

# IgCC<sup>®</sup>

# 2015

## CODE AND COMMENTARY

Includes:

- The complete IgCC with commentary after each section
- ANSI/ASHRAE/USGBC/IES Standard 189.1-2014 for the Design of High Performance Green Buildings Except Low-Rise Residential Buildings



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2015 International Green Construction Code® Commentary

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## PREFACE

The principal purpose of the Commentary is to provide a basic volume of knowledge and facts relating to building construction as it pertains to the regulations set forth in the 2015 *International Green Construction Code*<sup>®</sup> (IgCC<sup>®</sup>). The person who is serious about effectively designing, constructing and regulating buildings and structures will find the Commentary to be a reliable data source and reference for almost all components of the built environment.

As a follow-up to the *International Green Construction Code*, we offer a companion document, the *International Green Construction Code*<sup>®</sup> Commentary. The basic appeal of the Commentary is that it provides, in a small package and at reasonable cost, thorough coverage of many issues likely to be dealt with when using the *International Green Construction Code*—and then supplements that coverage with historical and technical background. Reference lists, information sources and bibliographies are also included.

Throughout all of this, strenuous effort has been made to keep the vast quantity of material accessible and its method of presentation useful. With a comprehensive yet concise summary of each section, the Commentary provides a convenient reference for regulations applicable to the construction of buildings and structures. In the chapters that follow, discussions focus on the full meaning and implications of the code text. Recommendations suggest the most effective method of application and the consequences of not adhering to the code text. Illustrations are provided to aid understanding; they do not necessarily illustrate the only methods of achieving code compliance.

The format of the Commentary includes the full text of each section, table and figure in the code, followed immediately by the commentary applicable to that text. At the time of printing, the Commentary reflects the most up-to-date text of the 2015 *International Green Construction Code*. Each section's narrative includes a statement of its objective and intent, and usually includes a discussion about why the requirement commands the conditions set forth. Code text and commentary text are easily distinguished from each other. All code text is shown as it appears in the *International Green Construction Code*, and all commentary is indented below the code text and begins with the symbol ❖. All code figures and tables are reproduced as they appear in the *International Green Construction Code*. Commentary figures and tables are identified in the text by the word "Commentary," and each has a full border.

Readers should note that the Commentary is to be used in conjunction with the *International Green Construction Code* and not as a substitute for the code. The Commentary is advisory only; the code official alone possesses the authority and responsibility for interpreting the code. Please note that, by inclusion of its logo on the cover of this Commentary, the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) does not take any responsibility related to the contents of the commentary.

Comments and recommendations are encouraged, for through your input we can improve future editions. Please direct your comments to the Codes and Standards Development Department at the Central Regional Office.

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Dennis A. Adrejko	Steven Rosenstock
Jack Bailey	Lorraine Ross
Peter K. Bruck	Michael Schmeida
Sam Francis	Amy Schmidt
Christopher J. Green	Noral D. Stewart
Barry Grieve	Garret Stone
Al Hodgson	Stephen S. Szoke
Jonathan Humble	Wayne B. Trusty
Neil P. Leslie	Robert Wessel
Dru Meadows	

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*ANSI/ASHRAE/USGBC/IES Standard 189.1–2014 .....* *Immediately following Index*

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# Chapter 1: Scope and Administration

## General Comments

When adopted by a jurisdiction, the code is a legal document that regulates the construction of high-performance commercial buildings, structures and systems,

including existing buildings subject to alterations and additions, utilizing both traditional and innovative construction practices. Provisions for application, enforcement and administration are addressed in Chapter 1.

## PART 1—SCOPE AND APPLICATION

### SECTION 101 GENERAL

**[A] 101.1 Title.** These regulations shall be known as the Green Construction Code of [NAME OF JURISDICTION] hereinafter referred to as “this code.”

❖ The purpose of this section is to identify the adopted regulations by inserting the name of the adopting jurisdiction into the code.

**[A] 101.2 General.** This code is an overlay document to be used in conjunction with the other codes and standards adopted by the jurisdiction. This code is not intended to be used as a standalone construction regulation document and permits are not to be issued under this code. This code is not intended to abridge or supersede safety, health or environmental requirements under other applicable codes or ordinances.

❖ Administratively, the code is conceived to work as an overlay to other *International Codes*<sup>®</sup> (I-Codes<sup>®</sup>). It is not intended to be used as a standalone construction regulation document. It depends on other I-Codes to provide administrative requirements for permits, construction documents and inspections, as well as to outline the duties of the code official. It is not intended to supersede, replace or abridge the safety, health or environmental provisions of other I-Codes or other ordinances that may be in effect in a jurisdiction.

**[A] 101.3 Scope.** The provisions of this code shall apply to the design, construction, addition, alteration, change of occupancy, relocation, replacement, repair, equipment, building site, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures and to the site on which the building is located. Occupancy classifications shall be determined in accordance with the *International Building Code*.

#### Exceptions:

1. The code shall not apply to items 1.1, 1.2 and 1.3 except where the jurisdiction adopts the jurisdictional requirements of Section 302.1, Item 1, for residential buildings.

1.1. Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height

above grade plane with a separate means of egress, their accessory structures, and the site or lot upon which these buildings are located.

1.2. Group R-3 residential buildings, their accessory structures, and the site or lot upon which these buildings are located.

1.3. Group R-2 and R-4 residential buildings four stories or less in height above grade plane, their accessory structures, and the site or lot upon which these buildings are located.

2. The code shall not apply to equipment or systems that are used primarily for industrial or manufacturing purposes.

3. The code shall not apply to temporary structures approved under Section 3103 of the *International Building Code*.

4. Where ASHRAE 189.1 is selected in accordance with Section 301.1.1, ASHRAE 189.1 shall not apply to buildings identified in Exceptions 1 through 3.

❖ The scope establishes where the regulations contained in the code must be followed, whether all or in part. For the code to be applicable, something must happen: a new building must be constructed, an existing building must be modified or an existing structure becomes unsafe and must be brought into compliance.

The code is applicable to the following, with exceptions:

- New building and building site design and construction;
- Alterations and additions to, and maintenance and demolition of, existing buildings; and
- Changes of occupancy (see Chapter 10).

Exception 1 exempts the following types of residential buildings and occupancies, except where the jurisdiction indicates in Table 302.1 that it will regulate these buildings and occupancies in accordance with ICC 700, *National Green Building Standard*<sup>™</sup>:

- Low-rise residential buildings that fall under the scope of the *International Residential Code*<sup>®</sup> (IRC<sup>®</sup>).



## SCOPE AND ADMINISTRATION

- All Group R-3 occupancies.
- Group R-2 and R-4 residential occupancies that are three stories or fewer in height.

Occupancy classifications and what qualifies as a temporary structure must be determined in accordance with the requirements of the *International Building Code*® (IBC®).

See the commentary to Section 302.1 for additional requirements related to the application of ICC 700 to Exception 1.

In accordance with Exceptions 2 and 3, respectively, the code is not applicable to equipment or systems used for manufacturing or industrial purposes, nor is it applicable to temporary structures that comply with IBC Section 3103.

Exception 4, as well as Section 301.1.1, allows owners or owners' agents to comply with the requirements of ASHRAE 189.1, *Standard for the Design of High-performance, Green Buildings Except Low-rise Residential Buildings*, in lieu of the requirements of the code, except that the administrative provisions of Chapter 1 of the code remain in force. The limitations of Exception 1 for residential buildings and occupancies apply to buildings designed in accordance with ASHRAE 189.1 as well. See the commentary to Section 101.3.1 for a similar option for owners and owners' agents to comply with ICC 700 in lieu of the code requirements for certain Group R-2 or R-4 (residential) occupancies that are unaffected by Exception 1.

Note that Section 101.3 does not exclude Group R-1 occupancies from the scope of the code in any way; therefore, Group R-1 occupancies of all heights, including those three stories or less in height, are regulated by the code. ASHRAE 189.1 cannot be applied to Group R-1 occupancies that are three stories or less in height, or any residential building that is three stories or less in height, as they are not within the scope of ASHRAE 189.1. Also note that ICC 700 is not available as a compliance option in the code for Group R-1 occupancies.

**[A] 101.3.1 Residential construction.** The following shall be deemed to comply with this code:

1. Group R-2 and R-4 residential buildings five stories or more in height above grade plane, their accessory structures, and the site or lot upon which these buildings are located that comply with ICC 700, with the minimum energy efficiency category requirements of the Silver performance level or equivalent.
  2. Group R-2 and R-4 portions of mixed use buildings that comply with ICC 700, with the minimum energy efficiency category requirements of the Silver performance level or equivalent. The remainder of the building and the site upon which the building is located shall comply with the provisions of this code.
- ❖ This section provides compliance alternatives for building owners and their agents regarding Group R-2 and R-4 buildings.

The following are deemed to comply with the code where they comply with the requirements of ICC 700 at a minimum of the Silver level for energy and at the Bronze level for all other criteria:

- Group R-2 and R-4 (residential) occupancies that are five stories or more in height, including their accessory structures.
- Group R-2 and R-4 portions of mixed occupancy buildings. Other portions of mixed occupancy buildings must comply with the code.

**[A] 101.4 Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

- ❖ As with other I-Codes, code appendices are not enforceable unless they are specifically adopted. Unlike other I-Codes, however, Table 302.1, which is referenced in the code Sample Ordinance, is a vehicle that lists not only all code appendices, but also many other jurisdictional choices that, like appendices, do not become enforceable unless they are specifically included in the ordinance or other adopting law or regulation of the jurisdiction. See Section 1 of the sample legislation on page xv of the code for where the appendices to be adopted are to be specified in the adoption ordinance.

**[A] 101.5 Intent.** This code is intended to safeguard the environment, public health, safety and general welfare through the establishment of requirements to reduce the negative impacts and increase the positive impacts of the built environment on the natural environment and building occupants.

- ❖ The code is intended to protect the environment, as well as public health, safety and general welfare, through requirements that reduce negative and increase positive potential impacts of the built environment on the natural environment as well as building occupants. The code is intended to accomplish this by means of minimum requirements related to conservation of natural resources, materials and energy; the employment of renewable energy technologies for indoor and outdoor air quality; and building operations and maintenance.

Ideally, buildings would have zero negative impact on the environment. However, in the past we have been so focused on protecting our buildings from environmental forces (wind, gravity, fire, seismic activity, water, etc.), that we have placed a lower priority on the impact they have had on the environment. As our technological abilities, population and the size of the built environment have increased, the ability of the natural environment to cope with negative impacts has decreased.

Although compliance with the code does not produce buildings with zero negative impact on the natural environment, the code is intended to produce buildings that have far less negative impact compared to those not constructed in accordance with its requirements. Further, as environmentally friendly technologies are developed, become more affordable

and are required by subsequent editions of the code, the built environment will move further toward the goal of having zero negative impact on the natural environment.

## SECTION 102 APPLICABILITY

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

❖ This section provides guidance to code officials and other code users on the application of the code when different sections of the code specify different materials, methods of construction or other requirements. The importance of this section should not be underestimated. It clarifies how to handle conflicts between general and specific provisions found in the code, and instances where different sections specify different requirements. This section provides a necessary hierarchy for the application of code provisions and clarifies code applications that would otherwise leave persistent questions and lead to debate. The code requires that where different sections of the code apply but contain different requirements, the most restrictive provisions govern; except that where the conflict is between the general requirements of a particular issue and any specific requirements of the same issue, the specific requirements take precedence.

For example, Sections 403.1 and 403.1.1 address general principles that must be applied in the design of stormwater management systems. Section 403.1.3, however, contains specific and more restrictive requirements for stormwater management systems on brownfield sites. Thus, the provisions of Section 403.1.3 govern and must be adhered to. In this particular case, the general requirements of Section 403.1.1 must be adhered to, but the specific provisions for brownfields require that other criteria also be addressed in order to mitigate the additional risks that brownfield sites present regarding stormwater management system design.

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

❖ In some cases, other laws enacted by the jurisdiction or the state or federal government may be applicable to a condition that is also governed by a requirement in the code. In such circumstances, the requirements of the code are in addition to the other law that is still in effect, although the code official may not be responsible for its enforcement.

**[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.

❖ In a situation where the code may make reference to a chapter or section number or another code provision without specifically identifying its location in the code, assume that the referenced section, chapter or provision is in the code and not in a referenced code or standard.

**[A] 102.4 Referenced codes and standards.** The following codes shall be considered part of the requirements of this code: *International Building Code*, *International Code Council Performance Code*, *International Energy Conservation Code*, *International Existing Building Code*, *International Fire Code*, *International Fuel Gas Code*, *International Mechanical Code*, *International Plumbing Code*, *International Property Maintenance Code*, and *International Residential Code*.

❖ The code depends on other I-Codes to ensure that a structurally sound, durable and safe fundamental building is provided. For this reason, Section 102.4 references various other I-Codes. Without a structurally sound, durable and safe fundamental building, a building cannot be truly sustainable. For example, if a building is not constructed to resist gravity forces, all of the green practices in the code could be rendered superfluous. Such a building might collapse under its own weight. Gravity forces are not addressed in green and sustainable codes and standards. They are, however, addressed by the IBC and the IRC and the standards referenced therein.

Thus the IBC and the IRC also contain many other requirements that are related to sustainability, as do all other I-Codes. As another example, buildings that are not constructed to adequately resist fire, wind and moisture are likely to have shorter life spans and, therefore, be less sustainable than buildings that are compliant with other I-Codes.

This code is not intended to abridge or supersede safety, health or environmental requirements under other applicable codes or ordinances. It does not contain specific provisions that are necessary to provide a structurally sound, durable and safe fundamental building. For jurisdictions in some parts of the world, such as portions of India that are adopting green building requirements without any requirements for compliance with basic building codes, the *International Green Construction Code*<sup>®</sup> (IgCC<sup>®</sup>) provides important references to base building codes that may serve as a critical opportunity to advance building safety and ensure a solid infrastructure of building codes and standards.

The codes and standards referenced in Section 102.4, Chapter 12 and elsewhere in the code are considered part of the requirements of the code.

## SCOPE AND ADMINISTRATION

**[A] 102.4.1 Conflicting provisions.** 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 listed in Section 102.4, the provisions of this code or the International Codes listed in Section 102.4, as applicable, shall take precedence over the provisions in the referenced code or standard.

❖ In cases where the code establishes a specific requirement for a certain condition, that requirement is applicable even if it is less restrictive than a standard or other code referenced.

**[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.

❖ Only invalid sections of the code, as established by the court of jurisdiction, can be set aside. This is essential to safeguard the application of the code text to situations when a provision is declared illegal or unconstitutional. This section preserves the legislative action that put the legal provisions in place.

**[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 is specifically covered in this code, the *International Building Code*, the *International Existing Building Code*, the *International Property Maintenance Code* or the *International Fire Code*, or as is deemed necessary by the *code official* for the general safety and welfare of building occupants and the public.

❖ An existing structure is generally “grandfathered” to be considered approved with code adoption, provided that the building meets a minimum level of safety. Frequently, the criteria for this level are the regulations (or code) under which the existing building was originally constructed. If there are no previous code criteria to apply, the code official must apply those provisions that are reasonably applicable to existing buildings. A specific level of safety and public welfare protection is dictated by provisions dealing with hazard abatement and protection of the environment in existing buildings, as well as maintenance provisions, as contained in the code, the IBC, the *International Property Maintenance Code*® (IPMC®) and the *International Fire Code*® (IFC®). These codes are referenced (see Section 102.4) and are applicable to existing buildings. Additionally, Chapter 10 comprehensively identifies the pertinent requirements for existing buildings on which a construction operation is intended or that undergoes a change of occupancy.

**[A] 102.7 Mixed occupancy buildings.** In mixed occupancy buildings, each portion of a building shall comply with the specific requirements of this code applicable to each specific occupancy.

❖ In mixed occupancy buildings, the requirements of the code that are associated with each separate occupancy must be applied to each portion of the building so occupied. For example, Table 407.3 addresses many types of occupancies, requiring different numbers of both short-term and long-term spaces for each of these occupancies. As such, each portion of the building that is classified as a particular type of occupancy must be addressed separately, and the number of short- and long-term spaces required for each occupancy classification must be summed to find the total number of short-term and long-term spaces required for the project. Section 101.3 requires that occupancy classifications be determined in accordance with the provisions of the IBC.

## PART 2—ADMINISTRATION AND ENFORCEMENT

### SECTION 103

#### DUTIES AND POWERS OF THE CODE OFFICIAL

**[A] 103.1 General.** The *code official* established in the *International Building Code* is hereby authorized and directed to enforce the provisions of this code. The *code official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions and how this code relates to other applicable codes and ordinances. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code and other applicable codes and ordinances. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code or other applicable codes and ordinances.

❖ The duty of the code official is to enforce the code, and he or she is the “authority having jurisdiction” for all matters relating to the code and its enforcement. It is the duty of the code official to interpret the code and to determine compliance. Code compliance will not always be easy to determine and will require judgment and expertise, particularly when enforcing the provisions of Sections 105.3 through 105.6.1. In exercising this authority, however, the code official cannot set aside or ignore any provision of the code.

**[A] 103.2 Applications and permits.** The *code official* shall enforce compliance with the provisions of this code as part of the enforcement of other applicable codes and regulations, including the referenced codes listed in Section 102.4.

❖ No separate permits are required for the code. As an overlay code, the code is enforced as part of other applicable I-Codes. See the commentary to Section 101.2 for more information on the overlay code concept.

[A] **103.3 Notices and orders.** The *code official* shall issue all necessary notices or orders to ensure compliance with this code.

❖ An important element of code enforcement is the necessary advisement of deficiencies and corrections, which is accomplished through written notices and orders. The code official is required to issue orders to abate illegal or unsafe conditions.

[A] **103.4 Inspections.** The *code official* shall make inspections, as required, to determine code compliance, or the *code official* shall have the authority to accept reports of inspection by approved agencies or individuals. The *code official* is authorized to engage such expert opinion as deemed necessary to report on unusual technical issues that arise, subject to the approval of the appointing authority.

❖ The code official is required to make inspections as necessary to determine compliance with the code or to accept written reports of inspections by an approved agency. The inspection of the work is another significant element in determining code compliance. While a department does not have the resources to inspect every aspect of all work, the required inspections are those that are dictated by administrative rules and procedures based on many parameters, including available inspection resources. In order to expand the available resources for inspection purposes, the code official may approve an agency that, in his or her opinion, complies with the appropriate criteria. When unusual, extraordinary or complex technical issues arise relative to building safety, the code official has the authority to seek the opinion and advice of experts. Because this usually involves the expenditure of funds, the approval of the jurisdiction's chief executive, or other authorized personnel, is required. A technical report from an expert requested by the code official can be used to assist in the approval process.

## SECTION 104 CONSTRUCTION DOCUMENTS

[A] **104.1 Information on construction documents.** The content and format of construction documents shall comply with the *International Building Code*.

❖ As an overlay code, the code defers to the IBC for requirements related to the content and format of construction documents; however, various provisions of the code, such as Section 903, also require that specific information related to the code be included in the construction documents.

## SECTION 105 APPROVAL

[A] **105.1 General.** This code is not intended to prevent the use of any material, method of construction, design, system, or innovative approach not specifically prescribed herein, provided that such construction, design, system or innovative approach has been *approved* by the *code official* as meeting

the intent of this code and all other applicable laws, codes and ordinances.

❖ The code is not intended to inhibit innovative ideas or technological advances. A comprehensive regulatory document such as the code cannot envision and then address all future innovations in the industry. As a result, a performance code must be applicable to and provide a basis for the approval of an increasing number of newly developed, innovative materials, systems and methods for which no code text or referenced standards yet exist. The fact that a material, product or method of construction is not addressed in the code is not an indication that such material, product or method is intended to be prohibited. The code official is expected to apply sound technical judgment in accepting materials, systems or methods that, while not anticipated by the drafters of the current code text, can be demonstrated to offer equivalent performance (see the commentary to Sections 105.3 and 105.4).

[A] **105.2 Approved materials and equipment.** Materials, equipment, devices and innovative approaches *approved* by the *code official* shall be constructed, installed and maintained in accordance with such approval.

❖ The code is a compilation of criteria with which materials, equipment, devices and systems must comply to be suitable for a particular application. The code official has a duty to evaluate such materials, equipment, devices and systems for code compliance and, when compliance is determined, approve the same for use. The materials, equipment, devices and systems must be constructed and installed in compliance with, and all conditions and limitations considered as a basis for, that approval. For example, the manufacturer's instructions and recommendations are to be followed if the approval of the material was based, even in part, on those instructions and recommendations. The approval authority given to the code official is a significant responsibility and is key to code compliance. The approval process is first technical and then administrative and must be approached as such. For example, if data to determine code compliance are required, such data should be in the form of test reports or engineering analysis and not simply taken from a sales brochure.

[A] **105.2.1 Used materials, products and equipment.** The use of used materials, products and equipment that meet the requirements of this code for new materials is permitted. Used equipment and devices shall be permitted to be reused subject to the approval of the *code official*.

❖ The code criteria for materials and equipment have changed over the years. Evaluation of testing and materials technology has permitted the development of new criteria that the old materials may not satisfy. As a result, used materials are required to be evaluated in the same manner as new materials. Used materials, equipment and devices must be equivalent to that required by the code if they are to be used again in a new installation.

## SCOPE AND ADMINISTRATION

**[A] 105.3 Modifications.** Where there are practical difficulties involved in carrying out the provisions of this code, the *code official* shall have the authority to grant modifications for individual cases, upon application of the owner or the owner's authorized agent, provided the *code official* shall first find that special individual reason makes 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 the minimum requirements of this code. The details of granting modifications shall be recorded and entered in the files of the department.

❖ The code official has the authority to approve modifications to code requirements where there are practical difficulties involved. This is not intended, however, to allow code provisions to be altered wherever there are hardships involved. The strict enforcement of the code must be impartial. The modification must comply such that it does not undermine the intent and purpose of the code.

**[A] 105.4 Innovative approaches and 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, innovative approach, or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design, innovative approach or method of construction shall be reviewed and *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, design, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code. The details of granting the use of alternative materials, designs, innovative approach and methods of construction shall be recorded and entered in the files of the department. 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.

❖ Section 105.4 addresses alternative materials, design and methods of construction and equipment in a manner that is virtually identical to most other I-Codes, except that it adds the concept of "innovative approaches" to the mix. While this is not inherently different than other I-Codes and may be considered by some to be redundant, the "innovative approaches" language is used in other green and sustainable codes, standards, rating systems and programs and is used here to clearly indicate how innovative new materials, systems and approaches should be addressed in the code. While "innovative" approaches are often construed to be inherently better or more desirable than other approaches, the code recognizes that this is not always true, and therefore requires that evidence be shown to substantiate that the innovative approach performs in a manner equivalent to the code-prescribed approach. The code official is responsible for determining whether a requested alter-

native provides an equivalent level of performance to that prescribed in the code for similar materials, designs and methods of construction and equipment. Where the code official does not approve the alternative material or method, a statement indicating why it was not approved must be provided by the code official to the owner or the owner's authorized agent. This is intended to give the owner or agent guidance as to how they might revise their proposed alternative design so that it might then be approved by the code official (see the commentary to Section 105.1).

**[A] 105.4.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

❖ New materials and methods must be carefully analyzed to ensure that they serve their intended purpose. Research reports may be utilized to demonstrate performance where they are provided by independent sources that are approved by the code official. Additionally, the reports themselves must be evaluated by the code official prior to approval.

ICC Evaluation Service® (ICC-ES®) has long been the industry leader in performing technical evaluations for code compliance, providing regulators and construction professionals with clear evidence that building products comply with codes and standards. ICC-ES Evaluation Reports and PMG listings provide evidence that products and systems meet requirements in codes and standards. ICC-ES Environmental Programs provide independent evaluation of the sustainable attributes of building products, verifying that they meet specific sustainability targets defined by today's codes, standards and green rating systems. The ICC-ES Environmental Programs also take into account the requirements of codes such as the IgCC and the *California Green Building Standards Code* (CALGreen).

**[A] 105.4.2 Tests.** Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *code official* shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *code official* shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the *code official* for the period required for retention of public records.

❖ Where research reports are unavailable to assist in the analysis of a material or method's ability to serve its intended purpose, the code official has the power to require that testing be performed to verify that ability.

[A] **105.5 Compliance materials.** The *code official* shall be permitted to approve specific computer software, worksheets, compliance manuals and other similar materials that meet the intent of this code.

❖ Section 105.5 grants code officials the authority to approve specific computer software, compliance manuals and other similar materials as meeting the requirements of various provisions of the code.

While Section 105.5 may be redundant with the basic provisions of Section 105.4, it takes extra steps to indicate the type and magnitude of the approvals that the code official has the power to deem compliant.

[A] **105.6 Approved programs.** The *code official* or other authority having jurisdiction shall have the authority to deem a national, state or local program to meet or exceed this code. Buildings *approved* in writing by such a program shall be considered to be in compliance with this code.

❖ Section 105.6 grants the code official the authority to declare whether national, state or local green or sustainable building codes, standards, rating systems or programs satisfy the requirements of the code. In order to comply with this provision, the building must be approved in writing by such a program and the program must be approved by the code official.

Like Section 105.5, while Section 105.6 may be redundant with the basic provisions of Section 105.4, it takes extra steps to indicate the type and magnitude of the approvals that the code official has the power to deem compliant.

[A] **105.6.1 Specific approval.** The *code official* or authority having jurisdiction shall have the authority to approve programs or compliance tools for a specified application, limited scope or specific locale. For example, a specific approval shall be permitted to apply to a specific section or chapter of this code.

❖ Section 105.6.1 grants the code official the authority to approve aspects of building projects that comply with specific provisions in other green and sustainable building codes, standards or rating systems as compliant with similar specific requirements, sections or chapters of the code.

Like Sections 105.5 and 105.6, Section 105.6.1 may be redundant with the basic provisions of Section 105.4, but it also takes extra steps to indicate the types and magnitude of the approvals that the code official has the power to deem compliant.

## SECTION 106 PERMITS

[A] **106.1 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 energy, electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the *code official* and obtain the required permit under the applica-

ble code or regulation relevant to the intended work. Separate permits shall not be issued under this code. Exemptions from permit requirements 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 applicable laws, codes or ordinances of this jurisdiction.

❖ As the code is to be used as an overlay code in accordance with Section 101.2, Section 106.1 assumes that permits will be required by codes that it overlays, as indicated and listed in Section 102.4, Chapter 12 and elsewhere in the code. However, it should be noted that there are some instances where other codes will not be used in association with work addressed by the code. For example, where the work proposed is limited to that of a site-related nature, many of the site-related provisions of Chapters 4 and 11 and Appendix A will not require that other I-Codes be applied.

## SECTION 107 INSPECTIONS

[A] **107.1 General.** Construction or work for which a permit is required shall be subject to inspection by the code official and such construction or work shall remain accessible and exposed 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 accessible and exposed for inspection purposes. Neither the code official nor the jurisdiction shall be liable for the expense entailed in the removal or replacement of any material required to allow inspection.

❖ The inspection function is one of the more important aspects of building department operations. This section authorizes the building official to inspect the work for which a permit has been issued and requires that the work to be inspected remain accessible to the building official until inspected and approved. Any expense incurred in removing or replacing material that conceals an item to be inspected is not the responsibility of the building official or the jurisdiction. As with the issuance of permits (see Section 106.1), approval as a result of an inspection is not a license to violate the code and an approval in violation of the code does not relieve the applicant from complying with the code and is not valid.

## SECTION 108 BOARD OF APPEALS

[A] **108.1 General.** Appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code shall be made to a Board of Appeals as determined by the jurisdiction.

❖ This section provides an aggrieved party having a material interest in the decision of the building official

## SCOPE AND ADMINISTRATION

a process to appeal such a decision before a board of appeals. This provides a forum, other than the court of jurisdiction, in which to review the building official's actions.

This section literally allows any person to appeal a decision of the building official. In practice, this section has been interpreted to permit appeals only by those aggrieved parties with a material or definitive interest in the decision of the building official. An aggrieved party may not appeal a code requirement per se. The intent of the appeal process is not to waive or set aside a code requirement; rather, it is intended to provide a means of reviewing a building official's decision on an interpretation or application of the code or to review the equivalency of protection to the code requirements. The members of the appeals board are appointed by the "governing body" of the jurisdiction, typically a council or administrator, such as a mayor or city manager, and remain members until removed from office. The board must establish procedures for electing a chairperson, scheduling and conducting meetings and administration. Note that Appendix B of the IBC contains complete, detailed requirements for creating an appeals board, including the number of members, qualifications and administrative procedures. Jurisdictions desiring to utilize these requirements must include Appendix B of the IBC in their adopting ordinance.

**[A] 108.2 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 there under 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 have no authority to waive requirements of this code.

❖ This section establishes the grounds for an appeal, which claims that the code official has misinterpreted or misapplied a code provision. The board is not allowed to set aside any of the technical requirements of the code; however, it is allowed to consider alternative methods of compliance (see Section 105.4).

**[A] 108.3 Qualifications.** The members of the board of appeals related to interpretation of this code shall be qualified by experience and training in the matters covered by this code and shall not be employees of the jurisdiction.

❖ It is important that the decisions of the board of appeals are based purely on the technical merits involved in an appeal. It is not the place for policy or political deliberations. The members of the board of appeals are, therefore, expected to have experience in building construction matters.

## SECTION 109 CERTIFICATE OF OCCUPANCY

**[A] 109.1 Violations.** 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.

❖ The issuance of a certificate of occupancy does not relieve the building owner from the responsibility for correcting any code violation that may exist.

### Bibliography

The following resource material was used in the preparation of the commentary for this chapter of the code:

CALGreen, *California Green Building Code*. Sacramento, CA: California Building Standards Commission, 2010.

# Chapter 2: Definitions

## General Comments

Codes, by their very nature, are technical documents. Every word, term and punctuation mark can alter a sentence's meaning and, if misused, muddy its intent. Further, the code, with its broad scope of applicability, includes terms that have a different meaning than the generally accepted meaning of the term. These terms

can have multiple meanings depending on the context or discipline.

For these reasons, maintaining a consensus on the specific meaning of terms contained in the code is essential. Chapter 2 performs this function by stating clearly what specific terms mean for the purpose of the code.

## SECTION 201 GENERAL

❖ This section contains language and provisions that are supplemental to the use of Chapter 2. It gives guidance to the use of the defined words relevant to tense, gender and plurality. Finally, this section provides direction on how to apply terms that are not defined in the code.

**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.

❖ The use of words and terms in the code is governed by the provisions of this section. This includes code-defined terms as well as those terms that are not.

**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.

❖ While the definitions contained in Chapter 2 are to be taken literally, gender and tense are interchangeable.

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

❖ Definitions that are applicable in other *International Codes*<sup>®</sup> (I-Codes<sup>®</sup>) are applicable everywhere the term is used in the code. Definitions of terms can help in the understanding and application of code requirements.

**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.

❖ Words or terms not defined within the I-Code series are intended to be applied based on their "ordinarily accepted meanings." The intent of this statement is that a dictionary definition may suffice, provided it is in context. Often, construction terms used throughout the code are not specifically defined in the code or even in a dictionary. In such a case, the definitions contained

in the referenced standards (see Chapter 12) and published textbooks on the subject in question are good resources.

## SECTION 202 DEFINITIONS

**95th-PERCENTILE RAINFALL EVENT.** The rainfall event having a precipitation total greater than or equal to 95 percent of all rainfall events during a 24-hour period on an annual basis.

❖ Section 403 requires a stormwater management system for each building site. This definition is used to determine that the design for the management system complies with the requirement.

**A-WEIGHTED SOUND LEVEL.** Sound pressure level in decibels measured with a sound level meter using an A-weighted network.

**ACIDIFICATION.** The dissolved acid from fossil fuel combustion used in electricity production, heating and transportation and deposited by rain into ecosystems.

❖ This term is used in association with the life cycle assessment provisions of Section 505.3.

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

❖ This term is used to describe the condition where the floor area or height of an existing building or structure is increased (see Chapter 10). This term is only applicable to existing buildings, never new ones. This would include an additional floor area that is added within an existing building, such as adding a new mezzanine.

**[E] AIR CURTAIN.** A device that generates and discharges a laminar air stream installed at the building entrance intended to prevent the infiltration of external, unconditioned air into the conditioned spaces, or the loss of interior, conditioned air to the outside.

❖ Air curtains installed on the interior of a building provide a coherent sheet of air created by an air stream and the surrounding entrained air. This sheet of air is able to bend and resist thermal exchange over an opening by way of support from the building's interior