

BACKGROUND | OCTOBER 2014

2015 ICC Model Codes Summary of Important Changes

The 2015 International Code Council (ICC) model building codes were completed in June 2014 and are now available for adoption at the state and local level. This document summarizes the significant changes made between the 2012 and 2015 codes that affect apartments (Residential R-2) and commercial occupancies. For the first time, the National Multifamily Housing Council (NMHC), National Apartment Association (NAA), Building Owners and Managers Association (BOMA) and National Association of Home Builders (NAHB) encourage state and local jurisdictions to consider adopting the 2015 I-Codes when updating their state or local codes. Two exceptions to this are noted in this document.

Importantly, this summary does not include all the changes, and therefore developers and designers need to consult the codes for other changes that may impact a specific design. For each change, the tables included indicate whether the change is likely to result in higher or lower costs (or whether the impact is unknown).

Overview

This Backgrounder reviews the key changes between the 2012 and 2015 ICC Codes that affect apartments (Residential R-2) and commercial properties. The good news for designers and developers is that for the first time ever, NMHC/NAA, BOMA and NAHB encourage state and local jurisdictions to consider adopting the 2015 I-Codes when updating their state or local codes. There are two exceptions to this, however. The first is the International Green Construction Code (IgCC) which has not been published. The second is the International Energy Conservation Code (IECC), which we suggest be amended in some key areas. Those recommendations are included in a separate document titled *Recommended Amendments to the 2015 International Energy Conservation Code (IECC)*.

Although the codes can largely be adopted as is, they do contain meaningful changes. Therefore, designers and developers need to be aware of several changes in the 2015 codes that will impact apartments and commercial properties. Many of the changes benefit apartment and commercial construction, and taken as a whole these positive changes more than offset the changes that might increase construction costs.

The most beneficial changes, by far, are the ones dealing with podium/pedestal buildings. Most notably, the 2015 codes remove the restriction limiting the podium/pedestal portion of the building to one story. As a result, the podium/pedestal portion can go to any height without imposing a limit on the number of stories allowed in the property. The restrictions on occupancies allowed in the podium/pedestal portion of the building have also been revised. In the 2015 codes, the only restriction remaining is that this portion of the building cannot contain a Group H (hazard) type occupancy.

Other beneficial changes include: a rewrite of “Chapter 5, Heights and Area” that makes it more user friendly; new requirements for donut-type construction that establish provisions for separating the garage from the apartment building; permitted uses of NFPA 13R sprinkler systems; and use of cross-laminated and fire-retardant-treated lumber.

The ICC codes included in this summary:

- [2015 International Building Code \(IBC\)](#)
- [2015 International Fire Code \(IFC\)](#)
- [2015 International Existing Building Code \(IEBC\)](#)
- [2015 International Plumbing Code \(IPC\)](#)
- [2015 International Energy Conservation Code \(IECC\)](#)

Note: A separate document is available that identifies recommended changes to the IECC during the local adoption process.

- [2015 International Mechanical Code \(IMC\)](#)
- [2015 International Fuel Gas Code \(IFGC\)](#)

The changes are organized by the cost impact they will have. Changes noted as “Decrease” could have a major impact on how a structure is built and, in several cases, they clarify unclear or misinterpreted code requirements. Major cost-saving changes include:

1. Removal of the height restriction on the pedestal/podium portion of buildings.
2. Removal of the limitation on occupancies permitted in the pedestal/podium portion of the building with the exception of not permitting Type H occupancies.
3. Redefine how private garages can be used in multifamily buildings.
4. Determination of building heights, area and setbacks.
5. Separation of the apartment building from garages in donut type construction.

6. Application of the NFPA 13R sprinkler system.
7. Design and use of assembly occupancies on building roofs.

Changes noted as “Increase” are important and will impact specific requirements within the building. Major changes in this category include:

1. Requirements for a secondary sprinkler water supply in Seismic Design Category C, D, E, or F.
2. New requirements for opening protective glazing.
3. Use of limited area sprinkler systems.
4. Requirements for alarm systems in college and university buildings.

The changes noted as having cost implication of “None” or “Unknown” need special attention because they will impact the building design and could have an impact on specific provisions in the code. Major changes here include:

1. Revision to requirements on dampers protecting ceiling membrane.
2. Use of cross-laminated and fire-resistant lumber.
3. Location of smoke alarms near kitchens and bathrooms.
4. Use of smoke detection systems as alternative to providing smoke alarms.
5. Measurement of exit and exit access configuration.

One additional note: Special awareness should be given to any attempts to adopt Appendix L – Fire Fighter Air Replenishment Systems and Appendix M – High-Rise Retro Active Installation of Automatic Sprinkler Systems. Appendix items are not part of the code unless they are specifically included during the code adoption process.

Designers and builders need to consult the 2015 ICC codes that are not listed for changes that may be of concern to specific projects.

Important Changes to the 2015 IBC			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IBC 202 Definition of “Private Garage,” 406.3.1 “Classification,” 406.3.2 “Clear Height”	Major Change	Decrease	Private garages are no longer limited to a maximum of 3,000 sq. ft. in a building. Multiple private garages, each a maximum of 1,000 sq. ft., each separated by one-hour fire barriers or horizontal assemblies are now permitted based on their U occupancy classification. Also, a minimum of 7’ clear height will be required in private garages.
IBC 202 Definition of “Fire Retardant Treated Wood”	Major Change	Decrease	Revised definition to permit other treatment methods by other than the pressure process. See also IBC Sections 2303.2.2 and 2303.2.3 for further explanation.
IBC 503 through 506 Building Heights and Area Requirements	Makes Code More User Friendly	Decrease	2012 IBC Table 503 was replaced with the 2015 IBC Tables 504.3, 504.4 and 506.2 with NO changes in the technical application, making the code more user-friendly. The maximum allowable height and number of stories can now be determined directly from Tables 504.3 and 504.4. The maximum allowable sprinkler area increase can also now be determined directly from Table 506.2.
IBC 510.2 “Horizontal Building Separation” (i.e., Podium/Pedestal Structures)	Major Change	Decrease	2012 IBC Section 510.2(2) that limited the Type IA portion of the podium/pedestal building below the horizontal separation to a maximum of one story above grade plane has been deleted in the 2015 IBC allowing the podium portion of the building to be of any height without any restriction on the number of floors. Also, 2015 IBC Section 510.2(5) permits any occupancy, except Group H, below the horizontal separation. (See also the table entry under IBC Section 903.3.1.2 for further information on podium design)
IBC 705.3 Exception #2 “Buildings on the Same Lot”	New Provision	Decrease	Permits a parking garage of Construction Type I or IIA to abut a Group R-2 building with 1½- hour-protected openings (fire doors) in the abutting exterior wall of the garage and no required opening protective(s) in the abutting wall of a sprinklered R-2 building. Previous editions of the Code did not permit any openings in these abutting exterior walls that are at a “0” fire separation distance apart and required a fire wall design between such buildings to be permitted to have openings between the abutting buildings.

Important Changes to the 2015 IBC (cont'd)			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IBC 705.6 “Exterior Wall-Structural Stability”	Major Change	Decrease	Exterior fire-rated walls that are braced by floor or roof assemblies that have a lesser fire resistance rating are now permitted. Previous editions of the IBC Code required Construction Type III buildings with two -hour fire-rated exterior walls to have floors that support the two-hour fire-rated exterior walls to be upgraded to the two-hour fire rating. This is a major cost since apartment buildings built of Construction Type III under the legacy codes only required one-hour floor and roof assemblies to support the two-hour fire-rated exterior walls.
IBC 707.5 Exception 2 “Fire Barriers–Continuity”	New: Clarification	Decrease	Clarifies that the walls of an interior exit stairway do not need to extend through the attic space to the underside of the roof deck if the ceiling of the stairway terminates with a fire-rated top enclosure complying with Section 713.12.
IBC 714.4.2 Exception 7 “Membrane Penetration”	Revision	Decrease	This exception was new in the 2012 IBC (Section 714.4.1.2 Exception #7) and allowed for a practical application of the code in circumstances where wood-framed walls extend up to and attach directly to the underside of joist/trusses floor and roof fire-rated assemblies. It was further modified to permit the wood framed walls to be sheathed solely with Type X gypsum wallboard in lieu of being a fire resistance rated wall assembly.
IBC 717.1.1 “Ducts and Air Transfer Openings”	New Provision	Decrease	Duct will be allowed to leave a fire-rated shaft enclosure, transition horizontally, and then enter another fire-rated shaft if the duct penetrations on each side of the shafts are protected with fire dampers. Note that this is not permitted for clothes dryer exhaust ducts or any other ducts that the I Codes require to be continuous and uninterrupted.
IBC 903.2.1.6 “Assembly Occupancies on Roof”	New Provision	Decrease	Code now addresses how to deal with assembly occupancies on the roof of a building. When the occupant load > 100 for Group A-2 (i.e., restaurant), or > 300 for other Group A (i.e., meeting rooms, swimming pools) all floors to, and including, level of exit discharge are required to be sprinklered per NFPA 13 or NFPA 13R, as applicable. Since all new Group R occupancies are already required to be sprinklered, this new requirement is a good clarification of the Code for such common assembly occupancies that are to be located on the roofs of new apartment projects. Note that there is an exception to this sprinkler requirement for open parking garages of Construction Type I or Type II.

Important Changes to the 2015 IBC (cont'd)			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IBC 903.2.11.3 “Automatic Sprinkler Systems – Where Required- Buildings 55’ or More in Height”	Revision	Decrease	This revision clarified that the 55’ is measured from the lowest level of fire department vehicle access to the finished floor level of the highest floor with an occupant load of ≥ 30 . Exceptions are provided for open parking garages and F-2 occupancies.
903.3.1.1.2 Exception “NFPA 13 Exempt Bathroom Sprinklers”	New Provision	Decrease	The 2015 IBC references the 2013 NFPA 13. In the 2013 NFPA 13 Section 8.15.8.1 the small bathroom (≤ 55 sq. ft.) sprinkler exception was deleted for apartment dwelling units. Since the NFPA 13 Committee deleted this reasonable, long-standing, sprinkler exception out of its Code, the NFPA 101 Committee, as well as the ICC Membership, decided to place it back into the 2015 NFPA 101 and 2015 IBC. The NFPA 13 Committee is in the process of attempting to place the bathroom exception for dwelling units back into its 2015 edition of NFPA 13.
903.3.1.2 “Installation Requirements NFPA 13R Sprinkler Systems”	Clarification	Decrease	Section was revised to correlate with the scope of the 2013 NFPA 13R Standard. This should help prevent any misapplication of the sprinkler standards that apply to “...Group R occupancies up to and including four stories in height in buildings not exceeding 60 feet in height above grade plane...”. The new second paragraph in this section clarifies that the number of stories of Group R occupancies above a podium or pedestal designed structure (see Section 510.4) is measured from the fire-rated horizontal separation that creates separate buildings. By default, this new second paragraph under the NFPA 13R requirements is also applicable to the number of stories of Group R occupancies above a podium structure when the entire structure is sprinklered per NFPA 13. For example, an R-2 occupancy of Construction Type IIIA, sprinklered per NFPA 13, can be five stories above the Type IA pedestal below as long as the overall building height from grade plane does not exceed 85 feet (IBC Table 504.3)
IBC 1011.12 Exception “Stairway to Roof”	New Exception	Decrease	For stairways in buildings \geq four stories above grade plane that do not have an occupied roof or elevator equipment on the roof, access to the roof does not need to be by one of the stairways in the building. It can be provided by an alternating tread device, a ship’s ladder or a permanent ladder.
IBC 1011.16 “Ladders”	New Provision	Decrease	New section with specific requirements for permanent ladders. Such ladders cannot serve as a part of the means of egress from occupied spaces within a building.

Important Changes to the 2015 IBC (cont'd)			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IBC 1016.2(1) "Egress through Intervening Spaces," 3006.4 Means of Egress"	New Provision	Decrease	Exit access is permitted through an enclosed elevator lobby that leads to at least one of the required exits. Exit access to not less than one of the other required exits shall be provided without travel through the enclosed elevator lobby.
IBC 1023.3.1 Exception 2 "Interior Exit Stairway Extension"	New Provision	Decrease	An exit stairway does not require a door at the stairway opening into an exit passageway if the exit passageway has no other openings into it from the building.
IBC 1107.4 Exceptions 3 and 4 "Accessible Route"	New Provision	Decrease	Exceptions added to exempt, in certain cases, accessible stories and mezzanines in buildings with Group R-2 units or dormitories if accessibility is provided to other facilities.
Previous 2012 IBC Section 3004 "Hoistway Venting"	Deleted	Decrease	The hoistway venting requirements have been deleted from the 2015 IBC since they were antiquated and wasted building energy. Only Section 3004.3.1, "Plumbing and Mechanical Systems," was retained, and it was relocated to Section 3002.9
IBC 101.4.7 "Existing Buildings," Previous 2012 IBC Chapter 34 "Existing Buildings"	Deleted 2012 IBC Chapter 34	None	The requirements (Chapter 34) for existing structures have been removed from the 2015 IBC. All existing construction requirements are now in the 2015 International Existing Building Code (IEBC).
IBC 104.11 "Alternative Materials, Design, and Methods of Construction and Equipment"	Revision	None	Last sentence was added that requires the code official to provide in writing the reasons why the alternative was not approved if he/she rejects the application for an alternative design under this section of the Code.
903.3.1.2.2 "Open-Ended Corridors"	New Provision – Correlation	None	This new section was added to the sprinkler requirements just to clarify that when applying the open-ended corridor (i.e., open breezeway) sprinkler requirements of Section 1027.6 Exception 3.1 to a building sprinklered in accordance with NFPA 13R, it is the intent of the IBC Code to also require the open-ended corridors and its associated exterior stairs to be sprinklered when using Exception 3 of Section 1027.6.
903.3.5 "Water Supplies"	Revision	None	New last sentence in section was added to clarify that the fire flow test for the design of the sprinkler system needs to be adjusted for seasonal and daily pressure fluctuations.
IBC 907.2.11.4 "Smoke Alarms Near Bathrooms"	New Provision	None	Smoke alarms are to be located a minimum of three feet from the bathroom door when the bathroom contains a bathtub or shower.

Important Changes to the 2015 IBC (cont'd)			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IBC 907.2.11.3 and 907.2.11.4 "Single and Multiple-Station Smoke Alarms Near Cooking Appliances"	New Provision - Correlation	None	These new sections were added to the alarm requirements to correlate with the requirements in NFPA 72 on the placement of smoke alarms. When ionization smoke alarms are to be installed they shall be placed a minimum of 20 feet from cooking devices, or a minimum of 10 feet if they have an alarm-silencing switch. If photoelectric smoke alarms are to be installed they shall be placed a minimum of six feet from cooking devices.
IBC Table 1006.2.1 "Spaces with One Exit or Exit Access Doorway"	New Provision	None	Combined 2012 IBC Tables 1014.3 and 1015.1 into a single table for user-friendliness. Note that Table 1006.2.1 covers the maximum common path of egress travel distance to that point where the occupants have separate access to two exits (or are already outside the building), whereas Table 1017.2 covers the total exit access travel distance to an exit.
IBC 1006.2.1, Exception 1, Table 1006.3.2(1) and 1006.3.2 Single Exits in Buildings	Revised	None	It is permitted for multiple dwelling units, in groups of four units or less per floor, to have access to a single means of egress. The change also reflects the revised travel distance for single exit design allowing a maximum common path of egress travel distance of 125 feet.
IBC Section 915 "Carbon Monoxide (CO) Detection"	Relocated to its Own Section in Chapter 9, Reformatted and Revised	None	The CO alarm requirements that were new in the 2012 IBC and located in Section 908.7 have been relocated and extensively revised and clarified in the 2015 IBC. A CO alarm is to be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in R-2 occupancies that have fuel-burning appliances/fireplaces and/or attached private garages. Buildings with open parking garages complying with Section 406.5 or enclosed parking garages complying with Section 406.6 are not considered private garages.
IBC 1010.1.7, Exception #2 "Thresholds at Doorways"	New Provision	None	In Type B dwelling units that permit a four -inch elevation change at the door, the threshold height on the exterior side of the door shall not exceed 4 ³ / ₄ " in height above the exterior deck, patio or balcony for sliding doors and not more than 4 ¹ / ₂ " for other doors.
IBC 1210.2.3 "Shower Compartments"	Revised	None	The height of the required nonabsorbent surface has been raised from 70 inches to 72 inches.

Important Changes to the 2015 IBC (cont'd)			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IBC 1405.3 "Vapor Retarders"	Revised	None	Requirements for vapor retarders have been modified. In Climate Zones 1 and 2, Class I and II vapor retarders are not permitted on the interior side of frame walls. In Climate Zones 3 and 4, Class I vapor retarders are not permitted on the interior of frame walls. Class III vapor retarders are required in specific locations.
IBC 3104.5 Connections of Pedestrian Walkway to Buildings"	Makes Code More User Friendly	None	Revised, reformatted section with no intended changes to the existing requirements.
IBC Section 3006 "Elevator Lobbies and Hoistway Opening Protection"	New Section with Relocated Requirements	None	The elevator lobby requirements that were located in 2012 IBC Section 713.14.1 were reformatted and relocated into newly created Sections 3006.2 and 3006.3 in the 2015 IBC.
IBC 403.3.3 "Sprinkler Secondary Water Supply"	Relocated	None	Sprinkler systems in high-rise buildings in Seismic Design Category C, D, E or F are required to have a secondary water supply.
IBC 202 Definition of "Corridor Damper," 717.3.2.4 "Corridor Damper Rating," 717.3.3.5 "Corridor Damper Actuation," 717.5.4.1 Exception #1 "Where Required-Corridors"	New Provision	Unknown	New design option protecting the ceiling membrane's HVAC penetrations for a fire-rated exit access corridor where the ceiling of the corridor is constructed using a fire-rated corridor wall assembly placed horizontally.
IBC 602.4 Cross-Laminated Timber Use in Construction Type IV	New Provision	Unknown	Revisions allow the use of fire-retardant-treated lumber, cross-laminated timber and glued-laminated plank in specific applications.
IBC 703.2.4 Fire-Resistance Ratings and Fire Tests: Supplemental Features"	New Provision	Unknown	When a listed fire resistance assembly is modified, sufficient data shall be made available to the code official to show that the required fire resistance rating is not reduced.
IBC 705.2 "Projections," 705.2.3 "Combustible Projections"	Major Change	Unknown	Table 705.2, "Minimum Distance of Projections," was modified and simplified and now requires an increase in the separation required between the leading edge of a building's projection and the property line (or fire separation distance line). Section 705.2.3 was simplified and requires added protection where a combustible projection is within 5' of a property line (or FSD).
907.2.11.7 "Smoke Detection System"	New Provision	Unknown	Clarifies that an acceptable alternative to providing single and multiple-station smoke alarms is to use smoke detectors, listed per UL 268, that are part of the building's fire alarm system.

Important Changes to the 2015 IBC (cont'd)			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
913.2.2 "Circuits Supplying Fire Pumps"	New Provision	Unknown	New section requires that the power supply cables shall be listed and installed in accordance with UL 2196.
IBC 1019 Exception 3, "Exit Access Stairways and Ramps"	New Provision	Unknown	New provisions for exit stairways and ramps require enclosed stairways and ramps with exception for interior of dwelling units.
IBC 308.3 "Group I-1," 308.3.1 "Condition 1, 308.3.2 "Condition 2," 404.5 Exception "Smoke Control," 420.4. "Smoke Barriers in Group I-1, Condition 2," 420.5 "Automatic Sprinkler System," 420.6 "Fire Alarm Systems and Smoke Alarms," 709.5 Exceptions "Openings," 903.2.6 Exception 1 "Group I," 903.3.2(3) "Quick-response and Residential Sprinklers," 904.13 "Domestic Cooking Systems in Group I-2 Condition 1," 907.2.6 Group I Manual Fire Alarm," 907.2.11.2 "Smoke Alarms," 907.2.11.5 "Interconnection of Smoke Alarms," 907.2.13 Exception 6 "High-Rise Buildings," 907.5.2.2 Exception "Emergency Voice/Alarm Communications," 907.5.2.3.2 "Group I-1 Visible Alarms," 909.5.3 Exception 3 and 909.5.3.1 "Smoke Barrier Opening Protection," 915.1.1 "CO Detection," 1010.1.9.6 "Controlled Egress Doors in Group I-1 and I-2," 1010.1.9.8 "Sensor Release of Electrically Locked Egress Doors," 1010.1.9.9 "Electromagnetically Locked Egress Doors," 1020.1 Exception 2 "Corridor Construction," Table 1020.1 "Corridor Fire-Resistance Rating," 3006.2(2) "Hoistway Opening Protection Required"	Major Changes for I-1 Occupancies	Unknown	<p>There have been a number of requests for conversions of existing R-2 projects into assisted living facilities as the baby boomers are now in their 60s. To provide some general guidance to firms that may be considering either the construction of new projects or conversion of existing buildings to such occupancies, the two rows on I-1 and R-4 occupancies are provided showing the revised requirements in the 2015 IBC for these occupancies.</p> <p>Also be aware that there may be modifications to the requirements in the 2015 IBC that relate to an existing building's conversion to another occupancy. See the requirements in the 2015 International Existing Building Code (IEBC), Chapter 10, "Change of Occupancy".</p> <p>Assisted living facilities (≥ 17 persons) are now divided into two conditions with different requirements throughout the Code. I-1 Condition 1 only applies to occupants who are capable of responding to an emergency without any assistance to leave the building. I-1 Condition 2 applies to occupants who will require limited verbal or physical assistance to respond to an emergency and safely egress from the building.</p>

Important Changes to the 2015 IBC (cont'd)			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
Chapter 10 “Means of Egress”	Major Revisions, Relocations and Clarifications	Unknown	2012 IBC Sections 1015 and 1021 requirements were relocated and revised into the general provisions of Sections 1006 and 1007. All the section numbers that were in the 2012 IBC have been changed in the 2015 IBC because of the extensive reorganization and revisions during this code cycle. Users of the Code are cautioned to do an extensive review of Chapter 10 before designing a project under this new edition of the Code.
IBC 1007 “Exit and Exit Access Doorway Configuration”	New Provision	Unknown	New section with specific requirements on how to measure the separation distance between exits, exit access doorways/stairways and ramps.
IBC 1015.7 Exception “Roof Access”	New Exception	Unknown	Exception eliminates the guards required for roof access where the roof hatch opening is located within 10’ of the roof edge or the open side is located > 30” above the floor, roof or grade above, where permanent fall arrest/restraint anchorage connector devices complying with ANSI/ASSE Z 359.1 are provided.
IBC 2406.4.7 “Safety Glazing Adjacent to the Bottom Stairway Landing”	Revision	Unknown	Requires safety glazing if glazing is located < 60” above the bottom of a stair, or within a 60” horizontal arc if < 180 degrees from the bottom tread nosing.
IBC 111.1 “Use and Occupancy”	Revision	Increase	A change in a building use, or portion thereof, with no change in its occupancy classification will now require a new Certificate of Occupancy.
IBC 716.5.8.4 “Opening Protectives–Safety Glazing”	Revision	Increase	Previous editions of the Code only required safety glazing for “fire protection-rated” glazing in fire door assemblies, now it will be required also for “fire resistance-rated” glazing in fire door assemblies. Note that Section 716.5.8.1.1 provides the locations where “fire resistance-rated” glazing in fire door assemblies can be used, and Section 716.5.8.1.2 provides the requirements where “fire protection-rated” glazing in fire door assemblies can be used.
903.3.8 “Limited Area Sprinkler Systems”	Major Revisions	Increase	In existing, non-sprinklered apartment buildings, limited area sprinkler systems were mostly provided in basements where storage rooms, boiler rooms and similar spaces were located. Revisions reduced the number of sprinklers from 20 to six that can be used on a “limited area sprinkler system” in any single fire area. In addition, it now requires hydraulic calculations to be done to show that these sprinklers that are piped off the domestic water supply can control a fire.

Important Changes to the 2015 IBC (cont'd)			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IBC 907.2.9.3 “Alarm Systems - Group R-2 College and University Buildings”	Clarification	Increase	In the previous edition of the IBC, the alarm requirements of this section appeared to apply to buildings that are owned by a college or university. For the 2015 IBC it was clarified that this requirement was for Group R-2 occupancies that are “...operated by a college or university for student or staff housing...” Requires an automatic smoke detection system in the common corridors/spaces, laundry, mechanical equipment and storage rooms. It also requires the smoke alarms in the dwelling/sleeping units to be interconnected with the fire alarm system
IBC 1015.8 “Window Opening Guard Protection”	New Provision	Increase	Window openings more than 72” above grade that are less than 36” above the floor must be protected with guards or fixed openings that will not allow the passage of a four-inch-diameter sphere.
IBC 1107.6.2.1 “Live/Work Units”	New Provision	Increase	The nonresidential portion of a live/work unit is required to be accessible. The entire live/work unit is required to be accessible if the residential portion of the live/work unit is required to be a Type B dwelling unit.
IBC 1107.7.2 Multistory Type B Dwelling Units	New Provision	Increase	The primary entry level in a multistory Type B dwelling unit that is served by an elevator must have a living area, kitchen and toilet facility.
IBC 1110.2.2, 1110.2.3 and 1110.4.13, Exception 3. “Accessible Recreational Facilities”	New Provision	Increase	New requirement that apartment properties comply with ANSI A117.1 recreational facility requirements. Accessible means of entry into a swimming pool, spa or similar water feature is not required in R-2, R-3 and R-4 occupancies.
IBC 1203.2 “Attic Ventilation”	New Provision	Increase	The ventilation requirements for attics have been upgraded to reflect the new code requirements for energy conservation. Specific requirements have been added for enclosed attics and a new section (IBC 1203.3) has been added for unvented attic and unvented enclosed rated assemblies.
IBC Chapter 17 “Special Inspections and Tests”	New Provision and Revised	Increase	New requirements for special testing have been added detailing specific requirements that must be complied with when special inspection is required. Requirements for inspection of specific materials have been modified or added.

Important Changes to the 2015 IFC			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IFC 1103.3.2 Elevator Emergency Operation	New Provision	Decrease	New exception to requirements for updating elevators to latest standard which include installation of protective doors, sprinkler protection, and for freight elevators sprinkler protection provided at least one elevator complies with A 17.3.
IFC 1104.22(4) “Means of Egress for Existing Buildings—Exterior Stairway Protection”	Deletion of 2012 IFC Section 1104.21(4.1)	Decrease	Remainder of Section 1104.21 was moved to 1104.22. The requirement to retroactively sprinkler existing, open-ended corridor (i.e., open breezeway) buildings was deleted.
IFC 1103.7.6 Exception 4 “Manual Fire Alarm System in Existing Group R-2 Occupancies”	New Exception	Decrease	Exception 4 eliminates the requirement for a manual fire alarm system in an existing R-2 occupancy where all four requirements are met: <ol style="list-style-type: none"> 1. Building is ≤ three stories in height above grade plane. 2. Dwelling units are not served by interior corridors. 3. Dwelling units are separated from each other by 3/4 hour fire barriers. 4. Dwelling units are provided with smoke alarms per Section 907.2.11.
IFC Appendix B B105 “Fire Flow Requirements for Buildings”	Revisions	Unknown	If a jurisdiction adopts the IFC and makes Appendix B mandatory in the adopting ordinance, then fire flows for townhouses and other buildings can be reduced based on the construction type and sprinkler system installed (NFPA 13, NFPA 13R or NFPA 13D).
IFC Appendix C “Fire Hydrant Locations and Distribution”	Revisions	Unknown	If a jurisdiction adopts the IFC and makes Appendix C mandatory in the adopting ordinance, then the revisions to Sections C103.2 Exception and C104.1 provide increased spacing for existing fire hydrants and credit for existing fire hydrants on adjacent properties that can be used. Also new footnotes “f” and “g” permit fire hydrant spacing increases based on the type of sprinkler system installed in the building.
IFC Appendix L “Fire Fighter Air Replenishment Systems (FARS)”	New Provision	Increase	If a jurisdiction adopts the IFC and makes Appendix L mandatory in the adopting ordinance, then buildings required by the local adopting ordinance to have FARS would be required to comply with Appendix L’s design, installation, testing and maintenance requirements.
IFC Appendix M “High-Rise – Retroactive Automatic Sprinkler Requirement”	New Provision	Increase	If a jurisdiction adopts the IFC and makes Appendix M mandatory in the adopting ordinance, then all existing high-rise buildings in that jurisdiction will be required to be sprinklered.

Important Changes to the 2015 IEBC			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IEBC 406.3 and 702.5 – “Replacement Window Emergency Escape and Rescue Openings”	New Provision	Decrease	Under the Prescriptive Compliance Method or Level 1 Alterations, the replacement window must be the largest standard size that will fit within the existing frame.
IEBC 803.6 “Fire-Resistance Rating”	New Provision	Decrease	Under Level 2 Alterations, in buildings where an automatic sprinkler system is installed throughout, the required fire resistance rating of building elements and materials can be reduced to meet the requirements of the current building code.
IEBC 706 “Reroofing”	New Provision	Unknown	Under Level 1 Alterations, requirements from 2015 IBC Section 1511 were also placed in the IEBC.
2012 IBC Chapter 34 has been deleted and all of the requirements for existing buildings are now found in the 2015 IEBC	Editorial	None	The 2015 IEBC applies to repair, alteration, and change of occupancy, additions, and relocations of existing buildings.
IEBC 906.2 Alterations Level III	New Provision - Clarification	None	Revised to clarify that where four or more Group I-1, I-2, R-1, R-2, R-3 or R4 dwelling or sleeping units are be altered, the requirements of Section 1107 of the IBC for Type B units and Chapter 9 of the IBC for visible alarms apply only to the spaces being altered. Exception: Group I-1, I-2, R-1, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.
IEBC 406.2 and 702.4 - Replacement Window Fall Protection	New Provision	Increase	Under the Prescriptive Compliance Method or Level 1 Alterations, requirements for limits on window openings, similar to those for new construction, are required for replacement windows. Window openings more than 72 inches above the exterior grade and less than 36 inches above the finished floor are required to have control devices that limit the opening so that a four-inch sphere will not pass.
IEBC 904.2 Fire Alarm System - Alteration Level 3	New Provision	Increase	Install fire alarm and detection system with any Level 3 alteration.

Important Changes to the 2015 IPC			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IPC 106.1.1 “Annual Permit”	New Provision	Decrease	An annual permit for plumbing repairs can be issued to a person, firm or corporation to perform plumbing work on individual plumbing items that have already been approved when they employ a qualified tradesperson.

Important Changes to the 2015 IECC			
<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IECC C402 and Chapter 5 Performance Compliance Options	Revision	Decrease	Allow component performance design options for wall, floor, roof and other systems using overall building insulation values to reduce insulation values in individual components.
IECC C504.2.3 Roof Covering Air Barrier	Revision	Decrease	Exemption for repair/replacement of roof recovering from the requirement for an air barrier.
IECC C406 and Chapter 5 Energy Efficiency Packages	Revision	Unknown	Additional choices for required additional energy efficiency packages that can be more cost-effective for new and existing buildings.
IECC Tables C402.1, C402.4, R402.1.2 and R402.1.4—R-values and U-values	No Change from the 2012 IECC	Increase from the 2009 IECC	The R-value and corresponding U-value tables for the commercial and residential requirements have not been changed (except roof insulation), and are the same as in the 2012 versions of the IECC which are not cost effective. See separate document, <i>Recommended Amendments to the 2015 International Energy Conservation Code (IECC)</i> , for more information.
IECC R402.4.1.2—Thermal Envelope Air Barrier Testing	No Change from the 2012 IECC	Increase from the 2009 IECC	The residential Section R402.1.2 requires that the air barrier be pressure tested in accordance with a test method for one- and two-family dwellings that is not appropriate for R-2 occupancies. See separate document, <i>Recommended Amendments to the 2015 International Energy Conservation Code (IECC)</i> , for more information.
IECC Commercial and Residential Provisions	Revisions and Editorial	Increase	The Commercial portions, which apply to R-2 occupancies four-or-more stories in height; and the Residential portions, which apply to R-2 occupancies three-or-less stories in height, have major revisions to text which need to be considered during the design process.
IECC C403.3.2.1 and Chapter 5	Revision	Increase	Increased hot water piping insulation levels with limits on lengths of hot water piping.

Important Changes to the 2015 IECC (cont'd)

<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IECC Table C403.2.3(9) Minimum Efficiency Air Conditioners and Condensing Units Serving Computer Rooms	Revision	Increase	Increased stringency of computer room HVAC minimum efficiency levels.
IECC C403.2.4.7 Fault Detection	New Provision	Increase	Required inclusion of a fault detection and diagnostics reporting system on all 4.5 ton or larger air-cooled, HVAC systems.
IECC C403.2.6.2 Garage Ventilation Controls	New Provision	Increase	Mandatory installation of automatic garage controls.
IECC C405 and Chapter 5 Lighting Controls	New Provision	Increase	Additional more stringent requirements for daylighting, lighting controls and allowed lighting power densities in new and existing buildings.
IECC C408.2.5.2.6 Lighting Operation and Maintenance Manuals	New Provision	Increase	Lighting contractor required to provide operations and maintenance manuals for lighting and lighting controls.
IECC C408.3.1 Occupant Sensor Controls	Revision	Increase	Requirement for functional testing of occupant sensor controls and time-switch controls.
IECC Chapter 5 Existing Buildings	New Provision	Increase	New Chapter 5, Existing Structures with provisions for existing buildings in addition to those contained in the IEBC.

Important Changes to the 2015 IMC

<i>Section(s) and Issue(s)</i>	<i>Type of Change</i>	<i>Cost Implication</i>	<i>Comment</i>
IMC 106.1.1 "Annual Permit"	New Provision	Decrease	An annual permit for mechanical repairs can be issued to a person, firm or corporation to perform mechanical work on individual mechanical system or equipment that has already been approved when they employ a qualified tradesperson.
IMC 403.3.2 Mechanical Ventilation	New Provision	Increase	Ventilation requirements for R-2 occupancies three stories or less in height have been completely revised to include requirements for inclusion of mechanical exhaust and supply for each dwelling unit.

Important Changes to the 2015 IFGC			
Section(s) and Issue(s)	Type of Change	Cost Implication	Comment
IFGC 307.6 A/C Condensation Pumps	New Provision	Increase	Condensation pumps located in attics, crawl spaces and other uninhabited spaces must have controls that shut down the appliance upon failure of the pumping system.
IFGC 404.7 "Protection Against Physical Damage"	New Provision	Increase	Provisions added to protect concealed piping from penetration by nails, screws and other fasteners.