2024 IBC®

INTERNATIONAL BUILDING CODE®



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2024 International Building Code®

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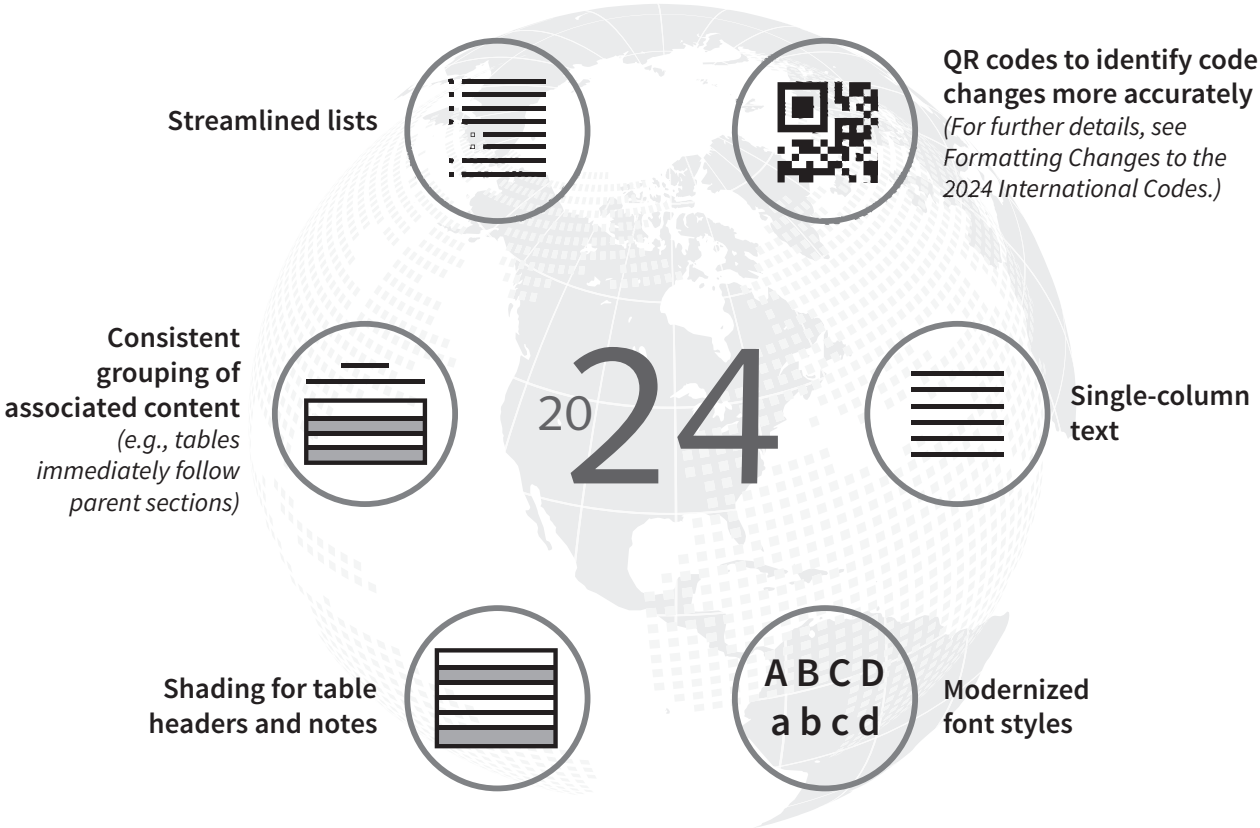
NEW DESIGN FOR THE 2024 INTERNATIONAL CODES

INTERNATIONAL CODE COUNCIL®

IBC IRC IFC IPC IMC IECC IEBC IFGC IPMC IPSDC IWUIC IZC ICCPC IgCC ISPSC

The 2024 International Codes® (I-Codes®) have undergone substantial formatting changes as part of the digital transformation strategy of the International Code Council® (ICC®) to improve the user experience. The resulting product better aligns the print and PDF versions of the I-Codes with the ICC's Digital Codes® content.

The changes, promoting a cleaner, more modern look and enhancing readability and sustainability, include:



More information can be found at iccsafe.org/design-updates.

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PREFACE

FORMATTING CHANGES TO THE 2024 INTERNATIONAL CODES

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Replacement of Marginal Markings with QR Codes

Through 2021, print editions of the I-Codes identified technical changes from prior code cycles with marginal markings [solid vertical lines for new text, deletion arrows (➡), asterisks for relocations (*)]. The 2024 I-Code print editions replace the marginal markings with QR codes to identify code changes more precisely.

A QR code is placed at the beginning of any section that has undergone technical revision. If there is no QR code, there are no technical changes to that section.

In the following example from the 2024 International Building Code® (IBC®), a QR code indicates there are changes to Section 104 from the 2021 IBC. Note that the change may occur in the main section or in one or more subsections of the main section.

SECTION 104—DUTIES AND POWERS OF BUILDING OFFICIAL

[A] 104.1 General. The *building official* is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The *building official* shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Where this code or a referenced standard requires equipment, materials, products or services to be listed and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an *approved* listing criteria.



To see the code changes, the user need only scan the QR code with a smart device. If scanning a QR code is not an option, changes can be accessed by entering the 7-digit code beneath the QR code at the end of the following URL: qr.iccsafe.org/ (in the above example,"qr.iccsafe.org/9caa2e2"). Those viewing the code book via PDF can click on the QR code.

All methods take the user to the appropriate section on ICC's Digital Codes website, where technical changes from the prior cycle can be viewed. Digital Codes Premium subscribers who are logged in will be automatically directed to the Premium view. All other users will be directed to the Digital Codes Basic free view. Both views show new code language in blue text along with deletion arrows for deleted text and relocation markers for relocated text.

Digital Codes Premium offers additional ways to enhance code compliance research, including revision histories, commentary by code experts and an advanced search function. A full list of features can be found at codes.iccsafe.org/premium-features.

ACCESSING ADDITIONAL FEATURES VIA REGISTRATION OF BOOK



Beginning with the 2024 *International Mechanical Code*® (IMC®) and the 2024 *International Plumbing Code*® (IPC®), users will be able to validate the authenticity of their book and register it with the ICC to receive incentives. Digital Codes Premium (codes.iccsafe.org) provides advanced features and exclusive content to enhance code compliance. To validate and register, the user will tap the ICC tag (pictured here and located on the front cover) with a near-field communication (NFC) compatible device. Visit iccsafe.org/nfc for more information and troubleshooting tips regarding NFC tag technology.

ABOUT THE I-CODES

The 2024 I-Codes, published by the ICC, are 15 fully compatible titles intended to establish provisions that adequately protect public health, safety and welfare; that do not unnecessarily increase construction costs; that do not restrict the use of new materials, products or methods of construction; and that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

The I-Codes are updated on a 3-year cycle to allow for new construction methods and technologies to be incorporated into the codes. Alternative materials, designs and methods not specifically addressed in the I-Code can be approved by the building official where the proposed materials, designs or methods comply with the intent of the provisions of the code.

The I-Codes are used as the basis of laws and regulations in communities across the US and in other countries. They are also used in a variety of nonregulatory settings, including:

- Voluntary compliance programs.
- The insurance industry.
- Certification and credentialing for building design, construction and safety professionals.

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- Certification of building and construction-related products.
- Facilities management.
- "Best practices" benchmarks for designers and builders.
- College, university and professional school textbooks and curricula.
- Reference works related to building design and construction.

Code Development Process

The code development process regularly provides an international forum for building professionals to discuss requirements for building design, construction methods, safety, performance, technological advances and new products. Proposed changes to the I-Codes, submitted by code enforcement officials, industry representatives, design professionals and other interested parties are deliberated through an open code development process in which all interested and affected parties may participate.

Openness, transparency, balance, due process and consensus are the guiding principles of both the ICC Code Development Process and OMB Circular A-119, which governs the federal government's use of private-sector standards. The ICC process is open to anyone without cost. Remote participation is available through cdpAccess®, the ICC's cloud-based app.

In order to ensure that organizations with a direct and material interest in the codes have a voice in the process, the ICC has developed partnerships with key industry segments that support the ICC's important public safety mission. Some code development committee members were nominated by the following industry partners and approved by the ICC Board:

- American Gas Association (AGA)
- American Institute of Architects (AIA)
- American Society of Plumbing Engineers (ASPE)
- International Association of Fire Chiefs (IAFC)
- National Association of Home Builders (NAHB)
- National Association of State Fire Marshals (NASFM)
- National Council of Structural Engineers Association (NCSEA)
- National Multifamily Housing Council (NMHC)
- Plumbing Heating and Cooling Contractors (PHCC)
- Pool and Hot Tub Alliance (PHTA), formerly The Association of Pool and Spa Professionals (APSP)

Code development committees evaluate and make recommendations regarding proposed changes to the codes. Their recommendations are then subject to public comment and council-wide votes. The ICC's governmental members—public safety officials who have no financial or business interest in the outcome—cast the final votes on proposed changes.

The I-Codes are subject to change through future code development cycles and by any governmental entity that enacts the code into law. For more information regarding the code development process, contact the Codes and Standards Development Department of the ICC at iccsafe.org/products-and-services/i-codes/code-development/.

While the I-Code development procedure is thorough and comprehensive, the ICC, its members and those participating in the development of the codes expressly disclaim any liability resulting from the publication or use of the I-Codes, or from compliance or noncompliance with their provisions. NO WARRANTY OF ANY KIND, IMPLIED, EXPRESSED OR STATUTORY, IS GIVEN WITH RESPECT TO THE I-CODES. The ICC does not have the power or authority to police or enforce compliance with the contents of the I-Codes.

Code Development Committee Responsibilities (Letter Designations in Front of Section Numbers)

In each cycle, proposed changes are considered by the Code Development Committee assigned to a specific code or subject matter. Committee Action Hearings result in recommendations regarding a proposal to the voting membership. Where changes to a code section are not considered by that code's own committee, the code section is preceded by a bracketed letter designation identifying a different committee. Bracketed letter designations for the I-Code committees are:

[A] = Administrative Code Development Committee

[BE] = IBC—Egress Code Development Committee

[BF] = IBC—Fire Safety Code Development Committee

[BG] = IBC—General Code Development Committee

[BS] = IBC—Structural Code Development Committee

[E] = Developed under the ICC's Standard Development Process

[EB] = International Existing Building Code Development Committee

[F] = International Fire Code Development Committee

[FG] = International Fuel Gas Code Development Committee

[M] = International Mechanical Code Development Committee

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[P] = International Plumbing Code Development Committee

[SP] = International Swimming Pool and Spa Code Development Committee

For the development of the 2027 edition of the I-Codes, the ICC Board of Directors approved a standing motion from the Board Committee on the Long-Term Code Development Process to revise the code development cycle to incorporate two committee action hearings for each code group. This change expands the current process from two independent 1-year cycles to a single continuous 3-year cycle. There will be two groups of code development committees and they will meet in separate years. The current groups will be reworked. With the energy provisions of the *International Energy Conservation Code*® (IECC®) and Chapter 11 of the *International Residential Code*® (IRC®) now moved to the Code Council's Standards Development Process, the reduced volume of code changes will be distributed between Groups A and B.

Code change proposals submitted for code sections that have a letter designation in front of them will be heard by the respective committee responsible for such code sections. Because different committees hold Committee Action Hearings in different years, proposals for most codes will be heard by committees in both the 2024 (Group A) and the 2025 (Group B) code development cycles. It is very important that anyone submitting code change proposals understands which code development committee is responsible for the section of the code that is the subject of the code change proposal.

Please visit the ICC website at iccsafe.org/products-and-services/i-codes/code-development/current-code-development-cycle for further information on the Code Development Committee responsibilities as it becomes available.

Coordination of the I-Codes

The coordination of technical provisions allows the I-Codes to be used as a complete set of complementary documents. Individual codes can also be used in subsets or as stand-alone documents. Some technical provisions that are relevant to more than one subject area are duplicated in multiple model codes.

Italicized Terms

Words and terms defined in Chapter 2, Definitions, are italicized where they appear in code text and the Chapter 2 definitions apply. Although care has been taken to ensure applicable terms are italicized, there may be instances where a defined term has not been italicized or where a term is italicized but the definition found in Chapter 2 is not applicable. For example, Chapter 2 of the IBC contains a definition for "*Listed*" that is applicable to equipment, products and services. The term "listed" is also used in the IBC to refer to a list of items within the code or within a referenced document. For the latter, the Chapter 2 definition would not be applicable.

Adoption of International Code Council Codes and Standards

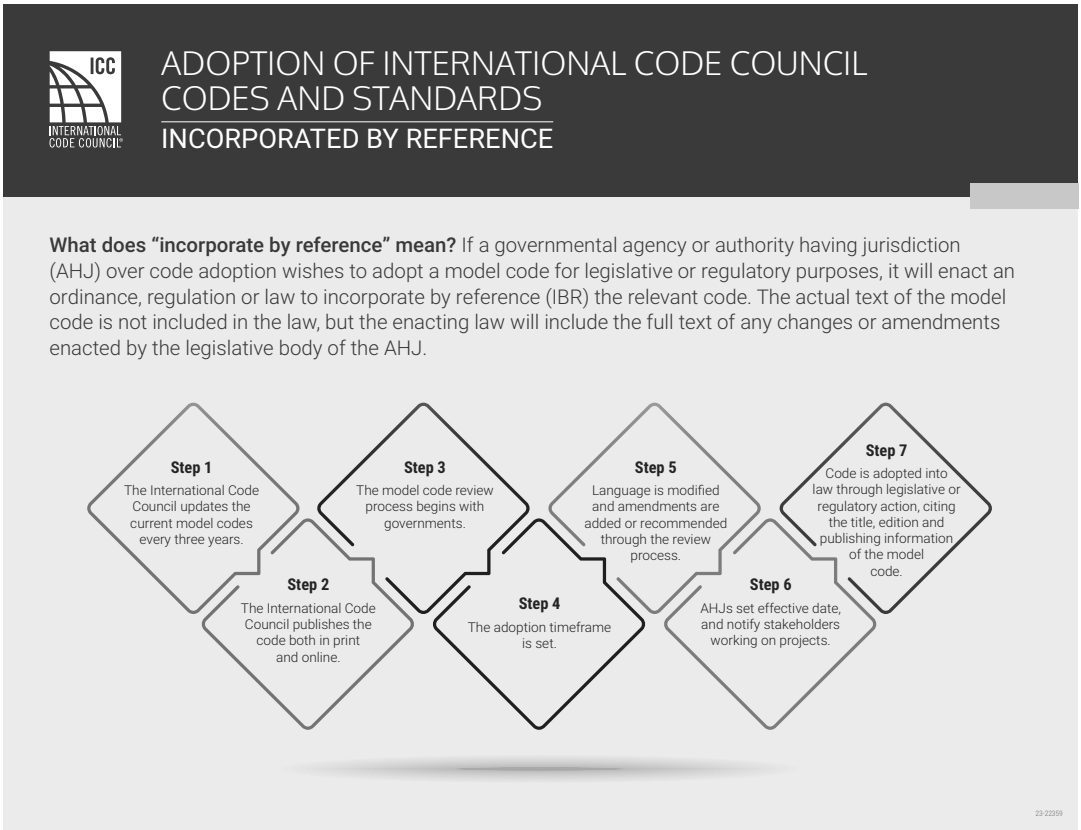
The International Code Council maintains a copyright in all of its codes and standards. Maintaining copyright allows the Code Council to fund its mission through sales of books in both print and digital formats. The Code Council welcomes incorporation by reference of its codes and standards by jurisdictions that recognize and acknowledge the Code Council's copyright in the codes and standards, and further acknowledge the substantial shared value of the public/private partnership for code development between jurisdictions and the Code Council. By making its codes and standards available for incorporation by reference, the Code Council does not waive its copyright in its codes and standards.

The Code Council's codes and standards may only be adopted by incorporation by reference in an ordinance passed by the governing body of the jurisdiction. "Incorporation by reference" means that in the adopting ordinance, the governing body cites only the title, edition, relevant sections or subsections (where applicable), and publishing information of the model code or standard, and the actual text of the model code or standard is not included in the ordinance (see graphic, "Adoption of International Code Council Codes and Standards"). The Code Council does not consent to the reproduction of the text of its codes or standards in any ordinance. If the governing body enacts any changes, only the text of those changes or amendments may be included in the ordinance.

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The Code Council also recognizes the need for jurisdictions to make laws accessible to the public. Accordingly, all I-Codes and I-Standards, along with the laws of many jurisdictions, are available to view for free at codes.iccsafe.org/codes/i-codes. These documents may also be purchased, in both digital and print versions, at shop.iccsafe.org.

To facilitate adoption, some I-Code sections contain blanks for fill-in information that needs to be supplied by the adopting jurisdiction as part of the adoption legislation. For example, the IBC contains:

Section 101.1. Insert: **[NAME OF JURISDICTION]**

Section 103.1. Insert: **[NAME OF DEPARTMENT]**

Section 1612.3. Insert: **[NAME OF JURISDICTION, DATE OF ISSUANCE]**

For further information or assistance with adoption, including a sample ordinance, jurisdictions should contact the Code Council at incorporation@iccsafe.org.

For a list of frequently asked questions (FAQs) addressing a range of foundational topics about the adoption of model codes by jurisdictions and to learn more about the Code Council's code adoption resources, scan the QR code or visit iccsafe.org/code-adoption-resources.

INTRODUCTION TO THE INTERNATIONAL BUILDING CODE

The *International Building Code* establishes minimum requirements for building systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new building designs.

The IBC is a model code that provides minimum requirements to safeguard the public health, safety and general welfare of the occupants of new and existing buildings and structures. It addresses structural strength, means of egress, sanitation, adequate lighting and ventilation, accessibility, energy conservation and life safety in regard to new and existing buildings, facilities and systems.

The IBC applies to all occupancies, including one- and two-family dwellings and townhouses that are not within the scope of the *IRC*. The *IRC* is referenced for coverage of detached one- and two-family dwellings and townhouses as defined in the exception to Section 101.2 and the definition for "*Townhouse*" in Chapter 2. The *IRC* can also be used for the construction of live/work units (as defined in Section 508.5) and small bed and breakfast-style hotels where there are five or fewer guest rooms and the hotel is owner-occupied. The IBC applies to all types of buildings and structures unless exempted. Work exempted from permits is listed in Section 105.2.

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ARRANGEMENT AND FORMAT OF THE 2024 IBC

The format of the IBC allows each chapter to be devoted to a particular subject. The following table shows how the IBC is divided. The subsequent tables show IBC requirements that are correlated with other I-Codes. The chapter synopses detail the scope and intent of the provisions of the IBC.

CHAPTER TOPICS	
CHAPTERS	**SUBJECTS**
1, 2	Administration and Definitions
3	Use and Occupancy Classifications
4, 31	Special Requirements for Specific Occupancies or Elements
5–6	Height and Area Limitations Based on Type of Construction
7–9	Fire Resistance and Protection Requirements
10	Requirements for Evacuation
11	Specific Requirements to Allow Use and Access to a Building for Persons with Disabilities
12, 27–30	Building Systems, Such as Lighting, HVAC, Plumbing Fixtures, Elevators
13	Energy Use
14–26	Structural Components—Performance and Stability
32	Encroachment Outside of Property Lines
33	Safeguards during Construction
35	Referenced Standards
Appendices A–P	Appendices

INTERNATIONAL FIRE CODE CORRELATED TOPICS

The IBC requirements for hazardous materials, fire-resistance-rated construction, interior finish, fire protection systems, means of egress, emergency and standby power, and temporary structures are directly correlated with the requirements of the *International Fire Code*® (IFC®). The following table shows chapters/sections of the IBC that are correlated with the IFC:

IBC/IFC CORRELATED TOPICS		
IBC CHAPTER/SECTION	**IFC CHAPTER/SECTION**	**SUBJECT**
Sections 307, 414, 415	Chapters 50–67	Hazardous materials and Group H requirements
Chapter 7	Chapter 7	Fire-resistance-rated construction (fire and smoke protection features in the IFC)
Chapter 8	Chapter 8	Interior finish, decorative materials and furnishings
Chapter 9	Chapter 9	Fire protection systems
Chapter 10	Chapter 10	Means of egress
Chapter 27	Section 604	Standby and emergency power
Section 3103	Chapter 31	Temporary structures

INTERNATIONAL MECHANICAL CODE CORRELATED TOPICS

The IBC requirements for smoke control systems, and smoke and fire dampers are directly correlated to the requirements of the IMC. IBC Chapter 28 is a reference to the *IMC* and the *International Fuel Gas Code*® (IFGC®) for chimneys, fireplaces and barbecues, and all aspects of mechanical systems. The following table shows chapters/sections of the IBC that are correlated with the *IMC*:

IBC/IMC CORRELATED TOPICS		
IBC CHAPTER/SECTION	**IMC CHAPTER/SECTION**	**SUBJECT**
Section 717	Section 607	Smoke and fire dampers
Section 909	Section 513	Smoke control

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INTERNATIONAL PLUMBING CODE CORRELATED TOPICS

The IBC requirements for plumbing fixtures and toilet rooms are directly correlated to the requirements of the IPC. The following table shows chapters/sections of the IBC that are correlated with the IPC:

IBC/IPC CORRELATED TOPICS		
IBC CHAPTER/SECTION	**IPC CHAPTER/SECTION**	**SUBJECT**
Chapter 29	Chapters 3 and 4	Plumbing fixtures and facilities

Chapter 1 Scope and Administration.

Chapter 1 establishes the limits of applicability of the code and describes how the code is to be applied and enforced. The provisions of Chapter 1 establish the authority and duties of the code official appointed by the authority having jurisdiction and also establish the rights and privileges of the design professional, contractor and property owner.

Chapter 2 Definitions.

Chapter 2 is the repository of the definitions of terms used in the body of the code. The user of the code should be familiar with and consult this chapter because the definitions are essential to the correct interpretation of the code and because the user may not be aware that a term is defined.

Chapter 3 Occupancy Classification and Use.

Chapter 3 provides for the classification of buildings, structures and parts thereof based on the purpose for which they are used. Section 302 identifies the groups into which all buildings, structures and parts thereof must be classified. Sections 303 through 312 identify the occupancy characteristics of each group classification. In some sections, specific group classifications having requirements in common are collectively organized such that one term applies to all. For example, Groups A-1, A-2, A-3, A-4 and A-5 are individual groups for assembly-type buildings. The general term “Group A,” however, includes each of these individual groups. Other groups include Business (B), Educational (E), Factory (F-1, F-2), High Hazard (H-1, H-2, H-3, H-4, H-5), Institutional (I-1, I-2, I-3, I-4), Mercantile (M), Residential (R-1, R-2, R-3, R-4), Storage (S-1, S-2) and Utility (U). In some occupancies, the smaller number means a higher hazard, but that is not always the case.

Defining the use of the buildings is very important as it sets the tone for the remaining chapters of the code. Occupancy works with the height, area and construction type requirements in Chapters 5 and 6, to determine "equivalent risk." The determination of equivalent risk involves three interdependent considerations: (1) the level of fire hazard associated with the specific occupancy of the facility; (2) the reduction of fire hazard based on the fuel load by limiting the floor area and the height of the building; and (3) the level of overall fire resistance provided by the type of construction. The greater the potential fire hazards indicated as a function of the group, the lesser the height and area allowances for a particular construction type.

Occupancy classification also plays a key part in the appropriate protection measures. As such, threshold requirements for fire protection and means of egress systems are based on occupancy classification (see Chapters 9 and 10). Other sections of the code also contain requirements respective to the classification of building groups. For example, Section 706 specifies requirements for fire wall fire-resistance ratings that are tied to the occupancy classification of a building and Section 803.11 contains interior finish requirements that are dependent upon the occupancy classification. The use of the space, rather than the occupancy of the building, is utilized for determining occupant loading (Section 1004) and live loading (Section 1607).

Chapter 4 Special Detailed Requirements Based on Occupancy and Use.

Chapter 4 contains the requirements for protecting special uses and occupancies which are supplemental to the remainder of the code. For example, the height and area limitations established in Chapter 5 apply to all special occupancies unless Chapter 4 contains height and area limitations. In this case, the limitations in Chapter 4 supersede those in other sections. An example of this is the height and area limitations for open parking garages given in Section 406.5.4, which supersede the limitations given in Sections 504 and 506.

In some instances, it may not be necessary to apply the provisions of Chapter 4. For example, if a covered mall building complies with the provisions of the code for Group M, Section 402 does not apply; however, other sections that address a use, process or operation must be applied to that specific occupancy, such as stages and platforms, special amusement buildings and hazardous materials (Sections 410, 411 and 414).

The chapter includes requirements for buildings and conditions that apply to one or more groups, such as high-rise buildings, underground buildings or atriums. Special uses may also imply specific occupancies and operations, such as for Group H, hazardous materials, and uses with associated combustibility hazards, which are coordinated with the IFC. Unique consideration is taken for special use areas, such as covered mall buildings, motor-vehicle-related occupancies, special amusement buildings and aircraft-related occupancies. Special facilities within other occupancies are considered, such as stages and platforms, motion picture projection rooms, children’s play structures and storm shelters. Finally, in order that the overall package of protection features can be easily understood, unique considerations for specific occupancies are addressed: Groups I-1, I-2, I-3, R-1, R-2, R-3 and R-4 and ambulatory care facilities.

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Chapter 5 General Building Heights and Areas.

Chapter 5 contains the provisions that regulate the minimum type of construction for area limits and height limits based on the occupancy of the building. Height and area increases are permitted based on open frontage for fire department access, separation and the type of sprinkler protection provided (Sections 503 through 506, 510). Provisions include the protection and/or separation of incidental uses (Table 509.1), accessory occupancies (Section 508.2) and mixed uses in the same building (Sections 506.2.2, 508.3, 508.4 and 510). Unlimited area buildings are permitted in certain occupancies when they meet special provisions (Section 507). Live/work units are provided for in Section 508.5.

Tables 504.3, 504.4 and 506.2 are the keystones in setting thresholds for building size based on the building's use and the materials with which it is constructed. Respective to each group classification, the greater the fire-resistance rating of structural elements, as represented by the type of construction, the greater the floor area and height allowances. The greater the potential fire hazards indicated as a function of the group, the lesser the height and area allowances for a particular construction type.

Chapter 6 Types of Construction.

The interdependence of fire safety considerations can be seen by looking at Tables 601 and 705.5, which show the fire-resistance ratings of the principal structural elements comprising a building in relation to the five classifications for types of construction. Type I construction generally requires the highest fire-resistance ratings for structural elements, whereas Type V construction generally requires the least amount of fire-resistance-rated structural elements. The greater the potential fire hazards indicated as a function of the group, the lesser the height and area allowances for a particular construction type. Section 603 includes a list of combustible elements that can be part of a noncombustible building (Types I and II construction).

Chapter 7 Fire and Smoke Protection Features.

Chapter 7 provisions present the fundamental concepts of fire performance that all buildings are expected to achieve in some form. This chapter identifies the acceptable materials, techniques and methods by which proposed construction can be designed and evaluated against to determine a building's ability to limit the impact of fire.

Chapter 8 Interior Finishes.

Chapter 8 contains the performance requirements for controlling fire growth within buildings by restricting interior finish and decorative materials. The provisions of Chapter 8 require materials used as interior finishes and decorations to meet certain flame-spread index or flame-propagation criteria based on the relative fire hazard associated with the occupancy.

Chapter 9 Fire Protection and Life Safety Systems.

Chapter 9 prescribes the minimum requirements for active systems of fire protection equipment to perform the following functions: detect a fire, alert the occupants or fire department of a fire emergency, and control smoke and control or extinguish the fire. Generally, the requirements are based on the occupancy, the height and the area of the building, because these are the factors that most affect firefighting capabilities and the relative hazard of a specific building or portion thereof. This chapter parallels and is substantially duplicated in Chapter 9 of the IFC; however, the IFC Chapter 9 also contains periodic testing criteria that are not contained in the IBC. In addition, the special fire protection system requirements based on use and occupancy found in IBC Chapter 4 are duplicated in IFC Chapter 9 as a user convenience.

Chapter 10 Means of Egress.

The criteria in Chapter 10 regulating the design of the means of egress system are established as the primary method for protection of occupants by allowing timely relocation or evacuation. Both prescriptive and performance language is utilized for determination of a safe exiting system. It addresses all portions of the means of egress system (i.e., exit access, exits and exit discharge) and includes design requirements as well as provisions regulating individual components. The requirements detail the size, arrangement, number and protection of means of egress components. The means of egress protection requirements work in coordination with other sections of the code, such as protection of vertical openings (see Chapter 7), interior finish (see Chapter 8), fire suppression and detection systems (see Chapter 9) and numerous others, all having an impact on life safety. Chapter 10 of the IBC is duplicated in Chapter 10 of the IFC; however, the *IFC* contains one additional section on the maintenance of the means of egress system in existing buildings.

Chapter 11 Accessibility.

Chapter 11 contains provisions for accessibility of buildings and their associated sites and facilities for people with physical disabilities. The fundamental philosophy of the code is that everything is required to be accessible (see Section 1103.1). The code's scoping requirements then address the conditions under which accessibility is not required in terms of exceptions to this general mandate. While the IBC contains scoping provisions for accessibility (e.g., what, where and how many), ICC A117.1, *Accessible and Usable Buildings and Facilities*, is the referenced standard for the technical provisions (e.g., how).

There are many accessibility issues that not only benefit people with disabilities but also provide a tangible benefit to people without disabilities. This type of requirement can be set forth in the code as generally applicable without necessarily identifying it

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specifically as an accessibility-related issue. Such a requirement would then be considered as having been "mainstreamed." For example, visible alarms are located in Chapter 9 and accessible means of egress and ramp requirements are addressed in Chapter 10.

The IRC references Chapter 11 for accessibility provisions; therefore, this chapter may be applicable to housing covered under the IRC.

Chapter 12 Interior Environment.

Chapter 12 provides minimum standards for the interior environment of a building. The standards address the minimum sizes of spaces, as well as minimums for temperature, light and ventilation. Concerns for sound transmission and acoustics are addressed. Finally, the chapter provides minimum standards for toilet and bathroom construction.

Chapter 13 Energy Efficiency.

Chapter 13 provides minimum design requirements that will promote efficient utilization of energy in buildings. The requirements are directed toward the design of building envelopes with adequate thermal resistance and low air leakage, and toward the design and selection of mechanical, water heating, electrical and illumination systems that promote effective use of depletable energy resources. For the specifics of these criteria, Chapter 13 requires design and construction in compliance with the IECC.

Chapter 14 Exterior Walls.

Chapter 14 addresses requirements for exterior walls of buildings. Minimum standards for wall covering materials, installation of wall coverings and the ability of the wall to provide weather protection are provided.

Chapter 15 Roof Assemblies and Rooftop Structures.

Chapter 15 provides standards for both roof assemblies and structures that sit on top of the roofs of buildings. The criteria address roof construction and covering, including the weather-protective barrier at the roof and, in most circumstances, a fire-resistant barrier.

Chapter 16 Structural Design.

Chapter 16 prescribes minimum structural loading requirements for use in the design and construction of buildings and structural components. The chapter references and relies on many nationally recognized design standards, including the American Society of Civil Engineers' *Minimum Design Loads for Buildings and Other Structures* (ASCE 7).

Chapter 17 Special Inspections and Tests.

Chapter 17 provides a variety of procedures and criteria for testing materials and assemblies, labeling materials and assemblies and special inspection of structural assemblies. This chapter expands on the inspections of Chapter 1 by requiring special inspection where indicated and, in some cases, structural observation.

Chapter 18 Soils and Foundations.

Chapter 18 provides criteria for geotechnical and structural considerations in the selection, design and installation of foundation systems to support the loads from the structure above.

Chapter 19 Concrete.

Chapter 19 provides minimum accepted practices for the design and construction of buildings and structural components using concrete, both plain and reinforced. This chapter relies primarily on the reference to American Concrete Institute (ACI) 318, *Building Code Requirements for Structural Concrete*.

Chapter 20 Aluminum.

Chapter 20 contains standards for the use of aluminum in building construction. This chapter references national standards from the Aluminum Association (AA) for use of aluminum in building construction, AA ASM 35, *Aluminum Sheet Metal Work in Building Construction*, and AA ADM, *Aluminum Design Manual*.

Chapter 21 Masonry.

Chapter 21 provides comprehensive and practical requirements for masonry construction.

Chapter 22 Steel.

Chapter 22 provides the requirements necessary for the design and construction of structural steel (including composite construction), cold-formed steel, steel joists, steel cable structures and steel storage racks. Chapter 22 requires that the design and use of steel materials be in accordance with the specifications and standards of the American Institute of Steel Construction, the American Iron and Steel Institute, the Steel Joist Institute and the American Society of Civil Engineers.

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Chapter 23 Wood.

Chapter 23 provides minimum requirements for the design of buildings and structures that use wood and wood-based products.

Chapter 24 Glass and Glazing.

Chapter 24 establishes regulations for glass and glazing that, when installed in buildings and structures, are subjected to wind, snow and dead loads.

Chapter 25 Gypsum Board, Gypsum Panel Products and Plaster.

Chapter 25 contains the provisions and referenced standards that regulate the design, construction and quality of gypsum board, gypsum panel products and plaster and reinforced gypsum concrete.

Chapter 26 Plastic.

Chapter 26 addresses the use of plastics in building construction and components. This chapter provides standards addressing foam plastic insulation, foam plastics used as interior finish and trim, and other plastic veneers used on the inside or outside of a building.

Chapter 27 Electrical.

Since electrical systems and components are an integral part of almost all structures, Chapter 27 references the National Electrical Code (NEC). In addition, Section 2702 addresses emergency and standby power requirements and references where they are required. Such systems must comply with the IFC and referenced standards.

Chapter 28 Mechanical Systems.

Nearly all buildings will include mechanical systems. Chapter 28 provides references to the IMC and the IFGC for the design and installation of mechanical systems. In addition, Chapter 21 of this code is referenced for masonry chimneys, fireplaces and barbecues.

Chapter 29 Plumbing Systems.

Chapter 29 regulates the minimum number of plumbing fixtures that must be provided for every type of building. This chapter also regulates the location of the required fixtures in various types of buildings. The regulations in this chapter come directly from Chapters 3 and 4 of the IPC.

Chapter 30 Elevators and Conveying Systems.

Chapter 30 provides standards for the installation of elevators into buildings, including requirements for elevator shafts and lobbies. Referenced standards provide the requirements for the elevator system and mechanisms. Special provisions are indicated for fire service access elevators and for the optional choice of occupant evacuation elevators in high rise buildings (see Section 403).

Chapter 31 Special Construction.

Chapter 31 contains a collection of regulations for a variety of unique structures and architectural features. Pedestrian walkways and tunnels connecting two buildings are addressed in Section 3104. Safeguards for swimming pool safety are addressed by a reference to the *International Swimming Pool and Spa Code*® (ISPSC®) in Section 3109. Standards for temporary structures, including permit requirements, are provided in Section 3103. Structures as varied as awnings, marquees, signs, telecommunication and broadcast towers and automatic vehicular gates are also addressed (see Sections 3105 through 3108 and 3110). Unique types of buildings, such as membrane structures, greenhouses, relocatable buildings and intermodal shipping containers (Sections 3102, 3112, 3113 and 3114) are also addressed in this chapter.

Chapter 32 Encroachments into the Public Right-of-Way.

Buildings and structures may be designed to extend over a property line and into the public right-of-way. Local regulations outside of the building code usually set limits to such encroachments, and such regulations take precedence over the provisions of this chapter. Chapter 32 establishes parameters for such encroachments, not only at grade but also above and below grade. Pedestrian walkways must also comply with Chapter 31.

Chapter 33 Safeguards During Construction.

Chapter 33 provides safety requirements for the job site during construction and demolition of buildings and structures. In addition, it provides requirements intended to protect the public from injury and adjoining property from damage.

Chapter 34 Reserved.

Chapter 35 Referenced Standards.

Chapter 35 lists all of the product and installation standards and codes that are referenced throughout Chapters 1 through 33 and includes identification of the promulgators and the section numbers in which the standards and codes are referenced. As stated in

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Section 102.4, these standards and codes become an enforceable part of the code (to the prescribed extent of the reference) as if printed in the body of the code.

Appendix A Employee Qualifications.

Effective administration and enforcement of the family of International Codes depends on the training and expertise of the personnel employed by the jurisdiction and their knowledge of the codes. Section 103 of the code establishes the Department of Building Safety and calls for the appointment of a building official and deputies, such as plans examiners and inspectors. Appendix A provides standards for experience, training and certification for the building official and the other staff mentioned in Chapter 1.

Appendix B Board of Appeals.

Appendix B contains the provisions for appeal and the establishment of a board of appeals. The provisions include the application for an appeal, the makeup of the board of appeals and the conduct of the appeal process.

Appendix C Group U—Agricultural Buildings.

Appendix C provides special consideration for the construction of agricultural buildings reflective of their specific usage and limited occupant load. The provisions of this appendix allow reasonable heights and areas commensurate with the risk of agricultural buildings.

Appendix D Fire Districts.

Appendix D establishes a framework by which a jurisdiction can establish a portion of a jurisdiction as a fire district where limiting the potential spread of fire is a key consideration. Fire district standards restrict certain occupancies within the district, as well as setting higher minimum construction standards.

Appendix E Supplementary Accessibility Requirements.

The Architectural and Transportation Barriers Compliance Board (U.S. Access Board) has revised and updated its accessibility guidelines for buildings and facilities covered by the Americans with Disabilities Act (ADA) and the Architectural Barriers Act (ABA). Appendix E includes scoping requirements contained in the *2010 ADA Standards for Accessible Design* that are not in Chapter 11 and not otherwise mentioned or mainstreamed throughout the code. Items in this appendix address subjects not typically addressed in building codes (for example, communication features in transient lodging and transportation facilities).

Appendix F Rodentproofing

The provisions of Appendix F are minimum mechanical methods to prevent the entry of rodents into a building.

Appendix G Flood-Resistant Construction.

Appendix G is intended to fulfill the flood-plain management and administrative requirements of the National Flood Insurance Program (NFIP) that are not included in the code. Communities that adopt the IBC and Appendix G will meet the minimum requirements of NFIP as set forth in Title 44 of the Code of Federal Regulations.

Appendix H Signs.

Appendix H gathers in one place the various code standards that regulate the construction and protection of outdoor signs.

Appendix I Patio Covers.

Appendix I provides standards applicable to the construction and use of patio covers. It is limited in application to patio covers accessory to dwelling units. Covers of patios and other outdoor areas associated with restaurants, mercantile buildings, offices, nursing homes or other nondwelling occupancies would be subject to standards in the main code and not this appendix.

Appendix J Grading.

Appendix J provides standards for the grading of properties. This appendix also provides standards for administration and enforcement of a grading program including permit and inspection requirements.

Appendix K Administrative Provisions.

Appendix K primarily provides administrative mechanisms for enforcing NFPA 70—the National Electrical Code (NEC). The provisions in this appendix are compatible with administrative provisions in Chapter 1 of the IBC and the other I-Codes. Section K110 also contains technical provisions that are unique to this appendix and are in addition to technical standards of NFPA 70.

Appendix L Earthquake Recording Instrumentation.

The purpose of Appendix L is to foster the collection of ground motion data, particularly from strong-motion earthquakes. When this ground motion data is synthesized, it may be useful in developing future improvements to the earthquake provisions of the IBC.

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Appendix M Tsunami-Generated Flood Hazards.

Addressing a tsunami risk for all types of construction in a tsunami hazard zone through building code requirements would typically not be cost effective, making tsunami-resistant construction impractical at an individual building level. However, Appendix M does allow the adoption and enforcement of requirements for tsunami hazard zones that regulate the presence of high-risk or high-hazard structures.

Appendix N Replicable Buildings.

Appendix N provides jurisdictions with a means of incorporating replicable building requirements contained in the ICC G1-2010, *Guideline for Replicable Buildings*, into their building code adoption process. The intent is to streamline the plan review process at the local level by removing redundant reviews.

Appendix O Performance-Based Application.

Appendix O provides an optional design, review and approval framework for use by the building official. It extracts relevant administrative provisions from the *International Code Council Performance Code® for Buildings and Facilities* (ICCPC®) into a more concise, usable appendix format for a jurisdiction confronted with such a need.

Appendix P Sleeping Lofts.

Appendix P provides allowances for, and limitations on, spaces intended to be used as sleeping lofts, while differentiating these spaces from mezzanines and other habitable spaces.

RELOCATION OF TEXT OR TABLES

The following table indicates relocation of sections and tables in the 2024 edition of the IBC from the 2021 edition.

RELOCATIONS	
2024 LOCATION	**2021 LOCATION**
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Table 1404.5.2.1	Table 2603.12.1
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Table 1404.5.2.2	Table 2603.12.2
1404.5.3	2603.13
1404.5.3.1	2603.13.1
Table 1404.5.3.1	Table 2603.13.1
1404.5.3.2	2603.13.2

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CHAPTER

1 SCOPE AND ADMINISTRATION

User notes:

About this chapter: *Chapter 1 establishes the limits of applicability of the code and describes how the code is to be applied and enforced. Chapter 1 is in two parts: Part 1—Scope and Application (Sections 101–102) and Part 2—Administration and Enforcement (Sections 103–116). Section 101 identifies which buildings and structures come under its purview and references other I-Codes as applicable. Standards and codes are scoped to the extent referenced (see Section 102.4).*

This code is intended to be adopted as a legally enforceable document and it cannot be effective without adequate provisions for its administration and enforcement. The provisions of Chapter 1 establish the authority and duties of the code official appointed by the authority having jurisdiction and also establish the rights and privileges of the design professional, contractor and property owner. Chapter 1 is largely concerned with maintaining "due process of law" in enforcing the building performance criteria contained in the body of the code.

Code development reminder: *Code change proposals to this chapter will be considered by the Administrative Code Development Committee during the 2025 (Group B) Code Development Cycle.*

Section 104 was revised for the 2024 edition. For complete information, see the Relocations table in the Preface of this code.

QR code use*:* *A QR code is placed at the beginning of any section that has undergone technical revision. To see those revisions, scan the QR code with a smart device or enter the 7-digit code beneath the QR code at the end of the following URL: qr.iccsafe.org/ (see Formatting Changes to the 2024 International Codes for more information).*

PART 1—SCOPE AND APPLICATION

SECTION 101—SCOPE AND GENERAL REQUIREMENTS

[A] 101.1 Title. These regulations shall be known as the *Building Code* of [NAME OF JURISDICTION], hereinafter referred to as "this code."

[A] 101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, relocation, enlargement, replacement, *repair*, equipment, use and occupancy, location, maintenance, removal and demolition of every *building* or *structure* or any appurtenances connected or attached to such *buildings* or *structures*.

Exception: Detached one- and two-family *dwellings* and *townhouses* not more than three *stories above grade plane* in height with a separate *means of egress*, and their accessory *structures* not more than three *stories above grade plane* in height, shall comply with this code or the *International Residential Code*.

[A] 101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

[A] 101.3 Purpose. The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, health and general welfare through structural strength, *means of egress*, stability, sanitation, light and *ventilation*, energy conservation, and for providing a reasonable level of life safety and property protection from the hazards of fire, *explosion* or *dangerous* conditions, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

[A] 101.4 Referenced codes. The other codes specified in Sections 101.4.1 through 101.4.7 and referenced elsewhere in this code shall be considered to be part of the requirements of this code to the prescribed extent of each such reference.

[A] 101.4.1 Gas. The provisions of the *International Fuel Gas Code* shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories.

[A] 101.4.2 Mechanical. The provisions of the *International Mechanical Code* shall apply to the installation, *alterations*, *repairs* and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and appurtenances, including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators and other energy-related systems.

[A] 101.4.3 Plumbing. The provisions of the *International Plumbing Code* shall apply to the installation, *alteration*, *repair* and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system. The provisions of the *International Private Sewage Disposal Code* shall apply to private sewage disposal systems.

[A] 101.4.4 Property maintenance. The provisions of the *International Property Maintenance Code* shall apply to *existing structures* and premises; equipment and *facilities*; light, *ventilation,* space heating, sanitation, life and fire safety hazards; responsibilities of *owners*, operators and occupants; and occupancy of existing premises and *structures*.

[A] 101.4.5 Fire prevention. The provisions of the *International Fire Code* shall apply to matters affecting or relating to *structures*, processes and premises from the hazard of fire and *explosion* arising from the storage, *handling* or use of *structures*, materials or devices; from conditions hazardous to life, property or public welfare in the occupancy of *structures* or premises; and from the construction, extension, *repair*, *alteration* or removal of fire suppression, *automatic sprinkler systems* and alarm systems or fire hazards in the *structure* or on the premises from occupancy or operation.

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[A] 101.4.6 Energy. The provisions of the *International Energy Conservation Code* shall apply to all matters governing the design and construction of *buildings* for energy efficiency.

[A] 101.4.7 Existing buildings. The provisions of the *International Existing Building Code* shall apply to matters governing the *repair*, *alteration*, *change of occupancy, addition* to and relocation of *existing buildings*.

SECTION 102—APPLICABILITY

[A] 102.1 General. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

[A] 102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

[A] 102.3 Application of references. References 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 this code.

[A] 102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered to be part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.4.1 and 102.4.2.

[A] 102.4.1 Conflicts. Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

[A] 102.4.2 Provisions in referenced codes and standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code or the International Codes specified in Section 101.4, the provisions of this code or the International Codes specified in Section 101.4, as applicable, shall take precedence over the provisions in the referenced code or standard.

[A] 102.5 Partial invalidity. In the event that any part or provision of this code 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.

[A] 102.6 Existing structures. The legal occupancy of any *structure* existing on the date of adoption of this code shall be permitted to continue without change, except as otherwise specifically provided in this code, the *International Existing Building Code*, the *International Property Maintenance Code* or the *International Fire Code*.

[A] 102.6.1 Buildings not previously occupied. A *building* or portion of a *building* that has not been previously occupied or used for its intended purpose in accordance with the laws in existence at the time of its completion shall comply with the provisions of this code or the *International Residential Code*, as applicable, for new construction or with any current *permit* for such occupancy.

[A] 102.6.2 Buildings previously occupied. The legal occupancy of any *building* existing on the date of adoption of this code shall be permitted to continue without change, except as otherwise specifically provided in this code, the *International Fire Code* or *International Property Maintenance Code*, or as is deemed necessary by the *building official* for the general safety and welfare of the occupants and the public.

PART 2—ADMINISTRATION AND ENFORCEMENT

SECTION 103—CODE COMPLIANCE AGENCY

[A] 103.1 Creation of enforcement agency. The [INSERT NAME OF DEPARTMENT] is hereby created and the official in charge thereof shall be known as the *building official*. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code.

[A] 103.2 Appointment. The *building official* shall be appointed by the chief appointing authority of the *jurisdiction*.

[A] 103.3 Deputies. In accordance with the prescribed procedures of this *jurisdiction* and with the concurrence of the appointing authority, the *building official* shall have the authority to appoint a deputy building official, other related technical officers, inspectors and other employees. Such employees shall have powers as delegated by the *building official*.

SECTION 104—DUTIES AND POWERS OF BUILDING OFFICIAL

[A] 104.1 General. The *building official* is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The *building official* shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Where this code or a referenced standard requires equipment, materials, products or services to be listed and a listing standard is specified, the listing shall be based on the specified standard. Where a listing standard is not specified, the listing shall be based on an *approved* listing criteria. Listings shall be germane to the provision requiring the listing. Installation shall be in accordance with the listing and the manufacturer's instructions, and where required to verify compliance, the listing standard and manufacturer's instructions shall be made available to the *building official*.

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[A] 104.2.2 Technical assistance. To determine compliance with this code, the *building official* is authorized to determine compliance with this code, to require the *owner* or *owner*'s authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the *jurisdiction*.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the *building official*. The *building official* is authorized to require design submittals to be prepared by, and bear the stamp of, a *registered design professional*.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the properties of the design, operation or use of the *building* or premises and the *facilities* and appurtenances situated thereon to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the *building official* shall have the authority to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the *building official* shall approve the testing procedures. Such tests shall be performed by a party acceptable to the *building official*.

[A] 104.2.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the *International Code Council Performance Code*. This exception shall not apply to alternative structural materials or to alternative structural designs.

[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. Where required, a request to use an alternative material, design or method of construction shall be submitted in writing to the *building official* for approval. Where the alternative material, design or method of construction is not *approved*, the *building official* shall respond in writing, stating the reasons the alternative was not *approved*.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality.
2. Strength.
3. Effectiveness.
4. Durability.
5. Safety, other than fire safety.
6. Fire safety.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the *building official*.

[A] 104.2.3.5.1 Fire Tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the *building official*.

[A] 104.2.3.6 Reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an *approved agency* and use of the evaluation report shall require approval by the *building official* for the installation. The alternate material, design or method of construction and product evaluated shall be within the scope of the building official's recognition of the *approved agency*. Criteria used for the evaluation shall be identified within the report and, where required, provided to the *building official*.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the *building official*. The *building official* is authorized to require design submittals to be prepared by, and bear the stamp of, a *registered design professional*.

[A] 104.2.3.7 Peer review. The *building official* is authorized to require submittal of a *peer review* report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is *approved* by the *building official*.

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[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the *building official* shall have the authority to grant modifications for individual cases, provided that the *building official* shall first find that one or more special individual reasons make the strict letter of this code impractical, and that the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, *accessibility*, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood hazard areas. The *building official* shall not grant modifications to any provision required in *flood hazard areas* as established by Section 1612.3 unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the *site* render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the *lot* undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety or extraordinary public expense; cause fraud on or victimization of the public; or conflict with existing laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the *flood* hazard.
5. Submission to the applicant of written notice 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.

[A] 104.3 Applications and permits. The *building official* shall receive applications, review *construction documents,* issue *permits*, inspect the premises for which such *permits* have been issued and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially improved or substantially damaged *existing buildings* and *structures* in flood hazard areas. For applications for reconstruction, rehabilitation, *repair*, *alteration*, *addition* or other improvement of *existing buildings or structures* located in *flood hazard areas*, the *building official* shall determine if the proposed work constitutes *substantial improvement* or *repair* of *substantial damage*. Where the *building official* determines that the proposed work constitutes *substantial improvement* or *repair* of *substantial damage*, and where required by this code, the *building official* shall require the building to meet the requirements of Section 1612, or Section R306 of the *International Residential Code*, as applicable.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the *building official* has reasonable cause to believe that there exists in a *structure* or on a premises a condition that is contrary to or in violation of this code that makes the *structure* or premises unsafe, *dangerous* or hazardous, the *building official* is authorized to enter the *structure* or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such *structure* or premises is occupied, the *building official* shall present credentials to the occupant and request entry. If such *structure* or premises is unoccupied, the *building official* shall first make a reasonable effort to locate the *owner*, the *owner*'s authorized agent or other *person* having charge or control of the *structure* or premises and request entry. If entry is refused, the *building official* shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the *building official* has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an *owner*, the *owner*'s authorized agent, occupant or *person* having charge, care or control of the *structure* or premises shall not fail or neglect, after a proper request is made as herein provided, to permit entry therein by the *building official* for the purposes of inspection and examination pursuant to this code.

[A] 104.5 Identification. The *building official* shall carry proper identification when inspecting *structures* or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The *building official* shall issue necessary notices or orders to ensure compliance with this code. Notices of violations shall be in accordance with Section 114.

[A] 104.7 Official records. The *building official* shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or *structure* to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the *building official* and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The *building official* shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the *building official* for either shall be in writing and shall be retained in the official records.

[A] 104.7.4 Tests. The *building official* shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.5 Fees. The *building official* shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The *building official*, member of the board of appeals or employee charged with the enforcement of this code, while acting for the *jurisdiction* in good faith and without malice in the discharge of the duties required by this code or other perti-

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nent law or ordinance, shall not thereby be rendered personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to *persons* or property as a result of any act or by reason of any act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the *jurisdiction* until the final termination of the proceedings. The *building official* or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices *approved* by the *building official* shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Materials and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

SECTION 105—PERMITS



[A] 105.1 Required. Any *owner* or *owner*'s authorized agent who intends to construct, enlarge, alter, *repair*, move, demolish or change the occupancy of a *building* or *structure*, or to erect, install, enlarge, alter, *repair*, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be performed, shall first make application to the *building official* and obtain the required *permit*.

[A] 105.1.1 Annual permit. Instead of an individual *permit* for each *alteration* to an already *approved* electrical, gas, mechanical or plumbing installation, the *building official* is authorized to issue an annual *permit* upon application therefor to any *person*, firm or corporation regularly employing one or more qualified tradespersons in the building, *structure* or on the premises owned or operated by the applicant for the *permit*.

[A] 105.1.2 Annual permit records. The *person* to whom an annual *permit* is issued shall keep a detailed record of *alterations* made under such annual *permit*. The *building official* shall have access to such records at all times or such records shall be filed with the *building official* as designated.

[A] 105.2 Work exempt from permit. Exemptions from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this *jurisdiction*. *Permits* shall not be required for the following:

Building:

1. One-story detached accessory *structures* used as tool and storage sheds, playhouses and similar uses, provided that the floor area is not greater than 120 square feet (11 m^2).
2. Fences, other than swimming pool barriers, not over 7 feet (2134 mm) high.
3. Oil derricks.
4. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
5. Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons (18 925 L) and the ratio of height to diameter or width is not greater than 2:1.
6. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade, and not over any *basement* or *story* below and are not part of an *accessible route*.
7. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
8. Temporary motion picture, television and theater stage sets and scenery.
9. Prefabricated *swimming pools* accessory to a Group R-3 occupancy that are less than 24 inches (610 mm) deep, are not greater than 5,000 gallons (18 925 L) and are installed entirely above ground.
10. Shade cloth *structures* constructed for nursery or agricultural purposes, not including service systems.
11. Swings and other playground equipment accessory to detached one- and two-family *dwellings*.
12. Window *awnings* in Group R-3 and U occupancies, supported by an *exterior wall* that do not project more than 54 inches (1372 mm) from the *exterior wall* and do not require additional support.
13. Nonfixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753 mm) in height.

Electrical:

1. ***Repairs* and maintenance:** Minor *repair* work, including the replacement of lamps or the connection of *approved* portable electrical equipment to *approved* permanently installed receptacles.
2. **Radio and television transmitting stations:** The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for a power supply and the installations of towers and antennas.
3. **Temporary testing systems:** A *permit* shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

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Gas:

1. Portable heating appliance.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

Mechanical:

1. Portable heating appliance.
2. Portable ventilation equipment.
3. Portable cooling unit.
4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part that does not alter its approval or make it unsafe.
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (0.75 kW) or less.

Plumbing:

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

[A] 105.2.1 Emergency repairs. Where equipment replacements and *repairs* must be performed in an emergency situation, the *permit* application shall be submitted within the next working business day to the *building official*.

[A] 105.2.2 Public service agencies. A *permit* shall not be required for the installation, *alteration* or *repair* of generation, transmission, distribution or metering or other related equipment that is under the ownership and control of public service agencies by established right.

[A] 105.3 Application for permit. To obtain a *permit*, the applicant shall first file an application therefor in writing on a form furnished by the department of building safety for that purpose. Such application shall:

1. Identify and describe the work to be covered by the *permit* for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed *building* or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by *construction documents* and other information as required in Section 107.
5. State the valuation of the proposed work.
6. Be signed by the applicant, or the applicant's authorized agent.
7. Give such other data and information as required by the *building official*.

[A] 105.3.1 Action on application. The *building 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 *building official* shall reject such application in writing, stating the reasons therefor. If the *building official* is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the *building official* shall issue a *permit* therefor as soon as practicable.

[A] 105.3.2 Time limitation of application. An application for a *permit* for any proposed work shall be deemed to have been abandoned 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 *building official* is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

[A] 105.4 Validity of permit. 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 this code or of any other ordinance of the *jurisdiction*. *Permits* presuming to give authority to violate or cancel the provisions of this code or other ordinances of the *jurisdiction* shall not be valid. The issuance of a *permit* based on *construction documents* and other data shall not prevent the *building official* from requiring the correction of errors in the *construction documents* and other data. The *building official* is authorized to prevent occupancy or use of a *structure* where in violation of this code or of any other ordinances of this *jurisdiction*.

[A] 105.5 Expiration. Every *permit* issued shall become invalid unless the work on the *site* authorized by such *permit* is commenced within 180 days after its issuance, or if the work authorized on the *site* by such *permit* is suspended or abandoned for a period of 180 days after the time the work is commenced. The *building official* is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

[A] 105.6 Suspension or revocation. The *building official* is authorized to suspend or revoke a *permit* issued under the provisions of this code wherever the *permit* is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

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[A] 105.7 Placement of permit. The building *permit* or copy shall be kept on the *site* of the work until the completion of the project.

SECTION 106—FLOOR AND ROOF DESIGN LOADS

[A] 106.1 Live loads posted. In commercial or industrial *buildings*, for each floor or portion thereof designed for *live loads* exceeding 50 psf (2.40 kN/m^2), such design *live loads* shall be conspicuously posted by the *owner* or the *owner*'s authorized agent in that part of each story in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

[A] 106.2 Issuance of certificate of occupancy. A certificate of occupancy required by Section 111 shall not be issued until the floor load signs, required by Section 106.1, have been installed.

[A] 106.3 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, a *load* greater than is permitted by this code.

SECTION 107—CONSTRUCTION DOCUMENTS

[A] 107.1 General. Submittal documents consisting of *construction documents*, statement of *special inspections*, geotechnical report and other data shall be submitted in two or more sets, or in a digital format where allowed by the *building official*, with each *permit* application. The *construction documents* shall be prepared by a *registered design professional* where required by the statutes of the *jurisdiction* in which the project is to be constructed. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a *registered design professional*.

Exception: The *building official* is authorized to waive the submission of *construction documents* and other data not required to be prepared by a *registered design professional* if it is found that the nature of the work applied for is such that review of *construction documents* is not necessary to obtain compliance with this code.

[A] 107.2 Construction documents. *Construction documents* shall be in accordance with Sections 107.2.1 through 107.2.8.

[A] 107.2.1 Information on construction documents. *Construction documents* shall be dimensioned and drawn on suitable material. Electronic media documents are permitted to be submitted where *approved* by the *building official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official*.

[A] 107.2.2 Fire protection system shop drawings. Shop drawings for the *fire protection systems* shall be submitted to indicate conformance to this code and the *construction documents* and shall be *approved* prior to the start of system installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9.

[A] 107.2.3 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 this code. In other than occupancies in Groups R-2, R-3, and I-1, the *construction documents* shall designate the number of occupants to be accommodated on every floor, and in all rooms and spaces.

[A] 107.2.4 Exterior wall envelope. *Construction documents* for all *buildings* shall describe the *exterior wall envelope* in sufficient detail to determine compliance with this code. The *construction documents* shall provide details of the *exterior wall envelope* as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, *water-resistive barrier* and details around openings.

The *construction documents* shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the *construction documents* maintain the weather resistance of the *exterior wall envelope*. The supporting documentation shall fully describe the *exterior wall* system that was tested, where applicable, as well as the test procedure used.

[A] 107.2.5 Exterior balconies and elevated walking surfaces. Where balconies or other elevated walking surfaces have *weather-exposed surfaces*, and the structural framing is protected by an impervious moisture barrier, the *construction documents* shall include details for all elements of the impervious moisture barrier system. The *construction documents* shall include manufacturer's installation instructions.

[A] 107.2.6 Site plan. The *construction documents* submitted with the application for *permit* shall be accompanied by a site plan showing to scale the size and location of new construction and *existing structures* on the *site*, distances from *lot lines*, the established street grades and the proposed finished grades and, as applicable, *flood hazard areas*, *floodways*, and *design flood elevations*; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of *existing structures* and construction that are to remain on the *site* or plot. The *building official* is authorized to waive or modify the requirement for a site plan where the application for *permit* is for *alteration* or *repair* or where otherwise warranted.

[A] 107.2.6.1 Design flood elevations. Where *design flood elevations* are not specified, they shall be established in accordance with Section 1612.3.1.

[A] 107.2.7 Structural information. The *construction documents* shall provide the information specified in Section 1603.

[A] 107.2.8 Relocatable buildings. *Construction documents* for *relocatable buildings* shall comply with Section 3112.

[A] 107.3 Examination of documents. The *building official* shall examine or cause to be examined the accompanying submittal documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.

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[A] 107.3.1 Approval of construction documents. When the *building official* issues a *permit*, the *construction documents* shall be *approved*, in writing or by stamp, as "Reviewed for Code Compliance." One set of *construction documents* so reviewed shall be retained by the *building official*. The other set shall be returned to the applicant, shall be kept at the *site* of work and shall be open to inspection by the *building official* or a duly authorized representative.

[A] 107.3.2 Previous approvals. This code shall not require changes in the *construction documents*, construction or designated occupancy of a *structure* for which a lawful *permit* has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

[A] 107.3.3 Phased approval. The *building official* is authorized to issue a *permit* for the construction of foundations or any other part of a *building* or *structure* before the *construction documents* for the whole *building* or *structure* have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such *permit* for the foundation or other parts of a *building* or *structure* shall proceed at the holder's own risk with the building operation and without assurance that a *permit* for the entire *structure* will be granted.

[A] 107.3.4 Design professional in responsible charge. Where it is required that documents be prepared by a *registered design professional*, the *building official* shall be authorized to require the *owner* or the *owner*'s authorized agent to engage and designate on the *building permit* application a *registered design professional* who shall act as the *registered design professional in responsible charge*. If the circumstances require, the *owner* or the *owner*'s authorized agent 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*. The *building official* shall be notified in writing by the *owner* or the *owner*'s authorized agent 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.

[A] 107.3.4.1 Deferred submittals. Deferral of any submittal items shall have the prior approval of the *building official*. The *registered design professional in responsible charge* shall list the *deferred submittals* on the *construction documents* for review by the *building official*.

Documents for *deferred submittal* items shall be submitted to the *registered design professional in responsible charge* who shall review them and forward them to the *building official* with a notation indicating that the *deferred submittal* documents have been reviewed and found to be in general conformance to the design of the building. The *deferred submittal* items shall not be installed until the *deferred submittal* documents have been *approved* by the *building official*.

[A] 107.4 Amended construction documents. Work shall be installed in accordance with the *approved construction documents*, and any changes made during construction that are not in compliance with the *approved construction documents* shall be resubmitted for approval as an amended set of *construction documents*.

[A] 107.5 Retention of construction documents. One set of *approved construction documents* shall be retained by the *building official* for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

SECTION 108—TEMPORARY STRUCTURES, EQUIPMENT AND SYSTEMS

[A] 108.1 General. The *building official* is authorized to issue a *permit* for temporary *structures*, equipment or systems. Such *permits* shall be limited as to time of service, but shall not be permitted for more than 180 days. The *building official* is authorized to grant extensions for demonstrated cause. Structures designed to comply with Section 3103.6 shall not be in service for a period of more than 1 year unless an extension of time is granted.

[A] 108.2 Conformance. *Temporary structures* shall comply with the requirements in Section 3103.

[A] 108.3 Temporary service utilities. The *building official* is authorized to give permission to temporarily supply service utilities in accordance with Section 112.

[A] 108.4 Termination of approval. The *building official* is authorized to terminate such *permit* for a *temporary structure*, equipment or system and to order the same to be discontinued.

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SECTION 109—FEES

[A] 109.1 Payment of fees. A *permit* shall not be valid until the fees prescribed by law have been paid, nor shall an amendment to a *permit* be released until the additional fee, if any, has been paid.

[A] 109.2 Schedule of permit fees. Where a *permit* is required, a fee for each *permit* shall be paid as required, in accordance with the schedule as established by the applicable governing authority.

[A] 109.3 Permit valuations. The applicant for a *permit* shall provide an estimated value of the work for which the *permit* is being issued at time of application. Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. Where, in the opinion of the *building official*, the valuation is underestimated, the *permit* shall be denied, unless the applicant can show detailed estimates acceptable to the *building official*. The building official shall have the authority to adjust the final valuation for permit fees.

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[A] 109.4 Work commencing before permit issuance. Any *person* who commences any work before obtaining the necessary *permits* shall be subject to a fee established by the *building official* that shall be in addition to the required *permit* fees.

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[A] 109.5 Related fees. The payment of the fee for the construction, *alteration*, removal or demolition for work done in connection to or concurrently with the work authorized by a building *permit* shall not relieve the applicant or holder of the *permit* from the payment of other fees that are prescribed by law.

[A] 109.6 Refunds. The *building official* is authorized to establish a refund policy.

SECTION 110—INSPECTIONS

[A] 110.1 General. Construction or work for which a *permit* is required shall be subject to inspection by the *building official* and such construction or work shall remain visible and able to be accessed for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the *jurisdiction*. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the *jurisdiction* shall not be valid. It shall be the duty of the *owner* or the *owner*'s authorized agent to cause the work to remain visible and able to be accessed for inspection purposes. Neither the *building official* nor the *jurisdiction* shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

[A] 110.2 Preliminary inspection. Before issuing a *permit*, the *building official* is authorized to examine or cause to be examined *buildings*, *structures* and *sites* for which an application has been filed.

[A] 110.3 Required inspections. The *building official*, upon notification, shall make the inspections set forth in Sections 110.3.1 through 110.3.12.

[A] 110.3.1 Footing and foundation inspection. Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C94, the concrete need not be on the job.

[A] 110.3.2 Concrete slab and under-floor inspection. Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.

[A] 110.3.3 Lowest floor elevation. In *flood hazard areas*, upon placement of the *lowest floor*, including the *basement*, and prior to further vertical construction, the elevation certification required in Section 1612.4 or the *International Residential Code*, as applicable, shall be submitted to the *building official*.

[A] 110.3.4 Frame inspection. Framing inspections shall be made after the *roof deck* or sheathing, all framing, *fire-blocking* and bracing are in place and pipes, chimneys and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes and ducts are *approved*.

[A] 110.3.5 Types IV-A, IV-B and IV-C connection protection inspection. In *buildings* of Types IV-A, IV-B and IV-C construction, where connection *fire-resistance ratings* are provided by wood cover calculated to meet the requirements of Section 2304.10.1, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

[A] 110.3.6 Lath and gypsum panel product inspection. Lath and *gypsum panel product* inspections shall be made after lathing and *gypsum panel products*, interior and exterior, are in place, but before any plastering is applied or *gypsum panel product* joints and fasteners are taped and finished.

Exception: *Gypsum panel products* that are not part of a fire-resistance-rated assembly or a shear assembly.

[A] 110.3.7 Weather-exposed balcony and walking surface waterproofing. Where balconies or other elevated walking surfaces have *weather-exposed surfaces*, and the structural framing is protected by an impervious moisture barrier, all elements of the impervious moisture barrier system shall not be concealed until inspected and *approved*.

Exception: Where *special inspections* are provided in accordance with Section 1705.1.1, Item 3.

[A] 110.3.8 Fire- and smoke-resistant penetrations. Protection of *joints* and penetrations in fire-resistance-rated assemblies, *smoke barriers* and *smoke partitions* shall not be concealed from view until inspected and *approved*.

[A] 110.3.9 Energy efficiency inspections. Inspections shall be made to determine compliance with Chapter 13 and shall include, but not be limited to, inspections for: envelope insulation *R*- and *U*-values, *fenestration U*-value, duct system *R*-value, and HVAC and water-heating equipment efficiency.

[A] 110.3.10 Other inspections. In addition to the inspections specified in Sections 110.3.1 through 110.3.9, the *building official* is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the department of building safety.

[A] 110.3.11 Special inspections. For *special inspections*, see Chapter 17.

[A] 110.3.12 Final inspection. The final inspection shall be made after all work required by the building *permit* is completed.

[A] 110.3.12.1 Flood hazard documentation. If located in a *flood hazard area*, documentation of the elevation of the *lowest floor* or the elevation of dry floodproofing, if applicable, as required in Section 1612.4 shall be submitted to the *building official* prior to the final inspection.

[A] 110.4 Inspection agencies. The *building official* is authorized to accept reports of *approved* inspection agencies, provided that such agencies satisfy the requirements as to qualifications and reliability.

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[A] 110.5 Inspection requests. It shall be the duty of the holder of the building *permit* or their duly authorized agent to notify the *building 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 this code.

[A] 110.6 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the *building official*. The *building official*, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the *permit* holder or the *permit* holder's agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the *building official*.

SECTION 111—CERTIFICATE OF OCCUPANCY

[A] 111.1 Change of occupancy. A *building* or *structure* shall not be used or occupied in whole or in part, and a *change of occupancy* of a *building* or *structure* or portion thereof shall not be made, until the *building official* has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the *jurisdiction*. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the *jurisdiction* shall not be valid.

Exception: Certificates of occupancy are not required for work exempt from *permits* in accordance with Section 105.2.

[A] 111.2 Certificate issued. After the *building official* inspects the building or *structure* and does not find violations of the provisions of this code or other laws that are enforced by the department, the *building official* shall issue a certificate of occupancy that contains the following:

1. The *permit* number.
2. The address of the *structure*.
3. The name and address of the *owner* or the *owner*'s authorized agent.
4. A description of that portion of the *structure* for which the certificate is issued.
5. A statement that the described portion of the *structure* has been inspected for compliance with the requirements of this code.
6. The name of the *building official*.
7. The edition of the code under which the *permit* was issued.
8. The use and occupancy, in accordance with the provisions of Chapter 3.
9. The type of construction as defined in Chapter 6.
10. The design *occupant load*.
11. Where an *automatic sprinkler system* is provided, whether the sprinkler system is required.
12. Any special stipulations and conditions of the building *permit*.

[A] 111.3 Temporary occupancy. The *building official* is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the *permit*, provided that such portion or portions shall be occupied safely. The *building official* shall set a time period during which the temporary certificate of occupancy is valid.

[A] 111.4 Revocation. The *building official* is authorized to suspend or revoke a certificate of occupancy or completion issued under the provisions of this code, in writing, wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or *structure* or portion thereof is in violation of the provisions of this code or other ordinance of the *jurisdiction*.

SECTION 112—SERVICE UTILITIES

[A] 112.1 Connection of service utilities. A *person* shall not make connections from a utility, a source of energy, fuel, or power, or a water system or sewer system to any *building* or system that is regulated by this code for which a *permit* is required, until *approved* by the *building official*.

[A] 112.2 Temporary connection. The *building official* shall have the authority to authorize the temporary connection of the building or system to the utility, the source of energy, fuel, or power, or the water system or sewer system for the purpose of testing systems or for use under a temporary approval.

[A] 112.3 Authority to disconnect service utilities. The *building official* shall have the authority to authorize disconnection of utility service to the *building*, *structure* or system regulated by this code and the referenced codes and standards 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 112.1 or 112.2. The *building official* shall notify the serving utility, and wherever possible the *owner* or the *owner*'s authorized agent and occupant of the building, *structure* or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the *owner* or the *owner*'s authorized agent or occupant of the building, *structure* or service system shall be notified in writing, as soon as practical thereafter.

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SECTION 113—MEANS OF APPEALS



[A] 113.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the *building official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *building official*.

[A] 113.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

[A] 113.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and who are not employees of the *jurisdiction*.

[A] 113.4 Administration. The *building official* shall take action without delay in accordance with the decision of the board.

SECTION 114—VIOLATIONS

[A] 114.1 Unlawful acts. It shall be unlawful for any *person*, firm or corporation to erect, construct, alter, extend, *repair*, move, remove, demolish or occupy any *building*, *structure* or equipment regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

[A] 114.2 Notice of violation. The *building official* is authorized to serve a notice of violation or order on the *person* responsible for the erection, construction, *alteration*, extension, *repair*, moving, removal, demolition or occupancy of a building or *structure* in violation of the provisions of this code, or in violation of a *permit* or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

[A] 114.3 Prosecution of violation. If the notice of violation is not complied with promptly, the *building official* is authorized to request the legal counsel of the *jurisdiction* to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or *structure* in violation of the provisions of this code or of the order or direction made pursuant thereto.

[A] 114.4 Violation penalties. Any *person* who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or *repairs* a *building* or *structure* in violation of the *approved construction documents* or directive of the *building official*, or of a *permit* or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law.

SECTION 115—STOP WORK ORDER

[A] 115.1 Authority. Where the *building official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a dangerous or unsafe manner, the *building official* is authorized to issue a stop work order.

[A] 115.2 Issuance. The stop work order shall be in writing and shall be given to the *owner* of the property, the *owner*'s authorized agent or the *person* performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work is authorized to resume.

[A] 115.3 Emergencies. Where an emergency exists, the *building official* shall not be required to give a written notice prior to stopping the work.

[A] 115.4 Failure to comply. Any *person* who shall continue any work after having been served with a stop work order, except such work as that *person* is directed to perform to remove a violation or unsafe condition, shall be subject to fines established by the authority having *jurisdiction*.

SECTION 116—UNSAFE STRUCTURES AND EQUIPMENT

[A] 116.1 Unsafe conditions. *Structures* or existing equipment that are or hereafter become unsafe, insanitary or deficient because of inadequate *means of egress facilities*, inadequate light and *ventilation*, or that constitute a fire hazard, or are otherwise *dangerous* to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe *structures* shall be taken down and removed or made safe, as the *building official* deems necessary and as provided for in this section. A vacant *structure* that is not secured against unauthorized entry shall be deemed unsafe.

[A] 116.2 Record. The *building official* shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the *structure* and the nature of the unsafe condition.

[A] 116.3 Notice. If an unsafe condition is found, the *building official* shall serve on the *owner* of the *structure*, or the *owner*'s authorized agent, a written notice that describes the condition deemed unsafe and specifies the required *repairs* or improvements to be made to abate the unsafe condition, or that requires the unsafe *structure* to be demolished within a stipulated time. Such notice shall require the *person* thus notified to declare immediately to the *building official* acceptance or rejection of the terms of the order.

[A] 116.4 Method of service. Such notice shall be deemed properly served where a copy thereof is served in accordance with one of the following methods:

1. A copy is delivered to the *owner* personally.

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2. A copy is sent by certified or registered mail addressed to the *owner* at the last known address with the return receipt requested.
3. A copy is delivered in any other manner as prescribed by local law.

If the certified or registered letter is returned showing that the letter was not delivered, a copy thereof shall be posted in a conspicuous place in or about the *structure* affected by such notice. Service of such notice in the foregoing manner on the *owner*'s authorized agent shall constitute service of notice on the *owner*.

[A] 116.5 Restoration or abatement. Where the *structure* or equipment determined to be unsafe by the *building official* is restored to a safe condition, the *owner*, the *owner*'s authorized agent, operator or occupant of a *structure*, premises or equipment deemed unsafe by the *building official* shall abate or cause to be abated or corrected such unsafe conditions either by *repair*, rehabilitation, demolition or other *approved* corrective action. To the extent that *repairs*, *alterations* or *additions* are made or a *change of occupancy* occurs during the restoration of the *structure*, such *repairs*, *alterations*, *additions* and *change of occupancy* shall comply with the requirements of the *International Existing Building Code*.

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CHAPTER

2 DEFINITIONS

User notes:

About this chapter: *Codes, by their very nature, are technical documents. Every word, term and punctuation mark can add to or change the meaning of a technical requirement. It is necessary to maintain a consensus on the specific meaning of each term contained in the code. Chapter 2 performs this function by stating clearly what specific terms mean for the purposes of the code.*

Code development reminder: *Code change proposals to sections preceded by the designation [A], [BG] or [BS] will be considered by one of the code development committees meeting during the 2025 (Group B) Code Development Cycle.*

SECTION 201—GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the *International Energy Conservation Code*, *International Fuel Gas Code*, *International Fire Code*, *International Mechanical Code* or *International Plumbing Code*, such terms shall have the meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION 202—DEFINITIONS



[BG] 24-HOUR BASIS. The actual time that a *person* is an occupant within a *facility* for the purpose of receiving care. It shall not include a *facility* that is open for 24 hours and is capable of providing care to someone visiting the *facility* during any segment of the 24 hours.

[BS] AAC MASONRY. *Masonry* made of autoclaved aerated concrete (AAC) units, manufactured without internal reinforcement and bonded together using thin- or thick-bed *mortar*.

[BE] ACCESSIBLE. A *site*, *building*, *facility* or portion thereof that complies with Chapter 11.

[BE] ACCESSIBLE MEANS OF EGRESS. A continuous and unobstructed way of egress travel from any *accessible* point in a *building* or *facility* to a *public way*.

[BE] ACCESSIBLE ROUTE. A continuous, unobstructed path that complies with Chapter 11.

[BE] ACCESSIBLE UNIT. A *dwelling unit* or *sleeping unit* that complies with this code and the provisions for *Accessible units* in ICC A117.1.

[BS] ACCREDITATION BODY. An *approved*, third-party organization that is independent of the grading and inspection agencies, and the lumber mills, and that initially accredits and subsequently monitors, on a continuing basis, the competency and performance of a grading or inspection agency related to carrying out specific tasks.

[A] ADDITION. An extension or increase in floor area, number of *stories* or height of a *building* or *structure*.

[BS] ADHERED MASONRY VENEER. *Veneer* secured and supported through the adhesion of an *approved* bonding material applied to an *approved backing*.

[BS] ADOBE CONSTRUCTION. Construction in which the exterior *load-bearing* and *nonload-bearing walls* and partitions are of unfired clay *masonry* units, and floors, roofs and interior framing are wholly or partly of wood or other *approved* materials.

Adobe, stabilized. Unfired clay *masonry* units to which admixtures, such as emulsified asphalt, are added during the manufacturing process to limit the units' water absorption so as to increase their durability.

Adobe, unstabilized. Unfired clay *masonry* units that do not meet the definition of "*Adobe, stabilized*."

[F] AEROSOL CONTAINER. A metal can or plastic container up to a maximum size of 33.8 fluid ounces (1000 ml), or a glass bottle up to a maximum size of 4 fluid ounces (118 ml), designed and intended to dispense an aerosol.

[F] AEROSOL PRODUCT. A combination of a container, a propellant and a material that is dispensed. Aerosol products shall be classified by means of the calculation of their chemical heats of combustion and shall be designated Level 1, Level 2 or Level 3.

Level 1 aerosol products. Those with a total chemical heat of combustion that is less than or equal to 8,600 British thermal units per pound (Btu/lb) (20 kJ/g).

Level 2 aerosol products. Those with a total chemical heat of combustion that is greater than 8,600 Btu/lb (20 kJ/g), but less than or equal to 13,000 Btu/lb (30 kJ/g).

Level 3 aerosol products. Those with a total chemical heat of combustion that is greater than 13,000 Btu/lb (30 kJ/g).

[BS] AGGREGATE. In roofing, crushed stone, crushed slag or water-worn gravel used for surfacing for *roof coverings*.

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[BG] AGRICULTURAL BUILDING. A *structure* designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products. This *structure* shall not be a place of human habitation or a place of employment where agricultural products are processed, treated or packaged, nor shall it be a place used by the public.

[BF] AIR-IMPERMEABLE INSULATION. An insulation having an air permeance equal to or less than 0.02 l/s × m^2 at 75 pa pressure differential tested in accordance with ASTM E283 or ASTM E2178.

[BG] AIR-INFLATED STRUCTURE. A *structure* that uses air-pressurized membrane beams, arches or other elements to enclose space. Occupants of such a *structure* do not occupy the pressurized area used to support the *structure*.

[BG] AIR-SUPPORTED STRUCTURE. A *structure* wherein the shape of the *structure* is attained by air pressure and occupants of the *structure* are within the elevated pressure area. *Air-supported structures* are of two basic types:

Double skin. Similar to a single skin, but with an attached liner that is separated from the outer skin and provides an airspace which serves for insulation, acoustic, aesthetic or similar purposes.

Single skin. Where there is only the single outer skin and the air pressure is directly against that skin.

[BE] AISLE. An unenclosed *exit access* component that defines and provides a path of egress travel.

[BE] AISLE ACCESSWAY. That portion of an *exit access* that leads to an *aisle*.

[F] ALARM NOTIFICATION APPLIANCE. A *fire alarm system* component such as a bell, horn, speaker, light or text display that provides audible, tactile or visible outputs, or any combination thereof.

[F] ALARM SIGNAL. A signal indicating an emergency requiring immediate action, such as a signal indicative of fire.

[F] ALARM VERIFICATION FEATURE. A feature of *automatic* fire detection and alarm systems to reduce unwanted alarms wherein *smoke detectors* report alarm conditions for a minimum period of time, or confirm alarm conditions within a given time period, after being automatically reset, in order to be accepted as a valid alarm-initiation signal.

[BS] ALLOWABLE STRESS DESIGN. A method of proportioning structural members, such that elastically computed stresses produced in the members by *nominal loads* do not exceed *specified* allowable stresses (also called "working stress design").

[A] ALTERATION. Any construction or renovation to an *existing structure* other than *repair* or *addition*.

[BE] ALTERNATING TREAD DEVICE. A device that has a series of steps between 50 and 70 degrees (0.87 and 1.22 rad) from horizontal, usually attached to a center support rail in an alternating manner so that the user does not have both feet on the same level at the same time.

[BG] AMBULATORY CARE FACILITY. *Buildings* or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than *24-hour basis* to *persons* who are rendered *incapable of self-preservation* by the services provided or staff has accepted responsibility for care recipients already incapable.

[BG] ANCHOR BUILDING. An exterior perimeter *building* of a group other than H having *direct access* to a *covered or open mall building* but having required *means of egress* independent of the mall.

[BS] ANCHORED MASONRY VENEER. *Veneer* secured with *approved* mechanical fasteners to an *approved backing*.

[BF] ANNULAR SPACE. The opening around the penetrating item.

[F] ANNUNCIATOR. A unit containing one or more indicator lamps, alphanumeric displays or other equivalent means in which each indication provides status information about a circuit, condition or location.

[A] APPROVED. Acceptable to the *building official*.

[A] APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been *approved* by the *building official*.

[BS] APPROVED FABRICATOR. An established and qualified *person*, firm or corporation *approved* by the *building official* pursuant to Chapter 17 of this code.

[A] APPROVED SOURCE. An independent *person*, firm or corporation, *approved* by the *building official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

[BS] AREA (for masonry).

Gross cross-sectional. The *area* delineated by the out-to-out *specified dimensions* of *masonry* in the plane under consideration.

Net cross-sectional. The *area* of *masonry units*, grout and *mortar* crossed by the plane under consideration based on out-to-out *specified dimensions*.

[BG] AREA, BUILDING. The area included within surrounding *exterior walls*, or *exterior walls* and *fire walls*, exclusive of vent *shafts* and *courts*. Areas of the *building* not provided with surrounding walls shall be included in the *building area* if such areas are included within the horizontal projection of the roof or floor above.

[BE] AREA OF REFUGE. An area where *persons* unable to use *stairways* can remain temporarily to await instructions or assistance during emergency evacuation.

[BE] AREA OF SPORT ACTIVITY. That portion of an indoor or outdoor space where the play or practice of a sport occurs.

[BG] AREAWAY. A subsurface space adjacent to a *building* open at the top or protected at the top by a grating or guard.

ASSEMBLY SEATING, MULTILEVEL. See "*Multilevel assembly seating*."

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[BG] ATRIUM. A vertical space that is closed at the top, connecting two or more *stories* in Group I-2 and I-3 occupancies or three or more *stories* in all other occupancies.

[BG] ATTIC. The space between the ceiling framing of the top *story* and the underside of the roof.

[F] AUDIBLE ALARM NOTIFICATION APPLIANCE. A notification appliance that alerts by the sense of hearing.

[F] AUTOMATIC. As applied to fire protection devices, a device or system providing an emergency function without the necessity for human intervention and activated as a result of a predetermined temperature rise, rate of temperature rise or combustion products.

[F] AUTOMATIC FIRE-EXTINGUISHING SYSTEM. An *approved* system of devices and equipment which automatically detects a fire and discharges an *approved* fire-extinguishing agent onto or in the area of a fire.

[BE] AUTOMATIC FLUSH BOLT. Door-locking hardware, installed on the inactive leaf of a pair of doors, which has a bolt that is extended automatically into the door frame or floor when the active leaf is closed after the inactive leaf, and which holds the inactive leaf in a closed position. When the active leaf is opened, the automatic flush bolt retracts the bolt or rod, allowing the inactive leaf to be opened (see "Constant latching bolt," "Dead bolt," "Manual bolt").

[F] AUTOMATIC SMOKE DETECTION SYSTEM. A *fire alarm system* that has initiation devices that utilize *smoke detectors* for protection of an area such as a room or space with detectors to provide early warning of fire.

[F] AUTOMATIC SPRINKLER SYSTEM. An automatic sprinkler system is an integrated network of piping and fire sprinklers designed in accordance with fire protection standards.

[F] AUTOMATIC WATER MIST SYSTEM. A system consisting of a water supply, a pressure source and a distribution piping system with attached nozzles, which, at or above a minimum operating pressure defined by its listing, discharges water in fine droplets meeting the requirements of NFPA 750 for the purpose of the control, suppression or extinguishment of a fire. Such systems include wet-pipe, dry-pipe and preaction types. The systems are designed as engineered, preengineered, local-application or total-flooding systems.

[F] AVERAGE AMBIENT SOUND LEVEL. The root mean square, A-weighted sound pressure level measured over a 24-hour period, or the time any *person* is present, whichever time period is less.

[BG] AWNING. An architectural projection that provides weather protection, identity or decoration and is partially or wholly supported by the *building* to which it is attached. An *awning* is composed of a lightweight *frame structure* over which a covering is attached.

[BF] BACKING. The wall or surface to which the *veneer* is secured.

[BE] BALANCED DOOR. A door equipped with double-pivoted hardware so designed as to cause a semicounterbalanced swing action when opening.

[F] BALED COTTON. A natural seed fiber wrapped in and secured with industry accepted materials, usually consisting of burlap, woven polypropylene, polyethylene or cotton or sheet polyethylene, and secured with steel, synthetic or wire bands or wire; also includes linters (lint removed from the cottonseed) and motes (residual materials from the ginning process).

[F] BALED COTTON, DENSELY PACKED. Cotton made into banded bales with a packing density of not less than 22 pounds per cubic foot (360 kg/m^3), and dimensions complying with the following: a length of 55 inches (1397 mm), a width of 21 inches (533.4 mm) and a height of 27.6 to 35.4 inches (701 to 899 mm).

[BS] BALLAST. In roofing, *ballast* comes in the form of large stones or paver systems or light-weight interlocking paver systems and is used to provide uplift resistance for roofing systems that are not adhered or mechanically attached to the *roof deck*.

[F] BARRICADE. A *structure* that consists of a combination of walls, floor and roof, which is designed to withstand the rapid release of energy in an *explosion* and which is fully confined, partially vented or fully vented; or other effective method of shielding from *explosive* materials by a natural or artificial barrier.

Artificial barricade. An artificial mound or revetment a minimum thickness of 3 feet (914 mm).

Natural barricade. Natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposures that require protection cannot be seen from the magazine or building containing *explosives* when the trees are bare of leaves.

[BS] BASE FLOOD. The *flood* having a 1-percent chance of being equaled or exceeded in any given year.

[BS] BASE FLOOD ELEVATION. The elevation of the *base flood*, including wave height, relative to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD) or other datum specified on the *Flood Insurance Rate Map* (*FIRM*).

[BG] 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 for *flood loads*.

[BS] BASEMENT (for flood loads). 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.

[BS] BASIC WIND SPEED, *V*. The wind speed used for design, as determined in Chapter 16.

[BS] BEARING WALL STRUCTURE. A *building* or other *structure* in which vertical *loads* from floors and roofs are primarily supported by walls.

[BS] BED JOINT. The horizontal layer of *mortar* on which a *masonry unit* is laid.

[BE] BLEACHERS. Tiered seating supported on a dedicated structural system and two or more rows high and is not a *building element* (see "*Grandstand*").

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[BG] BOARDING HOUSE. A *building* arranged or used for lodging for compensation, with or without meals, and not occupied as a single-family unit.

[F] BOILING POINT. The temperature at which the vapor pressure of a *liquid* equals the atmospheric pressure of 14.7 pounds per square inch (psia) (101 kPa) or 760 mm of mercury. Where an accurate boiling point is unavailable for the material in question, or for mixtures which do not have a constant boiling point, for the purposes of this classification, the 20-percent evaporated point of a distillation performed in accordance with ASTM D86 shall be used as the boiling point of the *liquid*.

[BS] BRACED WALL LINE. A straight line through the building plan that represents the location of the lateral resistance provided by the wall bracing.

[BS] BRACED WALL PANEL. A full-height section of wall constructed to resist in-plane shear *loads* through interaction of framing members, sheathing material and anchors. The panel's length meets the requirements of its particular bracing method and contributes toward the total amount of bracing required along its *braced wall line*.

[BE] BREAKOUT. For revolving doors, a process whereby wings or door panels can be pushed open manually for *means of egress* travel.

[BS] BRICK.

Calcium silicate (sand lime brick). A pressed and subsequently autoclaved unit that consists of sand and lime, with or without the inclusion of other materials.

Clay or shale. A solid or hollow *masonry unit* of *clay or shale*, usually formed into a rectangular *prism*, then burned or fired in a kiln; brick is a ceramic product.

Concrete. A concrete *masonry unit* made from Portland cement, water, and suitable aggregates, with or without the inclusion of other materials.

[A] BUILDING. Any *structure* utilized or intended for supporting or sheltering any occupancy.

BUILDING AREA. See "*Area, building*."

[BG] BUILDING ELEMENT. A fundamental component of building construction, specified in Table 601, which may or may not be of fire-resistance-rated construction and is constructed of materials based on the building type of construction.

BUILDING HEIGHT. See "*Height, building*."

[BG] BUILDING LINE. The line established by law, beyond which a *building* shall not extend, except as specifically provided by law.

[A] BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative.

[BS] BUILDING-INTEGRATED PHOTOVOLTAIC (BIPV) ROOF COVERING. A *BIPV system* that also functions as a *roof covering*. Coverings include, but are not limited to, shingles, tiles and roof panels.

[BS] BUILDING-INTEGRATED PHOTOVOLTAIC (BIPV) ROOF PANEL. A *photovoltaic panel* that functions as a component of the *building* envelope.

[BS] BUILDING-INTEGRATED PHOTOVOLTAIC (BIPV) SYSTEM. A *building* system that incorporates *photovoltaic modules* and functions as an integral part of the *building* envelope, such as *roof assemblies* and *roof coverings*, *exterior wall envelopes* and *exterior wall coverings*, and *fenestration*.

[BS] BUILT-UP ROOF COVERING. Two or more layers of felt cemented together and surfaced with a cap sheet, mineral *aggregate*, smooth coating or similar surfacing material.

[BG] CANOPY. A permanent *structure* or architectural projection of rigid construction over which a covering is attached that provides weather protection, identity or decoration. A *canopy* is permitted to be structurally independent or supported by attachment to a *building* on one or more sides.

[F] CAPACITOR ENERGY STORAGE SYSTEM. A stationary, rechargeable energy storage system consisting of capacitors, chargers, controls and associated electrical equipment designed to provide electrical power to a *building* or facility. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing or similar capabilities.

[F] CARBON DIOXIDE EXTINGUISHING SYSTEMS. A system supplying carbon dioxide (CO_2) from a pressurized vessel through fixed pipes and nozzles. The system includes a manual- or *automatic*-actuating mechanism.

[F] CARBON MONOXIDE ALARM. A single- or multiple-station alarm intended to detect carbon monoxide gas and alert occupants by a distinct audible signal. It incorporates a sensor, control components and an *alarm notification appliance* in a single unit.

[F] CARBON MONOXIDE DETECTOR. A device with an integral sensor to detect carbon monoxide gas and transmit an *alarm signal* to a connected alarm control unit.

[F] CARBON MONOXIDE SOURCE. A piece of commonly used equipment or permanently installed appliance, fireplace or process that produces or emits carbon monoxide gas.

[BG] CARE SUITE. In Group I-2 occupancies, a group of treatment rooms, care recipient sleeping rooms and the support rooms or spaces and circulation space within the suite where staff are in attendance for supervision of all care recipients within the suite, and the suite is in compliance with the requirements of Section 407.4.4.

[BS] CAST STONE. A building stone manufactured from Portland cement concrete precast and used as a *trim*, *veneer* or facing on or in *buildings* or *structures*.

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[BS] CAST-IN-PLACE CONCRETE EQUIVALENT DIAPHRAGM. See Section 1905.2.

[F] CEILING LIMIT. The maximum concentration of an airborne contaminant to which one may be exposed. The ceiling limits utilized are those published in DOL 29 CFR Part 1910.1000. The ceiling Recommended Exposure Limit (REL-C) concentrations published by the US National Institute for Occupational Safety and Health (NIOSH), Threshold Limit Value—Ceiling (TLV-C) concentrations published by the American Conference of Governmental Industrial Hygienists (ACGIH), Ceiling Workplace Environmental Exposure Level (WEEL-Ceiling) Guides published by the American Industrial Hygiene Association (AIHA), and other *approved*, consistent measures are allowed as surrogates for hazardous substances not listed in DOL 29 CFR Part 1910.1000.

[BF] CEILING RADIATION DAMPER. A *listed* device installed in a ceiling membrane of a fire-resistance-rated floor/ceiling or roof/ceiling assembly to limit automatically the radiative heat transfer through an air inlet/outlet opening. *Ceiling radiation dampers* include air terminal units, ceiling dampers and ceiling air diffusers. *Ceiling radiation dampers* are classified for use in either static systems that will automatically shut down in the event of a fire, or in dynamic systems that continue to operate during a fire. A dynamic *ceiling radiation damper* is tested and rated for closure under elevated temperature airflow.

[BG] CELL (Group I-3 occupancy). A room within a *housing unit* in a detention or correctional *facility* used to confine inmates or prisoners.

[BS] CELL (masonry). A void space having a *gross cross-sectional area* greater than $1^1/_2$ square inches (967 mm^2).

[BG] CELL TIER. Levels of *cells* vertically stacked above one another within a *housing unit*.

[BS] CEMENT PLASTER. A mixture of Portland or blended cement, Portland cement or blended cement and hydrated lime, *masonry* cement or plastic cement and aggregate and other *approved* materials as specified in this code.

[BF] CERAMIC FIBER BLANKET. A high-temperature *mineral wool* insulation material made of alumina-silica ceramic or calcium magnesium silicate soluble fibers and weighing 4 to 10 pounds per cubic foot (pcf) (64 to 160 kg/m^3).

[BS] CERTIFICATE OF COMPLIANCE. A certificate stating that materials and products meet specified standards or that work was done in compliance with approved *construction documents*.

[A] CHANGE OF OCCUPANCY. Either of the following shall be considered as a *change of occupancy* where this code requires a greater degree of safety, accessibility, structural strength, fire protection, *means of egress*, ventilation or sanitation than is existing in the current *building* or *structure*:

1. Any change in the occupancy classification of a *building* or *structure*.
2. Any change in the purpose of, or a change in the level of activity within, a *building* or *structure*.

[M] CHIMNEY. A primarily vertical *structure* containing one or more flues, for the purpose of carrying gaseous products of combustion and air from a fuel-burning appliance to the outdoor atmosphere.

Factory-built chimney. A *listed* and *labeled* chimney composed of factory-made components, assembled in the field in accordance with manufacturer's instructions and the conditions of the listing.

Masonry chimney. A field-constructed chimney composed of solid *masonry units*, bricks, stones, or concrete.

Metal chimney. A field-constructed chimney of metal.

[M] CHIMNEY TYPES.

High-heat appliance type. An *approved* chimney for removing the products of combustion from fuel-burning, high-heat appliances producing combustion gases in excess of 2,000°F (1093°C) measured at the appliance flue outlet (see Section 2113.11.3).

Low-heat appliance type. An *approved* chimney for removing the products of combustion from fuel-burning, low-heat appliances producing combustion gases not in excess of 1,000°F (538°C) under normal operating conditions, but capable of producing combustion gases of 1,400°F (760°C) during intermittent forces firing for periods up to 1 hour. Temperatures shall be measured at the appliance flue outlet.

Masonry type. A field-constructed chimney of solid *masonry units* or stones.

Medium-heat appliance type. An *approved* chimney for removing the products of combustion from fuel-burning, medium-heat appliances producing combustion gases not exceeding 2,000°F (1093°C) measured at the appliance flue outlet (see Section 2113.11.2).

[BE] CIRCULATION PATH. An exterior or interior way of passage from one place to another for pedestrians.

[F] CLEAN AGENT. Electrically nonconducting, volatile or gaseous fire extinguishant that does not leave a residue upon evaporation.

[BG] CLIMATE ZONE. A geographical region that has been assigned climatic criteria as specified in Chapters 3 [CE] and 3 [RE] of the *International Energy Conservation Code*.

[BG] CLINIC, OUTPATIENT. *Buildings* or portions thereof used to provide *medical care* on less than a *24-hour basis* to *persons* who are not rendered *incapable of self-preservation* by the services provided.

[F] CLOSED SYSTEM. The *use* of a *solid* or *liquid hazardous material* involving a closed vessel or system that remains closed during normal operations where vapors emitted by the product are not liberated outside of the vessel or system and the product is not exposed to the atmosphere during normal operations; and all *uses* of *compressed gases*. Examples of closed systems for *solids* and *liquids* include product conveyed through a piping system into a closed vessel, system or piece of equipment.

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[BS] COASTAL A ZONE. Area within a *special flood hazard area*, landward of a V zone or landward of an open coast without mapped *coastal high-hazard areas*. In a *coastal A zone*, the principal source of *flooding* must be astronomical tides, storm surges, seiches or tsunamis, not riverine *flooding*. During the *base flood* conditions, the potential for breaking wave height shall be greater than or equal to $1^1/_2$ feet (457 mm). The inland limit of the *coastal A zone* is (a) the *Limit of Moderate Wave Action* if delineated on a *FIRM*, or (b) designated by the authority having *jurisdiction*.

[BS] COASTAL HIGH-HAZARD AREA. Area within the *special flood hazard area* extending from offshore to the inland limit of a primary dune along an open coast and any other area that is subject to high-velocity wave action from storms or seismic sources, and shown on a *Flood Insurance Rate Map* (*FIRM*) or other flood hazard map as velocity Zone V, VO, VE or V1-30.

[BS] COLLAR JOINT. Vertical longitudinal space between *wythes* of *masonry* or between *masonry wythe* and backup construction that is permitted to be filled with *mortar* or grout.

[BS] COLLECTOR. A horizontal *diaphragm* element parallel and in line with the applied force that collects and transfers *diaphragm* shear forces to the vertical elements of the lateral force-resisting system or distributes forces within the *diaphragm*, or both.

[BF] COMBINATION FIRE/SMOKE DAMPER. A *listed* device installed in ducts and air transfer openings designed to close *automatically* upon the detection of heat and resist the passage of flame and smoke. The device is installed to operate automatically, controlled by a smoke detection system, and where required, is capable of being positioned from a *fire command center*.

[BS] COMBINED PILE RAFT. A geotechnical composite construction that combines the bearing effect of both foundation elements, raft and piles, by taking into account interactions between the foundation elements and the subsoil.

[F] COMBUSTIBLE DUST. Finely divided *solid* material that is 420 microns or less in diameter and which, when dispersed in air in the proper proportions, could be ignited by a flame, spark or other source of ignition. Combustible dust will pass through a US No. 40 standard sieve.

[F] COMBUSTIBLE FIBERS. Readily ignitable and free-burning materials in a fibrous or shredded form, such as cocoa fiber, cloth, cotton, excelsior, hay, hemp, henequen, istle, jute, kapok, oakum, rags, sisal, Spanish moss, straw, tow, wastepaper, certain synthetic fibers or other like materials. This definition does not include *densely packed baled cotton*.

[F] COMBUSTIBLE LIQUID. A *liquid* having a closed cup *flash point* at or above 100°F (38°C). Combustible liquids shall be subdivided as follows:

The category of combustible liquids does not include *compressed gases* or *cryogenic fluids* or *liquids* that do not have a fire point when tested in accordance with ASTM D92.

Class II. *Liquids* having a closed cup *flash point* at or above 100°F (38°C) and below 140°F (60°C).

Class IIIA. *Liquids* having a closed cup *flash point* at or above 140°F (60°C) and below 200°F (93°C).

Class IIIB. *Liquids* having a closed cup *flash point* at or above 200°F (93°C).

[F] COMMERCIAL MOTOR VEHICLE. A motor vehicle used to transport passengers or property where the motor vehicle meets one of the following:

1. Has a gross vehicle weight rating of 10,000 pounds (4540 kg) or more.
2. Is designed to transport 16 or more passengers, including the driver.

[BE] COMMON PATH OF EGRESS TRAVEL. That portion of *exit access* travel distance measured from the most remote point of each room, area or space to that point where the occupants have separate and distinct access to two *exits* or *exit access* doorways.

[BE] COMMON USE. Interior or exterior *circulation paths*, rooms, spaces or elements that are not for public use and are made available for the shared use of two or more people.

[F] COMPRESSED GAS. A material or mixture of materials that meets both of the following:

1. Is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure.
2. Has a *boiling point* of 68°F (20°C) or less at 14.7 psia (101 kPa) which is either liquefied, nonliquefied or in solution, except those gases which have no other health- or physical-hazard properties are not considered to be compressed until the pressure in the packaging exceeds 41 psia (282 kPa) at 68°F (20°C).

The states of a compressed gas are categorized as follows:

1. Nonliquefied compressed gases are gases, other than those in solution, which are in a packaging under the charged pressure and are entirely gaseous at a temperature of 68°F (20°C).
2. Liquefied compressed gases are gases that, in a packaging under the charged pressure, are partially *liquid* at a temperature of 68°F (20°C).
3. Compressed gases in solution are nonliquefied gases that are dissolved in a solvent.
4. Compressed gas mixtures consist of a mixture of two or more compressed gases contained in a packaging, the hazard properties of which are represented by the properties of the mixture as a whole.

[BG] COMPUTER ROOM. A room or portions of a building used primarily to house information technology equipment (ITE) and serving an ITE load less than or equal to10 kW or 20 W/ft^2 (215 W/m^2) of conditioned floor area.

[BS] CONCRETE.

Carbonate aggregate. Concrete made with aggregates consisting mainly of calcium or magnesium carbonate, such as limestone or dolomite, and containing 40 percent or less quartz, chert or flint.

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Cellular. A lightweight insulating concrete made by mixing a preformed foam with Portland cement slurry and having a dry unit weight of approximately 30 pcf (480 kg/m^3).

Lightweight aggregate. Concrete made with aggregates of expanded clay, shale, slag or slate or sintered fly ash or any natural lightweight aggregate meeting ASTM C330 and possessing equivalent fire-resistance properties and weighing 85 to 115 pcf (1360 to 1840 kg/m^3).

Perlite. A lightweight insulating concrete having a dry unit weight of approximately 30 pcf (480 kg/m^3) made with *perlite* concrete aggregate. Perlite aggregate is produced from a volcanic rock which, when heated, expands to form a glass-like material of cellular structure.

Sand-lightweight. Concrete made with a combination of expanded clay, shale, slag, slate, sintered fly ash, or any natural lightweight aggregate meeting ASTM C330 and possessing equivalent fire-resistance properties and natural sand. Its unit weight is generally between 105 and 120 pcf (1680 and 1920 kg/m^3).

Siliceous aggregate. Concrete made with normal-weight aggregates consisting mainly of silica or compounds other than calcium or magnesium carbonate, which contains more than 40-percent quartz, chert or flint.

Vermiculite. A light weight insulating concrete made with *vermiculite* concrete aggregate which is laminated micaceous material produced by expanding the ore at high temperatures. When added to a Portland cement slurry the resulting concrete has a dry unit weight of approximately 30 pcf (480 kg/m^3).

[BG] CONGREGATE LIVING FACILITIES. A *building* or part thereof that contains *sleeping units* where residents share bathroom or kitchen facilities, or both.

[BE] CONSTANT LATCHING BOLT. Door-locking hardware installed on the inactive leaf of a pair of doors consisting of a bolt that automatically latches into the door frame or floor, holding the inactive leaf in a closed position. The latch bolt is retracted manually to allow the inactive leaf to be opened.

[F] CONSTANTLY ATTENDED LOCATION. A designated location at a *facility* staffed by trained personnel on a continuous basis where alarm or supervisory signals are monitored and *facilities* are provided for notification of the fire department or other emergency services.

[A] CONSTRUCTION DOCUMENTS. Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building *permit*.

[BG] CONSTRUCTION TYPES. See Section 602.

Type I. See Section 602.2.

Type II. See Section 602.2.

Type III. See Section 602.3.

Type IV. See Section 602.4.

Type V. See Section 602.5.

[BF] CONTINUITY HEAD-OF-WALL SYSTEM. An assemblage of specific materials or products that are designed to resist the passage of fire through voids created at the intersection of fire barriers and the underside of roof assemblies that are not fire-resistance rated for a prescribed period of time.

[BF] CONTINUOUS INSULATION (ci). Insulating material that is continuous across all structural members without thermal bridges other than fasteners and service openings. It is installed on the interior or exterior or is integral to any opaque surface of the *building* thermal envelope.

[F] CONTROL AREA. Spaces within a *building* where quantities of *hazardous materials* not exceeding the maximum allowable quantities per control area are stored, dispensed, *used* or handled. See the definition of "*Outdoor control area*" in the *International Fire Code*.

[BS] CONTROLLED LOW-STRENGTH MATERIAL. A self-compacted, cementitious material used primarily as a backfill in place of compacted fill.

[BS] CONVENTIONAL LIGHT-FRAME CONSTRUCTION. Construction whose primary structural elements are formed by a system of repetitive wood-framing members. See Section 2308 for conventional *light-frame construction* provisions.

[BG] CORNICE. A projecting horizontal molded element located at or near the top of an architectural feature.

[BE] CORRIDOR. An enclosed *exit access* component that defines and provides a path of egress travel.

CORRIDOR, OPEN-ENDED. See "*Open-ended corridor*."

[BF] CORRIDOR DAMPER. A *listed* device intended for use where air ducts penetrate or terminate at horizontal openings in the ceilings of fire-resistance-rated corridors, where the corridor ceiling is permitted to be constructed as required for the corridor walls.

[BS] CORROSION RESISTANCE. The ability of a material to withstand deterioration of its surface or its properties when exposed to its environment.

[F] CORROSIVE. A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the point of contact. A chemical shall be considered corrosive if, when tested on the intact skin of albino rabbits by the method described in DOTn 49 CFR, Part 173.137, such chemical destroys or changes irreversibly the structure of the tissue at the point of contact following an exposure period of 4 hours. This term does not refer to action on inanimate surfaces.

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[BG] COURT. An open, uncovered space, unobstructed to the sky, bounded on three or more sides by exterior *building* walls or other enclosing devices.

[BG] COVERED MALL BUILDING. A single *building* enclosing a number of tenants and occupants, such as retail stores, drinking and dining establishments, entertainment and amusement *facilities*, passenger transportation terminals, offices and other similar uses wherein two or more tenants have a main entrance into one or more *malls*. *Anchor buildings* shall not be considered as a part of the *covered mall building*. The term "*covered mall building*" shall include *open mall buildings* as defined below.

Mall. A roofed or covered common pedestrian area within a *covered mall building* that serves as access for two or more tenants and not to exceed three levels that are open to each other. The term "mall" shall include open malls as defined below.

Open mall. An unroofed common pedestrian way serving a number of tenants not exceeding three levels. Circulation at levels above grade shall be permitted to include open exterior balconies leading to exits discharging at grade.

Open mall building. Several structures housing a number of tenants, such as retail stores, drinking and dining establishments, entertainment and amusement facilities, offices, and other similar uses, wherein two or more tenants have a main entrance into one or more open malls. *Anchor buildings* are not considered as a part of the open mall building.

[BS] CRIPPLE WALL. A framed stud wall extending from the top of the foundation to the underside of floor framing for the lowest occupied floor level.

[BS] CRIPPLE WALL CLEAR HEIGHT. The vertical height of a cripple wall from the top of the foundation to the underside of floor framing above.

[F] CRITICAL CIRCUIT. A circuit that requires continuous operation to ensure safety of the *structure* and occupants.

[BS] CROSS-LAMINATED TIMBER. A prefabricated engineered wood product consisting of not less than three layers of solid-sawn lumber or *structural composite lumber* where the adjacent layers are cross oriented and bonded with structural adhesive to form a solid wood element.

[F] CRYOGENIC FLUID. A *liquid* having a *boiling point* lower than -150°F (-101°C) at 14.7 pounds per square inch atmosphere (psia) (an absolute pressure of 101 kPa).

[BG] CUSTODIAL CARE. Describes *persons* who receive assistance with day-to-day living tasks such as cooking, taking medication, bathing, using toilet *facilities* and other tasks of daily living. *Custodial care* includes *persons* receiving care who have the ability to respond to emergency situations and may receive *limited verbal or physical assistance*. These care recipients may evacuate at a slower rate and/or who have mental and psychiatric complications.

[BS] DALLE GLASS. A decorative composite glazing material made of individual pieces of glass that are embedded in a cast matrix of concrete or epoxy.

DAMPER. See "*Ceiling radiation damper*," "*Combination fire/smoke damper*," "*Corridor damper*," "*Fire damper*" and "*Smoke damper*."

[BS] DANGEROUS. Any *building*, *structure* or portion thereof that meets any of the conditions described below shall be deemed *dangerous*:

1. The *building* or *structure* has collapsed, has partially collapsed, has moved off its foundation or lacks the necessary support of the ground.
2. There exists a significant risk of collapse, detachment or dislodgment of any portion, member, appurtenance or ornamentation of the *building* or *structure* under permanent, routine, or frequent *loads;* under actual loads already in effect; or under snow, wind, rain, *flood,* earthquake aftershock, or other environmental loads when such *loads* are imminent.

[BG] DATA CENTER. A room or building, or portions thereof, used primarily to house information technology equipment (ITE) and serving a total ITE load greater than 10 kW and 20 W/ft^2 (215 W/m^2) of conditioned floor area.

[F] DAY BOX. A portable magazine designed to hold *explosive* materials constructed in accordance with the requirements for a Type 3 magazine as defined and classified in Chapter 56 of the *International Fire Code*.

[BE] DEAD BOLT. Door locking hardware with a bolt that is extended and retracted by action of the lock mechanism (see "Automatic flush bolt," "Constant latching bolt," "Manual bolt").

[BS] DEAD LOAD. The weight of materials of construction incorporated into the *building*, including but not limited to walls, floors, roofs, ceilings, *stairways*, built-in partitions, finishes, cladding and other similarly incorporated architectural and structural items, and the weight of fixed service equipment, including cranes and material *handling* systems.

[BS] DECORATIVE GLAZING. A carved, leaded or *Dalle glass* or glazing material whose purpose is decorative or artistic, not functional; whose coloring, texture or other design qualities or components cannot be removed without destroying the glazing material and whose surface, or assembly into which it is incorporated, is divided into segments.

[F] DECORATIVE MATERIALS. All materials applied over the *building interior finish* for decorative, acoustical or other effect including, but not limited to, curtains, draperies, fabrics and streamers; and all other materials utilized for decorative effect including, but not limited to, bulletin boards, artwork, posters, photographs, batting, cloth, cotton, hay, stalks, straw, vines, leaves, trees, moss and similar items, foam plastics and materials containing foam plastics. Decorative materials do not include wall coverings, ceiling coverings, floor coverings, ordinary window shades, *interior finish* and materials 0.025 inch (0.64 mm) or less in thickness applied directly to and adhering tightly to a substrate.

[BS] DEEP FOUNDATION. A deep foundation is a foundation element that does not satisfy the definition of a *shallow foundation*.

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[BE] DEFEND-IN-PLACE. A method of emergency response that engages *building* components and trained staff to provide occupant safety during an emergency. Emergency response involves remaining in place, relocating within the *building*, or both, without evacuating the *building*.

[A] DEFERRED SUBMITTAL. Those portions of the design that are not submitted at the time of the application and that are to be submitted to the *building official* within a specified period.

[F] DEFLAGRATION. An exothermic reaction, such as the extremely rapid oxidation of a flammable dust or vapor in air, in which the reaction progresses through the unburned material at a rate less than the velocity of sound. A deflagration can have an *explosive* effect.

[BF] DELAYED-ACTION CLOSER. A *self-closing* device that incorporates a delay prior to the initiation of closing. *Delayed-action closers* are mechanical devices with an adjustable delay.

[F] DELUGE SYSTEM. A sprinkler system employing open sprinklers attached to a piping system connected to a water supply through a valve that is opened by the operation of a detection system installed in the same areas as the sprinklers. When this valve opens, water flows into the piping system and discharges from all sprinklers attached thereto.

[BS] DESIGN EARTHQUAKE GROUND MOTION. The earthquake ground motion that *buildings* and *structures* are specifically proportioned to resist in Section 1613.

[BS] DESIGN FLOOD. The *flood* associated with the greater of the following two areas:

1. Area with a flood plain subject to a 1-percent or greater chance of *flooding* in any year.
2. Area designated as a *flood hazard area* on a community's flood hazard map, or otherwise legally designated.

[BS] DESIGN FLOOD ELEVATION. The elevation of the "*design flood*," including wave height, relative to the datum specified on the community's legally designated flood hazard map. In areas designated as Zone AO, the *design flood elevation* shall be the elevation of the highest existing grade of the building's perimeter plus the depth number (in feet) specified on the flood hazard map. In areas designated as Zone AO where a depth number is not specified on the map, the depth number shall be taken as being equal to 2 feet (610 mm).

DESIGN PROFESSIONAL, REGISTERED. See "*Registered design professional*."

DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, REGISTERED. See "*Registered design professional in responsible charge*."

[BS] DESIGN STRENGTH. The product of the nominal strength and a *resistance factor* (or strength reduction factor).

[BS] DESIGNATED SEISMIC SYSTEM. Those nonstructural components that require design in accordance with Chapter 13 of ASCE 7 and for which the component importance factor, I_p, is greater than 1 in accordance with Section 13.1.3 of ASCE 7.

[F] DETACHED BUILDING. A separate single-story building, without a *basement* or crawl space, used for the storage or *use* of *hazardous materials* and located an *approved* distance from all *structures*.

[BS] DETAILED PLAIN CONCRETE STRUCTURAL WALL. See Section 1905.2.

[BE] DETECTABLE WARNING. A standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired *persons* of hazards on a *circulation path*.

[F] DETECTOR, HEAT. A fire detector that senses heat—either abnormally high temperature or rate of rise, or both.

[F] DETONATION. An exothermic reaction characterized by the presence of a shock wave in the material which establishes and maintains the reaction. The reaction zone progresses through the material at a rate greater than the velocity of sound. The principal heating mechanism is one of shock compression. Detonations have an *explosive* effect.

[BG] DETOXIFICATION FACILITIES. Facilities that provide treatment for substance abuse, serving care recipients who are *incapable of self-preservation* or who are harmful to themselves or others.

[BS] DIAPHRAGM. A horizontal or sloped system acting to transmit lateral forces to vertical elements of the lateral force-resisting system. When the term "diaphragm" is used, it shall include horizontal bracing systems.

Diaphragm, blocked. In light-frame construction, a diaphragm in which all sheathing edges not occurring on a framing member are supported on and fastened to blocking.

Diaphragm, unblocked. A diaphragm that has edge nailing at supporting members only. Blocking between supporting structural members at panel edges is not included. Diaphragm panels are field nailed to supporting members.

Diaphragm boundary. In light-frame construction, a location where shear is transferred into or out of the diaphragm sheathing. Transfer is either to a boundary element or to another force resisting element.

Diaphragm chord. A diaphragm boundary element perpendicular to the applied load that is assumed to take axial stresses due to the diaphragm moment.

[BS] DIMENSIONS. This definition applies only to Chapter 21.

Nominal. The *specified dimension* plus an allowance for the *joints* with which the units are to be laid. Nominal *dimensions* are usually stated in whole numbers. Thickness is given first, followed by height and then length.

Specified. *Dimensions* specified for the manufacture or construction of a unit, *joint* or element.

[BE] DIRECT ACCESS. A path of travel from a space to an immediately adjacent space through an opening in the common wall between the two spaces.

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[F] DISPENSING. The pouring or transferring of any material from a container, tank or similar vessel, whereby vapors, dusts, fumes, mists or gases are liberated to the atmosphere.

DOOR, BALANCED. See "*Balanced door*."

DOOR, LOW-ENERGY POWER-OPERATED. See "*Low-energy power-operated door*."

DOOR, POWER-ASSISTED. See "*Power-assisted door*."

DOOR, POWER-OPERATED. See "*Power-operated door*."

DOORWAY, EXIT ACCESS. See "*Exit access doorway*."

[BG] DORMITORY. A space in a *building* where group sleeping accommodations are provided in one room, or in a series of closely associated rooms, for *persons* not members of the same family group, under joint occupancy and single management, as in college *dormitories* or fraternity houses.

[BF] DRAFTSTOP. A material, device or construction installed to restrict the movement of air within open spaces of concealed areas of *building* components such as crawl spaces, floor/ceiling assemblies, roof/ceiling assemblies and *attics*.

DRAG STRUT. See "*Collector*."

[BS] DRILLED SHAFT. A cast-in-place *deep foundation* element, also referred to as a caisson, drilled pier or bored pile, constructed by drilling a hole (with or without permanent casing or drilling fluid) into soil or rock and filling it with fluid concrete after the drilling equipment is removed.

Socketed drilled shaft. A drilled shaft with a permanent pipe or tube casing that extends down to bedrock and an uncased socket drilled into the bedrock.

[BS] DRY FLOODPROOFING. A combination of design modifications that results in a *building* or *structure*, including the attendant utilities and equipment and sanitary *facilities*, being watertight with walls substantially impermeable to the passage of water and with structural components having the capacity to resist *loads* as identified in ASCE 7.

[F] DRY-CHEMICAL EXTINGUISHING AGENT. A powder composed of small particles, usually of sodium bicarbonate, potassium bicarbonate, urea-potassium-based bicarbonate, potassium chloride or monoammonium phosphate, with added particulate material supplemented by special treatment to provide resistance to packing, resistance to moisture absorption (caking) and the proper flow capabilities.

[A] DWELLING. A *building* that contains one or two *dwelling units* used, intended or designed to be used, rented, leased, let or hired out to be occupied for living purposes.

[A] DWELLING UNIT. A single unit providing complete, independent living *facilities* for one or more *persons*, including permanent provisions for living, sleeping, eating, cooking and sanitation.

[BG] DWELLING UNIT, EFFICIENCY. A *dwelling unit* where all permanent provisions for living, sleeping, eating and cooking are contained in a single room.

DWELLING UNIT OR SLEEPING UNIT, MULTISTORY. See "*Multistory unit*."

[BE] EGRESS COURT. A *court* or *yard* which provides access to a *public way* for one or more *exits*.

[BG] ELECTRIC VEHICLE CHARGING STATION. One or more vehicle spaces served by an electric vehicle charging system.

[BF] ELECTRICAL CIRCUIT PROTECTIVE SYSTEM. A specific construction of devices, materials, or coatings installed as a fire-resistive barrier system applied to electrical system components, such as cable trays, conduits and other raceways, open run cables and conductors, cables, and conductors.

[F] ELEVATOR GROUP. A grouping of elevators in a *building* located adjacent or directly across from one another that responds to common hall call buttons.

[F] EMERGENCY ALARM SYSTEM. A system to provide indication and warning of emergency situations involving *hazardous materials*.

[F] EMERGENCY CONTROL STATION. An *approved* location on the premises where signals from emergency equipment are received and which is staffed by trained personnel.

[BE] EMERGENCY ESCAPE AND RESCUE OPENING. An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.

[F] EMERGENCY POWER SYSTEM. A source of *automatic* electric power of a required capacity and duration to operate required life safety, fire alarm, detection and ventilation systems in the event of a failure of the primary power. Emergency power systems are required for electrical loads where interruption of the primary power could result in loss of human life or serious injuries.

[F] EMERGENCY VOICE/ALARM COMMUNICATIONS. Dedicated manual or *automatic facilities* for originating and distributing voice instructions, as well as alert and evacuation signals pertaining to a fire emergency, to the occupants of a *building*.

[BF] EMITTANCE. The ratio of radiant heat flux emitted by a specimen to that emitted by a blackbody at the same temperature and under the same conditions.

[BE] EMPLOYEE WORK AREA. All or any portion of a space used only by employees and only for work. *Corridors*, toilet rooms, kitchenettes and break rooms are not employee work areas.

[F] ENERGY STORAGE SYSTEM, ELECTROCHEMICAL. An energy storage system that stores energy and produces electricity using chemical reactions. It includes, among others, battery ESS and capacitor ESS.

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[BS] ENGINEERED WOOD RIM BOARD. A full-depth *structural composite lumber*, *wood structural panel*, structural glued laminated timber or *prefabricated wood I-joist* member designed to transfer horizontal (shear) and vertical (compression) *loads*, provide attachment for *diaphragm* sheathing, siding and exterior deck ledgers, and provide lateral support at the ends of floor or roof joists or rafters.

ENTRANCE, PUBLIC. See "*Public entrance*."

ENTRANCE, RESTRICTED. See "*Restricted entrance*."

ENTRANCE, SERVICE. See "*Service entrance*."

[BG] EQUIPMENT PLATFORM. An unoccupied, elevated platform used exclusively for mechanical systems or industrial process equipment, including the associated elevated walkways, *stairways, alternating tread devices* and ladders necessary to access the platform (see Section 505.3).

[BS] ESSENTIAL FACILITIES. *Buildings* and other *structures* that are intended to remain operational in the event of extreme environmental loading from *flood*, wind, snow or earthquakes.

[F] EXHAUSTED ENCLOSURE. An appliance or piece of equipment that consists of a top, a back and two sides providing a means of local exhaust for capturing gases, fumes, vapors and mists. Such enclosures include laboratory hoods, exhaust fume hoods and similar appliances and equipment used to locally retain and exhaust the gases, fumes, vapors and mists that could be released. Rooms or areas provided with general *ventilation*, in themselves, are not exhausted enclosures.

[A] EXISTING BUILDING. A *building* erected prior to the date of adoption of the appropriate code, or one for which a legal building *permit* has been issued.

[A] EXISTING STRUCTURE. A *structure* erected prior to the date of adoption of the appropriate code, or one for which a legal building *permit* has been issued.

[BE] 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* and *ramps*, *exit passageways*, *exterior exit stairways* and *ramps* and *horizontal exits*.

EXIT, HORIZONTAL. See "*Horizontal exit*."

[BE] EXIT ACCESS. That portion of a *means of egress* system that leads from any occupied portion of a *building* or *structure* to an *exit*.

[BE] EXIT ACCESS DOORWAY. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, *corridor*, *exit access stairway* or *ramp*.

[BE] EXIT ACCESS RAMP. A *ramp* within the *exit access* portion of the *means of egress* system.

[BE] EXIT ACCESS STAIRWAY. A *stairway* within the *exit access* portion of the *means of egress* system.

[BE] EXIT DISCHARGE. That portion of a *means of egress* system between the termination of an *exit* and a *public way*.

[BE] EXIT DISCHARGE, LEVEL OF. The *story* at the point at which an *exit* terminates and an *exit discharge* begins.

[BE] EXIT PASSAGEWAY. An *exit* component that is separated from other interior spaces of a *building* or *structure* by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a horizontal direction to an *exit* or to the *exit discharge*.

[BF] EXPANDED VINYL WALL COVERING. Wall covering consisting of a woven textile backing, an expanded vinyl base coat layer and a nonexpanded vinyl skin coat. The expanded base coat layer is a homogeneous vinyl layer that contains a blowing agent. During processing, the blowing agent decomposes, causing this layer to expand by forming closed cells. The total thickness of the wall covering is approximately 0.055 inch to 0.070 inch (1.4 mm to 1.78 mm).

[F] EXPLOSION. An effect produced by the sudden violent expansion of gases, which may be accompanied by a shock wave or disruption, or both, of enclosing materials or *structures*. An explosion could result from any of the following:

1. Chemical changes such as rapid oxidation, *deflagration* or *detonation*, decomposition of molecules and runaway polymerization (usually *detonations*).
2. Physical changes such as pressure tank ruptures.
3. Atomic changes (nuclear fission or fusion).

[F] EXPLOSIVE. A chemical compound, mixture or device, the primary or common purpose of which is to function by *explosion*. The term includes, but is not limited to: dynamite, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, and igniters. The term "explosive" includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an *explosive* other than consumer *fireworks*, 1.4G by the *hazardous materials* regulations of DOTn 49 CFR Parts 100-185.

High explosive. Explosive material, such as dynamite, which can be caused to detonate by means of a No. 8 test blasting cap when unconfined.

Low explosive. Explosive material that will burn or deflagrate when ignited. It is characterized by a rate of reaction that is less than the speed of sound. Examples of low explosives include, but are not limited to: black powder; safety fuse; igniters; igniter cord; fuse lighters; fireworks; and propellants, 1.3C.

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Mass-detonating explosives. Division 1.1, 1.2 and 1.5 explosives alone or in combination, or loaded into various types of ammunition or containers, most of which can be expected to explode virtually instantaneously when a small portion is subjected to fire, severe concussion, impact, the impulse of an initiating agent or the effect of a considerable discharge of energy from without. Materials that react in this manner represent a mass explosion hazard. Such an explosive will normally cause severe structural damage to adjacent objects. Explosive propagation could occur immediately to other items of ammunition and explosives stored sufficiently close to and not adequately protected from the initially exploding pile with a time interval short enough so that two or more quantities must be considered as one for quantity-distance purposes.

UN/DOTn Class 1 explosives. The former classification system used by DOTn included the terms "high" and "low" explosives as defined herein. The following terms further define explosives under the current system applied by DOTn for all explosive materials defined as hazard Class 1 materials. Compatibility group letters are used in concert with the division to specify further limitations on each division noted (i.e., the letter G identifies the material as a pyrotechnic substance or article containing a pyrotechnic substance and similar materials).

Division 1.1. Explosives that have a mass explosion hazard. A mass explosion is one which affects almost the entire load instantaneously.

Division 1.2. Explosives that have a projection hazard but not a mass explosion hazard.

Division 1.3. Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

Division 1.4. Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

Division 1.5. Very insensitive explosives. This division is comprised of substances that have a mass explosion hazard, but that are so insensitive there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport.

Division 1.6. Extremely insensitive articles which do not have a mass explosion hazard. This division is comprised of articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

[BE] EXTERIOR EXIT RAMP. An *exit* component that serves to meet one or more *means of egress* design requirements, such as required number of *exits* or *exit access* travel distance, and is open to *yards*, *courts* or *public ways*.

[BE] EXTERIOR EXIT STAIRWAY. An *exit* component that serves to meet one or more *means of egress* design requirements, such as required number of *exits* or *exit access* travel distance, and is open to *yards*, *courts* or *public ways*.

[BF] EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS). EIFS are nonstructural, nonload-bearing, *exterior wall* cladding systems that consist of an insulation board attached either adhesively or mechanically, or both, to the substrate; an integrally reinforced base coat and a textured protective finish coat.

[BF] *EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) WITH DRAINAGE.* An EIFS that incorporates a means of drainage applied over a *water-resistive barrier*.

[BF] EXTERIOR SURFACES. *Weather-exposed surfaces.*

[BF] EXTERIOR WALL. A wall, bearing or nonbearing, that is used as an enclosing wall for a *building*, other than a *fire wall*, and that has a slope of 60 degrees (1.05 rad) or greater with the horizontal plane.

[BF] EXTERIOR WALL ASSEMBLY. A system including the *exterior wall* covering, framing, and components such as weather-resistive barriers and insulating materials. This system provides protection of the *building* structural members and conditioned interior space from the detrimental effects of the exterior environment.

[BF] EXTERIOR WALL COVERING. A material or assembly of materials applied on the exterior side of *exterior walls* for the purpose of providing a weather-resisting barrier, insulation or for aesthetics, including but not limited to, *veneers*, siding, *exterior insulation and finish systems*, *rainscreen systems*, architectural *trim* and embellishments such as *cornices*, soffits, fascias, gutters and leaders.

[BF] F RATING. The time period that the *through-penetration firestop system*, perimeter fire containment system or *continuity head-of-wall system* limits the spread of fire through the penetration or void.

[BF] FABRIC PARTITION. A partition consisting of a finished surface made of fabric, without a continuous rigid backing, that is directly attached to a framing system in which the vertical framing members are spaced greater than 4 feet (1219 mm) on center.

[BS] FABRICATED ITEM. Structural, *load*-bearing or lateral *load*-resisting members or assemblies consisting of materials assembled prior to installation in a *building* or *structure*, or subjected to operations such as heat treatment, thermal cutting, cold working or reforming after manufacture and prior to installation in a *building* or *structure*. Materials produced in accordance with standards referenced by this code, such as rolled structural steel shapes, steel reinforcing bars, *masonry units* and *wood structural panels*, or in accordance with a referenced standard that provides requirements for quality control done under the supervision of a third-party quality control agency, are not "fabricated items."

[F] FABRICATION AREA. An area within a semiconductor fabrication *facility* and related research and development areas in which there are processes using hazardous production materials. Such areas are allowed to include ancillary rooms or areas such as dressing rooms and offices that are directly related to the fabrication area processes.

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[A] FACILITY. All or any portion of *buildings*, *structures*, site improvements, elements and pedestrian or vehicular routes located on a *site*.

[BS] FACTORED LOAD. The product of a *nominal load* and a *load factor*.

[BS] FENESTRATION. Products classified as either *vertical fenestration* or *skylights and sloped glazing*, installed in such a manner as to preserve the weather-resistant barrier of the wall or roof in which they are installed. Fenestration includes products with glass or other transparent or translucent materials.

[BS] FENESTRATION, VERTICAL. Windows that are fixed or movable, opaque doors, glazed doors, glazed block and combination opaque and glazed doors installed in a wall at less than 15 degrees from the vertical.

[BS] FIBERBOARD. A fibrous, homogeneous panel made from lignocellulosic fibers (usually wood or cane) and having a density of less than 31 pounds per cubic foot (pcf) (497 kg/m^3) but more than 10 pcf (160 kg/m^3).

[BS] FIBER-CEMENT (BACKER BOARD, SIDING, SOFFIT, TRIM AND UNDERLAYMENT) PRODUCTS. Manufactured thin section composites of hydraulic cementitious matrices and discrete nonasbestos fibers.

[BF] FIBER-REINFORCED POLYMER. A polymeric composite material consisting of reinforcement fibers, such as glass, impregnated with a fiber-binding polymer which is then molded and hardened. Fiber-reinforced polymers are permitted to contain cores laminated between fiber-reinforced polymer facings.

FIELD NAILING. See "*Nailing, field*."

FIRE ALARM BOX, MANUAL. See "*Manual fire alarm box*."

[F] FIRE ALARM CONTROL UNIT. A system component that receives inputs from *automatic* and manual *fire alarm* devices and may be capable of supplying power to detection devices and transponders or off-premises transmitters. The control unit may be capable of providing a transfer of power to the notification appliances and transfer of condition to relays or devices.

[F] FIRE ALARM SIGNAL. A signal initiated by a *fire alarm-initiating device* such as a *manual fire alarm box*, *automatic fire detector*, waterflow switch or other device whose activation is indicative of the presence of a fire or fire signature.

[F] FIRE ALARM SYSTEM. A system or portion of a combination system consisting of components and circuits arranged to monitor and annunciate the status of *fire alarm* or *supervisory signal-initiating devices* and to initiate the appropriate response to those signals.

[BF] FIRE AREA. The aggregate floor area enclosed and bounded by *fire walls*, *fire barriers*, *exterior walls* or *horizontal assemblies* of a *building*. Areas of the *building* not provided with surrounding walls shall be included in the *fire area* if such areas are included within the horizontal projection of the roof or floor next above.

[BF] FIRE BARRIER. A fire-resistance-rated wall assembly of materials designed to restrict the spread of fire in which continuity is maintained.

[F] FIRE COMMAND CENTER. The principal attended or unattended location where the status of detection, alarm communications and control systems is displayed, and from which the systems can be manually controlled.

[BF] FIRE DAMPER. A *listed* device installed in ducts and air transfer openings designed to close automatically upon detection of heat and resist the passage of flame. *Fire dampers* are classified for use in either static systems that will automatically shut down in the event of a fire, or in dynamic systems that continue to operate during a fire. A dynamic *fire damper* is tested and rated for closure under elevated temperature airflow.

[F] FIRE DETECTOR, AUTOMATIC. A device designed to detect the presence of a fire signature and to initiate action.

[BF] FIRE DOOR. The door component of a *fire door assembly*.

[BF] FIRE DOOR ASSEMBLY. Any combination of a *fire door*, frame, hardware and other accessories that together provide a specific degree of fire protection to the opening.

FIRE DOOR ASSEMBLY, FLOOR. See "*Floor fire door assembly*."

[BF] FIRE EXIT HARDWARE. *Panic hardware* that is *listed* for use on *fire door assemblies*.

[F] FIRE LANE. A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

[BF] FIRE PARTITION. A vertical assembly of materials designed to restrict the spread of fire in which openings are protected.

[BF] FIRE PROTECTION RATING. The period of time that an *opening protective* prevents or retards the passage of excessive flames to confine a fire as determined by tests specified in Section 716. Ratings are stated in hours or minutes.

[F] FIRE PROTECTION SYSTEM. *Approved* devices, equipment and systems or combinations of systems used to detect a fire, activate an alarm, extinguish or control a fire, control or manage smoke and products of a fire or any combination thereof.

[BF] FIRE PROTECTIVE CURTAIN ASSEMBLY. An assembly consisting of a fabric curtain, a bottom bar, guides, a coil, and an operating and closing system.

[BF] FIRE RESISTANCE. That property of materials or their assemblies that prevents or retards the passage of excessive heat, hot gases or flames under conditions of use.

[F] FIRE SAFETY FUNCTIONS. *Building* and fire control functions that are intended to increase the level of life safety for occupants or to control the spread of harmful effects of fire.

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[BF] FIRE SEPARATION DISTANCE. The distance measured from the *building* face to one of the following:

1. The closest interior *lot line*.
2. To the centerline of a street, an alley or *public way*.
3. To an imaginary line between two *buildings* on the lot.

The distance shall be measured at right angles from the face of the wall.

[BF] FIRE WALL. A fire-resistance-rated wall having protected openings, which restricts the spread of fire and extends continuously from the foundation to or through the roof, with sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall.

[BF] FIRE WINDOW ASSEMBLY. A window constructed and glazed to give protection against the passage of fire.

[BF] FIREBLOCKING. *Building* materials, or materials *approved* for use as *fireblocking*, installed to resist the free passage of flame to other areas of the *building* through concealed spaces.

[M] FIREPLACE. A hearth and fire chamber or similar prepared place in which a fire may be made and which is built in conjunction with a chimney.

[BS] FIREPLACE THROAT. The opening between the top of the firebox and the smoke chamber.

[BF] FIRE-RATED GLAZING. Glazing with either a *fire protection rating* or a *fire-resistance rating*.

[BF] 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.

[BF] FIRE-RESISTANT JOINT SYSTEM. An assemblage of specific materials or products that are designed, tested and fire-resistance rated in accordance with either ASTM E1966 or UL 2079 to resist for a prescribed period of time the passage of fire through *joints* made in or between fire-resistance-rated assemblies.

[BS] FIRE-RETARDANT-TREATED WOOD. Wood products that, when impregnated with chemicals by a pressure process or other means during manufacture, exhibit reduced surface-burning characteristics and resist propagation of fire.

FIRESTOP, MEMBRANE-PENETRATION. See "*Membrane-penetration firestop*."

FIRESTOP, PENETRATION. See "*Penetration firestop*."

FIRESTOP SYSTEM, THROUGH-PENETRATION. See "*Through-penetration firestop system.*"

[F] FIREWORKS. Any composition or device for the purpose of producing a visible or audible effect for entertainment purposes by combustion, *deflagration* or *detonation* that meets the definition of 1.4G fireworks or 1.3G fireworks.

Fireworks, 1.3G. Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, *deflagration* or *detonation*. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of *pyrotechnic composition*, and other display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G fireworks are also described as fireworks, UN0335 by the DOTn.

Fireworks, 1.4G. Small fireworks devices containing restricted amounts of *pyrotechnic composition* designed primarily to produce visible or audible effects by combustion or *deflagration* that complies with the construction, chemical composition and labeling regulations of the DOTn for fireworks, UN0336, and the US Consumer Product Safety Commission (CPSC) as set forth in CPSC 16 CFR: Parts 1500 and 1507.

[BG] FIXED BASE OPERATOR (FBO). A commercial business granted the right by the airport sponsor to operate on an airport and provide aeronautical services, such as fueling, hangaring, *tie-down* and parking, aircraft rental, aircraft maintenance and flight instruction.

[BE] FIXED SEATING. Furniture or fixture designed and installed for the use of sitting and secured in place including bench-type seats and seats with or without backs or armrests.

[BF] FLAME SPREAD. The propagation of flame over a surface.

[BF] FLAME SPREAD INDEX. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E84 or UL 723.

[F] FLAMMABLE GAS. A material that is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure [a material that has a *boiling point* of 68°F (20°C) or less at 14.7 psia (101 kPa)]subdivided as follows:

1. Category 1A. A gas that meets either of the following:
   1.1. Ignitable at 14.7 psia (101 kPa) when in a mixture of 13 percent or less by volume with air.
   1.2. A flammable range at 14.7 psia (101 kPa) with air of at least 12 percent, regardless of the lower limit, unless data shows compliance with Category 1B.
2. Category 1B. A gas that meets the flammability criteria for Category 1A, is not pyrophoric or chemically unstable, and meets one or more of the following:
   2.1. A lower flammability limit of more than 6 percent by volume of air.
   2.2. A fundamental burning velocity of less than 3.9 inches/second (99 mm/s).

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The limits specified shall be determined at 14.7 psi (101 kPa) of pressure and a temperature of 68°F (20°C) in accordance with ASTM E681.

Where not otherwise specified, the term "flammable gas" includes both Category 1A and 1B.

[F] FLAMMABLE LIQUEFIED GAS. A liquefied compressed gas which, under a charged pressure, is partially liquid at a temperature of 68°F (20°C) and which is flammable.

[F] FLAMMABLE LIQUID. A *liquid* having a closed cup *flash point* below 100°F (38°C). Flammable liquids are further categorized into a group known as Class I liquids. The Class I category is subdivided as follows:

Class IA. *Liquids* having a *flash point* below 73°F (23°C) and a *boiling point* below 100°F (38°C).

Class IB. *Liquids* having a *flash point* below 73°F (23°C) and a *boiling point* at or above 100°F (38°C).

Class IC. *Liquids* having a *flash point* at or above 73°F (23°C) and below 100°F (38°C). The category of flammable liquids does not include *compressed gases* or *cryogenic fluids,* or liquids that do not have a fire point when tested in accordance with ASTM D92.

[F] FLAMMABLE MATERIAL. A material capable of being readily ignited from common sources of heat or at a temperature of 600°F (316°C) or less.

[F] FLAMMABLE SOLID. A *solid*, other than a blasting agent or *explosive*, that is capable of causing fire through friction, absorption or moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which has an ignition temperature below 212°F (100°C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable *solid* as determined in accordance with the test method of CPSC 16 CFR; Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than 0.1 inch (2.5 mm) per second along its major axis.

[F] FLAMMABLE VAPORS OR FUMES. The concentration of flammable constituents in air that exceeds 25 percent of their *lower flammable limit (LFL)*.

[F] FLASH POINT. The minimum temperature in degrees Fahrenheit at which a *liquid* will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container but will not sustain combustion. The flash point of a *liquid* shall be determined by appropriate test procedure and apparatus as specified in ASTM D56, ASTM D93 or ASTM D3278.

[BE] FLIGHT. A continuous run of rectangular treads, *winders* or combination thereof from one landing to another.

FLOOD, DESIGN. See "*Design flood*."

[BS] FLOOD DAMAGE-RESISTANT MATERIALS. Any construction material capable of withstanding direct and prolonged contact with floodwaters without sustaining any damage that requires more than cosmetic *repair*.

FLOOD ELEVATION, DESIGN. See "*Design flood elevation*."

[BS] FLOOD HAZARD AREA. The greater of the following two areas:

1. The area within a flood plain subject to a 1-percent or greater chance of *flooding* in any year.
2. The area designated as a flood hazard area on a community's flood hazard map, or otherwise legally designated.

FLOOD HAZARD AREAS, SPECIAL. See "*Special flood hazard area*."

[BS] FLOOD INSURANCE RATE MAP (FIRM). An official map of a community on which the Federal Emergency Management Agency (FEMA) has delineated both the *special flood hazard areas* and the risk premium zones applicable to the community.

[BS] FLOOD INSURANCE STUDY. The official report provided by the Federal Emergency Management Agency containing the *Flood Insurance Rate Map* (*FIRM*), the Flood Boundary and *Floodway* Map (FBFM), the water surface elevation of the *base flood* and supporting technical data.

[BS] FLOOD or FLOODING. A general and temporary condition of partial or complete inundation of normally dry land from:

1. The overflow of inland or tidal waters.
2. The unusual and rapid accumulation or runoff of surface waters from any source.

[BS] FLOODWAY. The channel of the river, creek or other watercourse and the adjacent land areas that must be reserved in order to discharge the *base flood* without cumulatively increasing the water surface elevation more than a designated height.

[BE] FLOOR AREA, GROSS. The floor area within the inside perimeter of the *exterior walls* of the *building* under consideration, exclusive of vent *shafts* and *courts*, without deduction for *corridors*, *stairways*, *ramps*, closets, the thickness of interior walls, columns or other features. The floor area of a *building*, or portion thereof, not provided with surrounding *exterior walls* shall be the usable area under the horizontal projection of the roof or floor above. The *gross floor area* shall not include *shafts* with no openings or interior *courts*.

[BE] FLOOR AREA, NET. The actual occupied area not including unoccupied accessory areas such as *corridors*, *stairways*, *ramps*, toilet rooms, mechanical rooms and closets.

[BF] FLOOR FIRE DOOR ASSEMBLY. A combination of a *fire door*, a frame, hardware and other accessories installed in a horizontal plane, which together provide a specific degree of fire protection to a through-opening in a fire-resistance-rated floor (see Section 712.1.13.1).

[BF] FOAM PLASTIC INSULATION. A plastic that is intentionally expanded by the use of a foaming agent to produce a reduced-density plastic containing voids consisting of open or closed cells distributed throughout the plastic for thermal insulating or acoustical purposes and that has a density less than 20 pounds per cubic foot (pcf) (320 kg/m^3).

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[F] FOAM-EXTINGUISHING SYSTEM. A special system discharging a foam made from concentrates, either mechanically or chemically, over the area to be protected.

[BE] FOLDING AND TELESCOPIC SEATING. Tiered seating having an overall shape and size that is capable of being reduced for purposes of moving or storing and is not a *building element*.

[BG] FOOD COURT. A public seating area located in the *mall* that serves adjacent food preparation tenant spaces.

[BG] FOSTER CARE FACILITIES. Facilities that provide care to more than five children, $2^1/_2$ years of age or less.

[BS] FOUNDATION PIER. This definition applies only to Chapter 21.

An isolated vertical foundation member whose horizontal dimension measured at right angles to its thickness does not exceed three times its thickness and whose height is equal to or less than four times its thickness.

[BS] FRAME STRUCTURE. A *building* or other *structure* in which vertical *loads* from floors and roofs are primarily supported by columns.

[F] FUEL CELL POWER SYSTEM, STATIONARY. A stationary energy-generation system that converts the chemical energy of a fuel and oxidant to electric energy (DC or AC electricity) by an electrochemical process.

Field-fabricated fuel cell power system. A *stationary fuel cell power system* that is assembled at the job site and is not a preengineered or prepackaged factory-assembled fuel cell power system.

Preengineered fuel cell power system. A *stationary fuel cell power system* consisting of components and modules that are produced in a factory and shipped to the job site for assembly.

Prepackaged fuel cell power system. A *stationary fuel cell power system* that is factory assembled as a single, complete unit and shipped as a complete unit for installation at the job site.

[BS] GABLE. The triangular portion of a wall beneath the end of a dual-slope, pitched, or mono-slope roof or portion thereof and above the top plates of the story or level of the ceiling below.

[BE] GAMING. To deal, operate, carry on, conduct, maintain or expose for play any game played with cards, dice, equipment or any mechanical, electromechanical or electronic device or machine for money, property, checks, credit or any representative of value except where occurring at private home or operated by a charitable or educational organization.

[BE] GAMING AREA. Single or multiple areas of a *building* or *facility* where gaming machines or tables are present and *gaming* occurs, including but not limited to, primary casino gaming areas, VIP gaming areas, high-roller gaming areas, bar tops, lobbies, dedicated rooms or spaces such as in retail or restaurant establishments, sports books and tournament areas.

[BE] GAMING MACHINE TYPE. Categorization of gaming machines per type of game played on them, including, but not limited to, slot machines, video poker and video keno.

[BE] GAMING TABLE TYPE. Categorization of gaming tables per the type of game played on them, including, but not limited to, baccarat, bingo, blackjack/21, craps, pai gow, poker, roulette.

[F] GAS CABINET. A fully enclosed, ventilated noncombustible enclosure used to provide an isolated environment for *compressed gas* cylinders in storage or *use*. Doors and access ports for exchanging cylinders and accessing pressure-regulating controls are allowed to be included.

[F] GAS DETECTION SYSTEM. A system or portion of a combination system that utilizes one or more stationary sensors to detect the presence of a specified gas at a specified concentration and initiate one or more responses required by this code, such as notifying a responsible *person*, activating an *alarm signal*, or activating or deactivating equipment. A self-contained gas detection and alarm device is not classified as a gas detection system.

[F] GAS ROOM. A separately ventilated, fully enclosed room in which only *compressed gases* and associated equipment and supplies are stored or *used*.

[F] GASEOUS HYDROGEN SYSTEM. An assembly of piping, devices and apparatus designed to generate, store, contain, distribute or transport a nontoxic, gaseous hydrogen-containing mixture having not less than 95-percent hydrogen gas by volume and not more than 1-percent oxygen by volume. Gaseous hydrogen systems consist of items such as *compressed gas* containers, reactors and appurtenances, including pressure regulators, pressure relief devices, manifolds, pumps, compressors and interconnecting piping and tubing and controls.

[BF] GLASS FIBERBOARD. Fibrous glass roof insulation consisting of inorganic glass fibers formed into rigid boards using a binder. The board has a top surface faced with asphalt and kraft reinforced with glass fiber.

[BS] GLASS MAT GYPSUM PANEL. A *gypsum panel* consisting of a noncombustible core primarily of gypsum, surfaced with glass mat partially or completely embedded in the core.

[BS] GRADE (LUMBER). The classification of lumber in regard to strength and utility in accordance with American Softwood Lumber Standard DOC PS 20 and the grading rules of an *approved* lumber rules-writing agency.

[BE] GRADE FLOOR EMERGENCY ESCAPE AND RESCUE OPENING. An *emergency escape and rescue opening* located such that the bottom of the clear opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening.

[BG] GRADE PLANE. A reference plane representing the average of finished ground level adjoining the *building* at *exterior walls*. Where the finished ground level slopes away from the *exterior walls*, the reference plane shall be established by the lowest points within the area between the *building* and the *lot line* or, where the *lot line* is more than 6 feet (1829 mm) from the *building*, between the *building* and a point 6 feet (1829 mm) from the *building*.

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