a new~~ Sections A104.11, A104.11.1, A104.11.2 and A104.11.3 in Appendix A of the Green Construction Code to read as follows:*

**A104.11 Electric vehicle charging ~~infrastructure~~ project electives.** All electric vehicle charging infrastructure and electric vehicle supply equipment provided to meet project electives shall comply with the following conditions:

~~Projects intending to qualify for an electric vehicle charging infrastructure project elective shall install electric vehicle supply equipment, or electrical infrastructure suitable for the future installation of electric vehicle supply equipment, in accordance the following requirements:~~

1. At least 6.6kW of power shall be supplied to the *electric vehicle* charging space(s).
2. Each junction box shall be sized for a minimum of 3.3 kW. The total power divided by the number of *electric vehicle* charging spaces shall not be less than ~~4.5~~ 3.3 kW.
3. In all locations where a charging station is to be installed, a level-2 charging station or alternative, as approved by the *code official*, shall be installed.

~~4. There shall be at least one *electric vehicle* charging space per each thirty (30) parking spaces or fraction thereof. An additional elective shall be available for furnishing at least one *electric vehicle* charging space per each ten (10) parking spaces or fraction thereof.~~

~~5-4.~~ Electric vehicle charging infrastructure shall be designated on the construction documents.

~~5.~~ ~~6-~~At least one electric vehicle charging space shall be adjacent to an ADA accessible space.

**A104.11.1 Installation of electrical charging infrastructure project elective.** Projects that install electrical infrastructure suitable for the future installation of *electric vehicle supply equipment* for at least one *electric vehicle* charging space per each ten parking spaces or fraction thereof, but not less than four spaces shall be recognized as a project elective.

**Exception:** Installation of electrical infrastructure in order to comply with A104.11.2 and A104.11.3 cannot be counted towards the A104.11.1 elective.

**A104.11.2 Installation of electric vehicle supply equipment project elective.** Projects that install all necessary *electric vehicle supply equipment* for at least one *electric vehicle* charging space for each 20 parking spaces or fraction thereof, but not less than two spaces, shall be recognized as a project elective.

**A104.11.3 Installation of additional electric vehicle supply equipment project elective.** Projects that install all necessary *electric vehicle supply equipment* for at least one *electric vehicle* charging space for each ten parking spaces or fraction thereof, but not less than four spaces shall be recognized as a project elective.

**A105 MATERIAL RESOURCE CONSERVATION AND EFFICIENCY**

*Strike Table A105 in Appendix A of the International Green Construction Code in its entirety and insert new Table A105 in Appendix A of the Green Construction Code in its place to read as follows:*

**TABLE A105  
MATERIAL RESOURCE CONSERVATION AND EFFICIENCY  
PROJECT ELECTIVES**

SECTION	DESCRIPTION	MINIMUM NUMBER OF ELECTIVES REQUIRED AND ELECTIVES SELECTED

A105.1	Waste management	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A105.2	Construction waste landfill maximum	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A105.3(1)	Recycled (40 <u>percent %</u> ), Regional (50 <u>percent %</u> ), and Biobased (10 <u>percent %</u> ) materials	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A105.3(2)	Material declaration and certification (50 <u>percent %</u> )	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A105.4	Service life plan	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A105.5	Design for deconstruction and building reuse	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A105.6	Existing building reuse	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A105.7	Historic building reuse	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A105.8	Deconstruction	Yes <input type="checkbox"/>	No <input type="checkbox"/>

*Strike Section A105.1 in Appendix A of the International Green Construction Code in its entirety and insert new Section A105.1 in Appendix A of the Green Construction Code in its place to read as follows:*

**A105.1 Waste management project elective.** Projects seeking a waste management project elective shall comply with Section 503.1, except that the nonhazardous construction waste materials required to be diverted from landfills shall be at least 75 percent.

*Strike Section A105.3 in Appendix A of the International Green Construction Code in its entirety and insert new Section A105.3 in Appendix A of the Green Construction Code in its place to read as follows:*

**A105.3 Material selection project electives.** Each of the following shall be considered a separate material selection project elective. The project electives are cumulative and compliance with each item shall be recognized individually.

1. This project elective shall require compliance with Section 505.2, except that buildings and structures shall contain any two of the following:
  - a. *Recycled Content and Salvaged Material Content.* The sum of the *recycled content* and the *salvaged material* content shall constitute a minimum of 40 percent, based on cost, of the total materials in the *building project*.
  - b. *Regional Materials.* A minimum of 50 percent of building materials or products used, based on cost, shall be regionally extracted/harvested/recovered or manufactured within a radius of 500 mi (800 km) of the project *site*. If only a fraction of a product or material is extracted/harvested/recovered or manufactured locally, then only that percentage (by weight) shall contribute to the regional value.
  - c. *Biobased Products.* A minimum of 10 percent of building materials used, based on cost, shall be *biobased products*.
2. Compliance with the project elective shall require compliance with Section 505.4, where not less than 50 percent of the total building materials used in the project, based on cost, shall comply with Sections 505.4.1 or 505.4.2. Where a material complies with both Sections 505.4.1 and 505.4.2, the material cost shall be multiplied by two.

*Insert a new Section A105.8 into the Green Construction Code as follows:*

**A105.8 Deconstruction project electives.** Projects seeking a *deconstruction* project elective shall comply with Section 503.1 and this section. Buildings, structures or portions thereof that are to be demolished shall be systematically disassembled by means of *deconstruction*. *Deconstruction* must be performed by a contractor with Building Materials Re-use Association (BMRA) deconstruction certification or other *approved* certification. A *deconstruction* plan and schedule shall be prepared and submitted by the *deconstruction* contractor for approval at permit application and prior to demolition. The plan shall list materials to be deconstructed. The plans and schedule shall use BMRA, Institute for Local Self Reliance's (ILSR) publications for *deconstruction* planning and tracking, Delta Institute's guidelines, or similar guidelines as *approved*. Prior to project completion, documentation must be provided to the code official. Documentation shall include receipts for donation, sale, recycling, and disposal of all materials, a complete post-deconstruction form completed and signed by the approved *deconstruction* contractor, and pictures of materials intended for re-use.

**A106 ENERGY CONSERVATION, EFFICIENCY AND EARTH ATMOSPHERIC QUALITY**

*Strike Table A106 in Appendix A of the International Green Construction Code in its entirety and insert new Table A106 in Appendix A in the Green Construction Code in its place to read as follows:*

**TABLE A106  
ENERGY CONSERVATION AND EFFICIENCY  
PROJECT ELECTIVES**

<b>SECTION</b>	<b>DESCRIPTION</b>	<b>MINIMUM NUMBER OF ELECTIVES REQUIRED AND ELECTIVES SELECTED</b>
A106.1	zEPI reduction project electives	Yes                  No
A106.1	Project zEPI score of 40	1 elective
A106.1	Project zEPI score of 35	2 electives
A106.1	Project zEPI score of 30	3 electives

A106.1	Project zEPI score of 25	4 electives
A106.1	Project zEPI score of 20	5 electives
A106.1	Project zEPI score of 15	6 electives
A106.1	Project zEPI score of 10	7 electives
A106.1	Project zEPI score of 5	8 electives
A106.1	Project zEPI score of 0	9 electives
A106.1	Project zEPI score of -5	10 electives
A106.2	Mechanical systems project elective	Yes                      No
A106.2	Heating equipment	1 elective
A106.2	Cooling equipment	1 elective

A106.2	Duct insulation	1 elective
A106.2	Duct system testing	1 elective
A106.2	Ductless systems	1 elective
A106.3	Service water heating	Yes                  No
A106.4	Lighting power density electives	Yes                  No
A106.4	Lighting power density – 10 percent reduction	1 elective
A106.4	Lighting power density – 15 percent reduction	2 electives
A106.4	Lighting power density – 20 percent reduction	3 electives
A106.4	Lighting power density – 25 percent reduction	4 electives
A106.4	Lighting power density – 30 percent reduction	5 electives
A106.5	Passive design	Yes                  No

A106.6	Renewable energy systems	Yes	No
A106.6	Renewable energy systems—5 percent	1 elective	
A106.6	Renewable energy systems—10 percent	2 electives	
A106.6	Renewable energy systems—20 percent	3 electives	
A106.7	Energy display	Yes	No
A106.8	Auto demand response for lighting	Yes	No
A106.9	Insulation and fenestration	Yes	No
A106.9	Insulation and fenestration – 10 <u>percent</u> % greater efficiency	1 elective	
A106.9	Insulation and fenestration – 20 <u>percent</u> % greater efficiency	2 electives	
A106.10	Permanent shading devices for fenestration - exterior	Yes	No
A106.10	Permanent shading devices for fenestration - interior	Yes	No
A106.11	Air leakage testing—0.25 cfm/ft2 qualifies for <u>two</u> <del>2</del> project electives	Yes	No
A106.11	Air leakage testing—0.15 cfm/ft2 qualifies for <u>two</u> <del>2</del> project electives	Yes	No



A106.12	Waste water heat recovery	Yes	No
A106.13	Circulating hot water systems	Yes	No
A106.15	High efficiency equipment project electives	Yes	No
A106.15	High efficiency equipment – 100 <u>percent</u> % CEE Tier 1	1 elective	
A106.15	High efficiency equipment – 100 <u>percent</u> % CEE Tier 2	2 electives	
A106.15	High efficiency equipment – 100 <u>percent</u> % CEE Tier 3	3 electives	
A106.16	Green power purchases project electives	Yes	No
A106.16	Green power purchases – 50 percent	1 elective	
A106.16	Green power purchases – 100 percent and Green-E Certified	2 electives	

*Strike Section A106.1 in Appendix A of the International Green Construction Code in its entirety and insert new Section A106.1 in Appendix A of the Green Construction Code in its place to read as follows:*

**A106.1 zEPI reduction project electives.** Project electives using zEPI reductions for buildings designed on a performance basis shall be determined by predictive modeling. Predictive modeling shall use a source energy kBtu/sf-y unit measure based on compliance with Sections A106.1.1 and A106.1.2. Where a building has mixed uses, all uses shall be included in the performance based compliance.

**A106.1.1 zEPI.** Performance-based designs shall be determined in accordance with Equation A106-1 for energy use reduction:

$$zEPI = 75 \times (EUI_p/EUI) \text{ (Equation A106-1)}$$

where:

EUIp = the proposed energy use index in source kBtu/sf-y for the proposed design of the building and its site calculated in accordance with Section A106.1.2.

EUI = the base annual energy use index in source kBtu/sf-y for a baseline building and its site calculated in accordance with Appendix G of the *Energy Conservation Code*.

**A106.1.2 Base annual energy use index.** The proposed energy use index (EUIp) of the building and building site shall be calculated in accordance with Appendix G of the *Energy Conservation Code*, and *approved* modeling guidelines. The annual energy use shall include all energy used for building functions and its anticipated occupancy.

**A106.1.2.1 Electric power.** In calculating the annual energy use index, consistent units shall be used for electric energy by converting the electric power use at the utility meter or measured point of delivery to Btus and multiplying by the conversion factor in Table A106.1.2.1 based on the geographical location of the building.

**TABLE A106.1.2.1  
ELECTRICITY GENERATION ENERGY CONVERSION FACTORS  
BY EPA eGRID SUB-REGION**

eGRID 2010 SUB-REGION ACRONYM	eGRID 2010 SUB-REGION NAME	CO <sub>2</sub> e RATE (kg/kWh)
RFCE	RFC East	0.543

**A106.1.2.2 Non-renewable energy.** In calculating the annual energy use index, for fuel other than electrical power, energy use shall be converted to consistent units by multiplying the non-renewable energy fossil fuel use at the utility *meter* or measured point of delivery to Btus and multiplying by the conversion factor in Table A106.1.2.2.

**TABLE A106.1.2.2  
U.S. AVERAGE BUILDING FUELS ENERGY CONVERSION FACTORS BY FUEL TYPE**

FUEL TYPE	ENERGY CONVERSION FACTOR
Natural Gas	1.09
Fuel Oil	1.19
LPG	1.15
Purchased District Heating—Hot Water	1.35
Purchased District Heating—Steam	1.45
District Cooling	0.33 X value in Table A106.1.2.1
Other	1.1

*Strike Section A106.2 in Appendix A of the International Green Construction Code in its entirety and insert new Section A106.2 in Appendix A of the Green Construction Code in its place to read as follows:*

**A106.2 Mechanical systems project elective.** Buildings seeking mechanical systems project electives shall comply with Section A106.2.1. One elective shall be granted for each of the Sections A106.2.2 through A106.2.6.

**A106.2.1 Prescriptive path.** The building shall be designed prescriptively in accordance with the *Energy Conservation Code*.

**A106.2.2 Heating Equipment.** For heating equipment, the part-load, full load, annual, or season efficiency of the equipment shall be not less than 10 percent greater than the part-load, full load, annual, or season efficiencies shown in the applicable tables of the *Energy Conservation Code*, or the equipment shall be ENERGY STAR labeled, as applicable. Grid-interactive electric thermal storage heating systems shall be deemed to meet the requisites of this section where they are directly regulated by the grid operator to store energy during off-peak hours to utilize available renewable energy or to provide balancing services for management of the grid.

**A106.2.3 Cooling Equipment.** For cooling equipment, the part-load, full-load, annual, or season efficiency of the equipment shall be not less than 10 percent greater than the part-load, full load, annual, or season efficiencies shown in the applicable tables of the *Energy Conservation Code*, or the equipment shall be ENERGY STAR labeled. Cooling equipment compressors shall have at least two (2)-stage operation if available for the size of the equipment.

**A106.2.4 Supply and return duct insulation.** Ducts shall be insulated to R-8 or greater where located in unconditioned spaces and R-11 or greater where located outside of the building structure. Where located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by R-8 insulation or greater. To qualify for this elective, there must be a minimum of one linear foot of applicable supply air ducting per fifty (50) square feet of building area for ducts 600 CFM or less, or one linear foot of applicable ductwork per 200 square feet of building area for ducts supplying greater than 600 CFM.

**A106.2.5 Duct system testing.** Low pressure duct systems shall be leak tested and shall have a rate of air leakage of 80 percent or less than that specified in R402.2.2.1 of the *Energy Conservation Code*. Other duct systems shall be leak-tested in accordance with the SMACNA *HVAC Air Duct Leakage Test Manual* and shall have a rate of air leakage (CL) less than or equal to 4 as determined in accordance with Equation 4-5 of the *Energy Conservation Code*.

**A106.2.5.1 Documentation.** Documentation shall be furnished by the designer demonstrating that representative sections totaling not less than 50 percent of the

duct area have been tested and that all tested sections meet the requirements of Section A106.2.4.

**Exception:** Projects entailing more than seven (7) duct systems shall utilize a sampling protocol approved by the code official.

**A106.2.6 Ductless Systems.** Where a minimum of 85 percent of the total floor area of a building is served by ductless systems for space conditioning, or duct systems less than ten (10) feet in length, project teams shall receive one project elective.

*Strike Section A106.4 in Appendix A of the International Green Construction Code in its entirety and insert new Section A106.4 in Appendix A of the Green Construction Code in its place to read as follows:*

**A106.4 Interior lighting power density reduction.** Projects seeking the lighting power density reduction elective shall be designed prescriptively in accordance with the *Energy Conservation Code*. Projects seeking the lighting power density elective shall receive one project elective for 10 percent reduction, two (2) project electives for 15 percent reduction, three (3) project electives for 20 percent reduction, four (4) project electives for 25 percent reduction, and five (5) project electives for 30 percent reduction compared to the requirements of the *Energy Conservation Code*.

Commercial buildings seeking the lighting power density reduction elective shall have at least 50 percent of the total building area designed and installed for permanent light fixtures.

**Exception:** Groups R-2, R-3, and R-4 shall not achieve this project elective.

*Strike Section A106.6 in Appendix A of the International Green Construction Code in its entirety and insert new Section A106.6 in Appendix A of the Green Construction Code in its place to read as follows:*

**A106.6 Renewable energy system project electives.** Buildings seeking a renewable energy system project elective or electives shall be equipped with one or more renewable energy systems that have the capacity to provide the percent of annual energy used within the building as selected in Table A106.

*Insert new Sections A106.7 through A106.16 in Appendix A of the Green Construction Code to read as follows:*

**A106.7 Energy display.** Buildings seeking an energy display project elective shall install a permanent, readily accessible and visible display adjacent to the main building entrance or on a publicly available web site. The display shall be capable of providing all of the following:

1. The current energy demand for the whole building, updated for each fuel type.

2. The average and peak demands for the previous day and the same day the previous year.
3. The total energy usage for the previous eighteen (18) months.

**A106.8 Auto demand response system for lighting.** Buildings seeking an auto demand response system for lighting project elective shall install a system capable of reducing total connected power of lighting as determined in accordance with the *Energy Conservation Code* by not less than 15 percent.

**A106.9 Insulation and fenestration project electives.** For projects seeking the insulation and fenestration project elective, the *building thermal envelope* shall exceed the requirements of *Energy Conservation Code* by not less than 10 percent. A second project elective shall be given for projects that exceed the *building thermal envelope* by 20 percent or more. Specifically, for purposes of compliance with this code, each U-factor, C-factor, F-factor and SHGC in the specified tables shall be reduced by 10 percent to determine the prescriptive criteria.

**A106.10 Permanent shading devices for fenestration.** Projects seeking the permanent shading devices project electives shall comply with one of the following for *vertical fenestration* on the West, South, and East facades. One project elective shall be granted for exterior shading devices and one project elective shall be granted for interior shading devices.

1. *Vertical Fenestration* shall be shaded by permanent projections that have an area-weighted average projection factor of not less than 0.50. The building is allowed to be rotated up to forty-five (45) degrees to the nearest cardinal orientation for purposes of calculations and showing compliance.
2. *Vertical fenestration* shall have direct solar radiation for fewer than two hundred fifty (250) hours per year because of shading by permanent external buildings, existing permanent infrastructure, or topography.
3. *Vertical fenestration* shall have automatically controlled shading devices capable of modulating in multiple steps the amount of solar gain and light transmitted into the space in response to daylight levels or solar intensity that comply with all of the following:
  - a. Exterior shading devices shall be capable of providing at least 90 percent coverage of the *fenestration* in the closed position.
  - b. Interior shading devices shall be capable of providing at least 90 percent coverage of the *fenestration* in the closed position and have a minimum solar reflectance of 0.50 for the surface facing the *fenestration*.
  - c. A manual override located in the same *enclosed space* as the *vertical fenestration* shall override operation of automatic controls no longer than four (4) hours.
  - d. Acceptance testing and commissioning shall be conducted to verify that automatic controls for shading devices respond to changes in illumination or radiation intensity.

4. *Vertical fenestration* shall have automatically controlled *dynamic glazing* capable of modulating in multiple steps the amount of solar gain and light transmitted into the space in response to daylight levels or solar intensity that comply with all of the following:
  - a. *Dynamic glazing* shall have a lower labeled *SHGC* equal to or less than 0.12, lowest labeled *VT* no greater than 0.05, and highest labeled *VT* no less than 0.40.
  - b. A manual override located in the same *enclosed space* as the *vertical fenestration* shall override operation of automatic controls no longer than four (4) hours.
  - c. Acceptance testing and commissioning shall be conducted to verify that automatic controls for *dynamic glazing* respond to changes in illumination or radiation intensity.

**A106.11 Air leakage testing.** Projects shall receive 2 project electives where the tested air leakage is 0.15 cfm/ft<sup>2</sup> under a pressure differential of 0.3-inch water column (1.57 lb/ft<sup>2</sup> or 1.25 L/s.m<sup>2</sup> under a pressure differential of 75 Pa). Testing shall occur after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, heating, ventilating and air-conditioning (HVAC) systems, plumbing, and electrical equipment and appliances. Testing shall be done in accordance with ASTM E 779, CAN/CGSB-149.10- M86, CAN/CGSB-149.15-96 or equivalent.

Where the tested rate exceeds 0.15 cfm/ft<sup>2</sup> but is less than 0.20 cfm/ft<sup>2</sup>, a visual inspection of the air barrier shall be conducted and any leaks noted shall be sealed to the extent practicable. An additional report identifying the corrective actions taken to seal leaks shall be submitted to the code official and the building owner, and shall be deemed to satisfy the requirements of this section.

**A106.12 Waste water heat recovery.** Projects that install a waste water heat recovery system shall qualify for a project elective provided that the system preheats the incoming water used for hot water functions by not less than 10°F (5.6°C).

**A106.13 Circulating hot water systems.** Projects seeking a circulating hot water systems project elective shall not have continuous, timer, or water temperature-initiated (aquastat) operation of circulating pumps. Gravity or thermosyphon circulation loops are prohibited. Pumps on circulating hot water systems shall be activated on demand by either a hard-wired or wireless activation control located within the room of final usage and of one of the following types:

1. A normally open, momentary contact switch.
2. Occupancy sensors.
3. A flow switch.
4. A door switch.

*Strike Section A106.14 of Appendix A of the International Green Construction Code in its entirety without substitution.*

**A106.15 High efficiency appliance elective.** Projects seeking one (1) high efficiency appliance elective shall install 100 percent Consortium for Energy Efficiency (CEE) approved appliances, commercial clothes washers, commercial kitchen equipment, and new consumer electronics (including computers, monitors, copiers, printers, and A/V equipment) used in the final project. Additionally, ENERGY STAR dryers shall be installed as applicable to the final occupancy. Fifty percent (50%) of the appliances must be new for the project to receive any electives in this section.

Projects shall earn two (2) electives by meeting all the requirements for the first elective, and in addition installing 100 percent CEE tier 2 products for those product types available in the CEE standard.

Projects shall earn three electives by meeting all the requirements for the first two electives, and in addition installing 100 percent CEE tier 3 products for those product types available in the CEE standard.

**A106.16 Green power purchases.** Projects that sign up for at least 50 percent green power for a minimum of five (5) years of modeled design energy consumption or at least 8 kWh/sf/year shall receive one project elective.

An additional project elective will be received for projects that sign up for 100 percent and Green-e certified green power for five (5) years of modeled design energy consumption or at least 16 kWh/sf/year.

**A107 WATER RESOURCE CONSERVATION AND EFFICIENCY**

*Strike Table A107 in Appendix A of the International Green Construction Code in its entirety and insert new Table A107 in Appendix A of the Green Construction Code in its place to read as follows:*

**TABLE A107  
WATER RESOURCE CONSERVATION AND EFFICIENCY  
PROJECT ELECTIVES**

SECTION	DESCRIPTION	MINIMUM NUMBER OF ELECTIVES REQUIRED AND ELECTIVES SELECTED	
A107.2	Onsite waste water treatment	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A107.3	Alternate onsite nonpotable water for outdoor hose	<input type="checkbox"/>	<input type="checkbox"/>

	connections and irrigation	Yes	No
A107.4	Alternate onsite nonpotable water for plumbing fixture flushing	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A107.7	Alternate onsite nonpotable water for industrial process makeup water	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A107.8	Alternate onsite nonpotable water for cooling tower makeup water	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A107.9	Gray water collection	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A107.10	Condensate drainage recovery	Yes <input type="checkbox"/>	No <input type="checkbox"/>
A107.11	Wet-hood exhaust scrubber system	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Strike Section A107.3 in Appendix A of the International Green Construction Code in its entirety and insert new Section A107.3 in Appendix A of the Green Construction Code in its place to read as follows:

**A107.3 Alternate onsite nonpotable water for outdoor hose connections and irrigation project elective.** Where projects are intended to qualify for an alternate onsite nonpotable water for outdoor hose connections and irrigation project elective in accordance with Section A107.3, sillcocks, hose bibs, wall hydrants, yard hydrants, and other outdoor outlets or any connection used for irrigation shall be supplied by nonpotable water providing fifty (50) gallons of storage per two hundred fifty (250) square feet of landscaping. Any irrigation system for the project *site* shall be controlled by a qualifying smart controller that uses evapotranspiration (ET) and weather data to adjust irrigation schedules or an on-site rain or moisture sensor that automatically shuts the system off after a predetermined amount of rainfall or sensed moisture in the soil. Qualifying smart controllers shall be tested in accordance with IA *SWAT* Climatological-Based Controllers 8th Draft Testing Protocol. Smart controllers that use *ET* shall use the following inputs for calculating appropriate irrigation amounts:

- a. Irrigation adequacy—80 percent minimum *ET<sub>c</sub>*.
- b. Irrigation excess—not to exceed 10 percent.

**Exception:** A temporary potable water irrigation system used exclusively for the establishment of new landscape shall be exempt from this requirement. Temporary potable water irrigation systems shall be removed or permanently disabled at such time as the landscape establishment period has expired.



Projects shall have a minimum of 3 percent of site covered in landscaping to achieve the elective. Intensive green roofs or roof portions are allowed to count towards this credit. Extensive green roofs are not allowed to count towards this elective.

*Strike Sections A107.4.1 through A107.4.3 in Appendix A of the International Green Construction Code in their entirety without substitution.*

*Strike Sections A107.5, A107.5.1, A107.5.2, and A107.5.3 in Appendix A of the International Green Construction Code in their entirety without substitution.*

*Strike Sections A107.6, A107.6.1, and A107.6.2 in Appendix A of the International Green Construction Code in their entirety without substitution.*

*Strike Section A107.8 in Appendix A of the International Green Construction Code in its entirety and insert new Section A107.8 in Appendix A of the Green Construction Code in its place to read as follows:*

**A107.8 Alternate onsite nonpotable water for cooling tower makeup water project elective.**

Where projects are intended to qualify for an *alternate onsite nonpotable water* for cooling tower makeup water project elective in accordance with Section A107.7, nonpotable water shall be utilized for cooling tower makeup water in accordance with the requirements of Section 703.7.

*Strike Section A107.9 in Appendix A of the International Green Construction Code in its entirety and insert new Section A107.9 in Appendix A of the Green Construction Code in its place to read as follows:*

**A107.9 Gray water collection project elective.** Where projects are intended to qualify for a gray water collection project elective in accordance with Section A107.8, waste water from lavatories, showers, bathtubs, clothes washers, and laundry trays shall be collected for reuse onsite.

*Insert new Sections A107.10 and A107.11 in Appendix A of the Green Construction Code to read as follows:*

**A107.10 Condensate drainage recovery.** Projects that are pursuing a condensate drainage recovery project selective shall collect 100 percent (100%) of condensate for reuse in applications such as water features, fountains, gray water collection systems and rainwater collection systems.

**A107.11 Wet-hood exhaust scrubber systems.** Where wet-hood exhaust scrubber systems are used, projects that are pursuing this elective shall incorporate a water recirculation system. The makeup water supplies for such systems shall be metered in accordance with Section 705.1.

**A107.11.1 Washdown systems.** Hoods incorporating washdown or rinsing systems for perchloric acid and similar chemicals shall utilize self-closing valves. Such systems shall be designed to drain automatically after each washdown process has been completed.

**A107.11.2 Water sources.** Where suitable alternate onsite nonpotable water is available, makeup water supplies to the recirculation system of wet-hood exhaust scrubbers shall utilize alternate onsite nonpotable water or municipal reclaimed water of a water quality appropriate for the application.

**A108 INDOOR ENVIRONMENTAL QUALITY AND COMFORT**

*Strike Table A108 in Appendix A of the International Green Construction Code in its entirety and insert new Table A108 in Appendix A of the Green Construction Code in its place to read as follows:*

**TABLE A108  
INDOOR ENVIRONMENTAL QUALITY AND COMFORT  
PROJECT ELECTIVES**

<b>SECTION</b>	<b>DESCRIPTION</b>	<b>MINIMUM NUMBER OF ELECTIVES REQUIRED AND ELECTIVES SELECTED</b>
A108.2	VOC emissions – flooring	Yes <input type="checkbox"/> No <input type="checkbox"/>
A108.3	VOC emissions – ceiling & wall systems	Yes <input type="checkbox"/> No <input type="checkbox"/>
A108.5	Architectural paints and coatings	Yes <input type="checkbox"/> No <input type="checkbox"/>
A108.6	Views to building exterior – 75 percent	Yes <input type="checkbox"/> No <input type="checkbox"/>
A108.6	Views to building exterior – 90 percent	Yes <input type="checkbox"/> No <input type="checkbox"/>
A108.7	Post-construction, pre-occupancy baseline IAQ testing project electives (2)	Yes <input type="checkbox"/> No <input type="checkbox"/>
A108.8	Adhesives and sealants	Yes <input type="checkbox"/> No <input type="checkbox"/>
A108.9	Post-construction, pre-occupancy flush out	<input type="checkbox"/> <input type="checkbox"/>

		Yes	No
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*Strike Section A108.3 in Appendix A of the International Green Construction Code in its entirety and insert new Section A108.3 in Appendix A of the Green Construction Code in its place to read as follows:*

**A108.3 Ceiling and wall materials project elective.** Where projects are intended to qualify for a ceiling and wall materials project elective, all ceiling and wall systems shall comply with Chapter 8 or shall be one or more of the following ceiling or wall systems that are deemed to comply with VOC emission limits:

Ceiling Systems:

1. Ceramic tile.
2. Clay masonry.
3. Concrete.
4. Concrete masonry.
5. Metal.
6. Organic-free, mineral-based.

Wall Systems:

1. Ceramic tile.
2. Clay masonry.
3. Concrete.
4. Concrete masonry.
5. Metal.
6. Organic-free, mineral-based.

*Strike Section A108.4 in Appendix A of the International Green Construction Code in its entirety.*

*Strike Section A108.5 in Appendix A of the International Green Construction Code in its entirety and insert new Section A108.5 in Appendix A of the Green Construction Code in its place to read as follows:*

**A108.5 Architectural paints and coatings project elective.** Where projects are intended to qualify for an architectural paints and coatings project elective, 100 percent of the non-specialty paints and coatings shall have VOC limits that are more than 50 percent lower than the thresholds in Table 806.4(1) and 100 percent of the specialty coatings shall meet the requirements in Table 806.4(1).

*Strike Section A108.6 in Appendix A of the International Green Construction Code in its entirety and insert new Section A108.6 in Appendix A of the Green Construction Code in its place to read as follows:*

**A108.6 Views to building exterior project elective.** Where projects are intended to qualify for a “views to building exterior” project elective in accordance with Section A108.6, not less than 75 percent of the net floor area shall have a direct line of sight to the exterior through clear vision glazing. A total of not less than 45 square feet (4.18 m<sup>2</sup>) of clear vision glazing in the exterior wall or roof shall be visible. The direct line of sight shall originate at a height of 42 inches (1067 mm) above the finished floor of the space, shall terminate at the clear vision glazing in the exterior wall or roof, and shall be less than 40 feet (12 192 mm) in length. Projects that have a direct line of sight to the exterior for 90 percent of the net floor area shall qualify for an additional project elective.

**Exception:** Where the direct line of sight is less than 25 feet (7620 mm) in length, a total of not less than 18 square feet (1.67 m<sup>2</sup>) of clear vision glazing in the exterior wall or roof shall be visible.

*Insert new Sections A108.7, A108.8, and A108.9 in Appendix A of the Green Construction Code to read as follows:*

**A108.7 Post-construction, pre-occupancy baseline IAQ testing project electives.** Where projects are intended to qualify for these two (2) project electives, after all interior finishes are installed the building shall be tested for indoor air quality and the testing results shall indicate that the levels of VOCs are less than 50 percent of all of the levels detailed in Table 806.1 of the *Green Construction Code* using testing protocols in accordance with ASTM D 6196, ASTM D 5466, ASTM D 5197, ASTM D 6345, and ISO 7708. Test samples shall be taken in not less than one location in each 25,000 square feet (1860 m<sup>2</sup>) of floor area or in each contiguous floor area.

**A108.8 Adhesives and sealants project elective.** Where projects are intended to qualify for an adhesives and sealants project elective, 100 percent of the adhesives and sealants shall have VOC limits that are more than 50 percent lower than the thresholds in Table 806.3(1).

**A108.9 Post-construction, pre-occupancy flush out.** After construction ends, and prior to occupancy and with all interior finishes installed, install new filtration media and perform a building flush-out by supplying a total air volume of 14,000 cubic feet of outdoor air per square foot (4,500 cubic meters of outdoor air per square meter) of floor area while maintaining an internal temperature of at least 60°F (15°C) and relative humidity no higher than sixty percent (60%).

All persons desiring to comment on these proposed regulations should submit comments in writing to Jill Stern, Chairperson, Construction Codes Coordinating Board, Department of Consumer and Regulatory Affairs, 1100 Fourth Street, S.W., Room 5100, Washington, D.C. 20024, or via e-mail at [jill.stern@dc.gov](mailto:jill.stern@dc.gov). Comments must be received no later than thirty (30) days after publication of this notice in the *D.C. Register*. Persons with questions concerning this Notice of Second Proposed Rulemaking should call (202) 442-8944. Electronic copies of the proposed rules can be obtained from the email address listed above or via the website of the District of Columbia Office of Documents and Administrative Issuances at <http://www.dcregs.dc.gov/>.

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