

CHAPTER 2 BUILDING CODE

4-2-1. ADOPTION.

- (A) Pursuant to the authority granted by 65 ILCS 5/1-2-4, and pursuant to its home rule powers, the City of Evanston hereby adopts by reference the 2021 International Building Code, with the additions, deletions, exceptions, and other amendments set forth in this Chapter. All advisory or text notes, other than the rules and regulations contained in the 2021 International Building Code adopted hereby, are expressly excluded from this Chapter.
- (B) Any reference in the 2021 International Building Code to "Building Official" shall refer to the City's Manager of Building and Inspection Services. Any reference to "municipality" shall mean the City of Evanston.
- (C) In the event that any provision of the 2021 International Building Code adopted hereby is in conflict with any provision(s) of the City Code, the more/most stringent shall control.
- (D) There shall be a copy of the 2021 International Building Code kept on file for public inspection in the City Clerk's office.

4-2-2. AMENDMENTS.

The 2021 International Building Code adopted hereby shall read as follows with respect to these Sections.

101.4.3 Plumbing. Revise this section to read as follows:

The provisions of the Illinois Plumbing Code as amended and adopted by the City shall apply to the installation of plumbing systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system. With the exception of Chapter 29, Plumbing Systems as amended, whenever a reference is made to the International Plumbing Code, such reference shall be deemed to refer to the applicable section of the Illinois Plumbing Code, as amended and adopted by the City of Evanston.

101.4.5 Fire Prevention. Revise this section to read as follows:

The provisions of the 2021 NFPA Life Safety Code 101 and 2021 International Fire Code as amended and adopted by the City 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 and alarm systems or fire hazards in the structure or on the premises from occupancy or operation

101.4.6 Energy. Revise this section to read as follows:

The provisions of the Illinois Energy Conservation Code shall apply to all matters governing the design and construction of buildings for energy efficiency. Whenever a reference is made to the International Energy Conservation Code, such reference shall be deemed to refer to the applicable section of the Illinois Energy Conservation Code, as adopted by the City of Evanston.

101.4.7 Existing Buildings. Delete this section in its entirety.

101.4.7.1 Existing Building Alteration (Bird-friendly). Where the alteration of an existing building includes the replacement of fifty (50%) percent or more of the exterior glazing, such alteration shall comply with Section 1403.15 of this code.

103.1: Creation of Enforcement Agency. The Division of Building and Inspection Services is hereby made responsible for the enforcement of this Code.

103.2: Appointment. Any reference in the 2021 International Building Code to "Building Official" shall refer to the City's Manager of Building and Inspection Services Division. Any reference to "municipality" shall mean the City of Evanston.

103.3: Deputies. The Building Official shall have the authority to appoint such technical officers, inspectors, plan examiners and other employees as he or she deems necessary to effectuate the purposes of this Code. Such employees shall have powers as delegated by the Building Official. For the maintenance of existing properties, see the Property Maintenance Code adopted by the City.

104.6: Right of Entry. Revise this section to read as follows:

The Building Official and his/her authorized representatives are hereby authorized to make inspections of all buildings, structures, and premises located within the City to determine their compliance with the provisions of this Chapter. For the purpose of making such inspections, the Building Official and his/her authorized representatives are hereby authorized to examine and survey all buildings, structures, and premises within the City. Such inspections shall be made between the hours of 7:00 A.M. and 7:00 P. M. unless circumstances dictate the need for earlier or later inspections, on any day except Sunday, subject to the following standards and conditions:

- 1) Such inspections may take place only if:
 - a) a complaint respecting said premises has been received by the Building Official and such complaint, in the opinion of said Building Official, provides reasonable grounds for belief that a violation exists; or
 - b) if such inspection is undertaken as part of a regular inspection program whereby certain areas of the City are being inspected in their entirety by direction of the Building Official or the City Manager; or
 - c) if said official has other personal knowledge of conditions providing reasonable grounds to believe that a violation exists;
- 2) Such inspections shall be made by the Building Official or the City Manager or by any duly authorized representative upon direction of either of said officers;
- 3) Any person making such inspection shall furnish to the owner or occupant of the structure sought to be inspected, sufficient identification and information to

enable the owner or occupant to determine that he/she is a representative of the City of Evanston and to determine the purpose of said inspection.

105.2: Work Exempt From Permit. Delete this section in its entirety. Contact the Building and Inspection Services Division for information regarding work exempt from permits.

R105.3.1.2: Issuance of a Building Permit. The Building Official may refuse to issue a building permit if there is an outstanding sum of money due the City from the property owner or if work done a separately issued building permit has not been satisfactorily completed per the requirements of these provisions.

105.5: Expiration and Extension. Revise this section to read as follows:

1) Expiration:

- a) A building permit shall, without further action by the City, automatically expire and be rendered null, void, and of no further force or effect, if the permit holder does not begin the work authorized by the permit within one hundred eighty (180) calendar days of the date of permit issuance.
- b) A building permit shall, without further action by the City, automatically expire and be rendered null, void, and of no further force or effect, if, at any time after the work is begun, the permit holder suspends and/or abandons the work authorized by the building permit for a continuous period of one hundred eighty (180) calendar days.
- c) A building permit shall, without further action by the City, automatically expire and be rendered null, void, and of no further force or effect, two (2) years after the date of permit issuance, unless an extension is granted in accordance with Subsection 2) below.
- d) If the building or work authorized by a building permit does not receive final inspection approval by the permit expiration date, all work shall stop until the Building Official issues a new permit or grants an extension of time in accordance with Subsection 2) below. All electrical, plumbing, and/or mechanical permits associated with a building permit shall expire concurrently with the building permit.

2) Extension:

- a) Except for relocation of structures, a permit holder may submit, before the expiration date of the building permit, an application to the Building Official for an extension of time. The application shall be filed no later than one (1) month in advance of the expiration date. The Building Official may extend the building permit once, for a period not exceeding one hundred eighty (180) calendar days, if he/she determines that circumstances beyond the permit holder's control prevented completion of the work. All electrical, plumbing, and/or mechanical permits associated with a building permit shall be extended to expire concurrently with the building permit.
- b) If a permit holder files application for an extension of time before expiration and in accordance with this Subsection, the existing building permit shall

automatically be extended until the Building Official makes a decision on the application for an extension.

- c) If the building permit expires before an application is submitted for an extension of time, no extension shall be granted. If the previous permit holder or any other applicant wants to proceed with the same development, a new application is required and the application is treated in all respects as a new application.
- d) If the Building Official previously approved an extension of time in accordance with Subsection a), the Building Official may extend the expiration of the building permit one (1) additional time if he/she finds the following:
 - i) There are no significant change(s) in the regulations applicable to the site since the date the permit was issued;
 - ii) The additional extension is in the public interest; and
 - iii) Circumstances beyond the control of the applicant prevented the authorized work from proceeding.

105.7: Placement of Permit. Revise this section to read as follows:

The building permit or a legible copy of the building permit shall be kept on the site of operations, open to public inspection during the entire time of prosecution of the work and until the completion of the same. Said permit must be posted within forty-eight (48) hours of permit issuance, must remain posted until a certificate of occupancy is issued or the permit expires, and must be visible from the public way. Failure to post and maintain the permit as required by this Section may result in revocation of the building permit and forfeiture of all permit fees.

105.8: Hours of Work Permitted for the Construction, Repair, and Demolition of Buildings. The creation (including excavation), demolition, alteration or repair of any building within the City, other than between the hours of seven o'clock (7:00) A.M. and seven o'clock (7:00) P.M. on weekdays, and eight o'clock (8:00) A.M. and five o'clock (5:00) P.M. on Saturdays, except in case of urgent necessity in the interest of public health and safety, and then only with permission from the City Manager or his or her designee, which permission may be granted while the emergency continues.

107.2 Construction Documents. Construction documents shall be in accordance with Sections 107.2.1 through 107.2.9

107.2.1: Information on Construction Documents. Revise section to read as follows:

Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when 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. All floor plans, including mechanical, electrical,

plumbing and fire protection plans, shall indicate all required fire ratings and where they occur by graphic means with a legend or key.

107.2.9 Information for electric vehicle charging stations. Construction documents shall include electric vehicle charging stations with system installation requirements set forth in Section 406.2.7 of this code.

113: MEANS OF APPEALS. Delete this section in its entirety.

117: Digital Submission of Construction Documents Prior to Issuance of Certificate of Occupancy.

- 1) In addition to the requirement of filing hard-copy construction documents, submission of a series of construction/design documents in a computer digital format is required as part of the permitting process prior to the issuance of any final certificates of occupancy pursuant to the guidelines stated immediately below if one or more of the following applies:
 - a) The valuation of the construction project is, in its entirety, greater than \$500,000.00 (five hundred thousand and no/100 dollars).
 - b) When the Director of Community Development, or his/her designee, determines that there are significant changes to the physical characteristics of the property or the structures on or around that property to warrant the submission of electronic documents.
- 2) Digital data shall be submitted according to the following guidelines:
 - a) The digital data submission shall contain the following three (3) document types:
 - i) Site Plan: A plan view, drawn to scale, depicting the project's location and showing at a minimum: property lines, building footprints, building elevation changes, sidewalks, driveways, proximate reference points identifiable within the City, and any fire lanes.
 - ii) Floor Plan: Exterior plan view for each floor, drawn to scale, showing at a minimum: interior walls, exterior walls, doors, and any stairs and elevators.
 - iii) Elevation Views: Exterior profile views, drawn to scale, showing at a minimum: height of building Sections, main entrance, and roofline.
 - b) Data shall be submitted via compact disc, FTP, e-mail or other media deemed permissible by the Director of Community Development or his/her designee.
 - c) All digital submissions shall be in a format approved by the City's Information Technology Division.
 - d) The data must be a proportionally accurate representation of the construction project, sufficient to fully explain and reproduce the project, with the defined scale clearly represented.

- e) The permit applicant shall resubmit newly updated information pursuant to the above requirements whenever the applicant or his/her agent makes corrections or updates to the originally submitted information requiring the resubmission of printer-paper documents.
- 3) Upon request by the person required to submit information in a digital format, or if that party is unwilling or unable to digitally submit information, the City's geographical information systems division will digitally convert paper-based submitted documents. The fee for digital conversion shall be \$100.00 (one hundred and no/100 dollars) for each submitted page equal to or smaller than ledger-sized (11" by 17") paper, and \$200.00 (two hundred and no/100 dollars) for each submitted page exceeding ledger-sized (11" by 17") paper.
- 4) Any person who fails to comply with all requirements of this Section shall be subject to denial or revocation of any temporary or final certificates of occupancy pertaining to the project for which the violation has occurred. Denial or revocation of any temporary or final certificates of occupancy shall not preclude the City from seeking fines, costs, and other relief against the violator by filing a complaint or citation with the Circuit Court or Division of Administrative Adjudication.

202: Definitions. Amend this section to include the following definition(s):

MULTIPLE OCCUPANCY RESTROOM. A room designed to be used as a restroom by more than one person at a time, which shall contain, at least, more than one toilet and more than one sink, which shall be suitable for use by disabled persons in compliance with applicable local, state and federal laws. Toilets, for privacy purposes, shall be separated by partitions and the stalls shall be equipped with a locking mechanism to be operated by the user of the stall.

SINGLE OCCUPANCY RESTROOM. A fully enclosed room, with a locking mechanism controlled by the user, containing a sink, toilet stall, and no more than one (1) urinal. Every single occupancy restroom in a place of public accommodation or public building shall be identified as all-gender and designated for use by no more than one (1) person at a time or for family or assisted use.

GENDER IDENTITY. Shall have the meaning given in City Code Section 1-21-5.

GENDER NEUTRAL RESTROOM. A restroom that is designated for use by any person, regardless of Gender Identity, as defined in City Code Section 1-21-5, as amended.

ELECTRIC VEHICLE. An automotive-type vehicle for on-road use primarily powered by an electric motor that draws current from an onboard battery charged through a building electrical service, electric vehicle supply equipment (EVSE), or another source of electric current.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The apparatus installed specifically for the purpose of transferring energy between the premises wiring and the Electric Vehicle.

EV-CAPABLE SPACE. A dedicated parking space with electrical panel capacity and space for a branch circuit dedicated to the EV parking space that is not less than 40-ampere and 208/240-volt and equipped with raceways, both underground and surface mounted, to enable the future installation of electric vehicle supply equipment. For two adjacent EV-Capable spaces, a single branch circuit is permitted.

EV-READY SPACE. A designated parking space which is provided with a dedicated branch circuit that is not less than 40-ampere and 208/240-volt assigned for electric vehicle supply equipment terminating in a receptacle or junction box located in close proximity to the proposed location of the EV parking space. For two adjacent EV-Ready spaces, a single branch circuit is permitted.

Section 406.2.7 Electric vehicle charging stations and systems.

Commentary: Definitions for Electric Vehicle, Electric Vehicle Supply Equipment (EVSE), EV-Capable Space and EV-Ready Space have been added to Chapter 2.

Section 406.2.7.1 Electric vehicle parking. Where parking is provided, new construction shall provide EVSE-Installed Spaces and facilitate future installation and use of EVSE through the provision of EV-Ready Spaces and EV-Capable Spaces provided in compliance with Sections 406.2.7.2 through 406.2.7.3. Where more than one parking facility is provided on a site, EVSE-Installed, EV-Ready Spaces and EV-Capable Spaces shall be calculated separately for each parking facility.

Section 406.2.7.2 New commercial and multifamily buildings. EVSE-installed spaces, EV-Ready Spaces and EV-Capable Spaces shall be provided in accordance with Table 406.2.7.2 for multifamily and commercial buildings. Where the calculation of percent served results in a fractional parking space, it shall round up to the next whole number. The circuit shall have no other outlets. The service panel shall include an over-current protective device and provide sufficient capacity and space to accommodate the circuit and over-current protective device and the termination point shall be located in close proximity to the proposed location of the EV parking spaces.

Table 406.2.7.2: EVSE-Installed, EV-Ready and EV-Capable Space Requirements

| Multifamily | Commercial |
|---|---|
| 10% EV-Installed, 20% EV-Ready, 70% EV-Capable | 10% EV-Installed, 40% EV-Capable |
| EV-installed and EV-Ready to increase 10% every 3 years with remainder of spaces being EV-Capable | EV-Installed and EV-Capable to increase 10% every 3 years |

- a. Where EVSE-Installed Spaces installed exceed the required values in Table 1101.15.3, the additional spaces shall be deducted from the EV-Ready Spaces requirement.

- b. Where EV-Ready Spaces installed exceed the required values in Table 1101.15.3, the additional spaces shall be deducted from the EV-Capable Spaces Requirement.

406.2.7.3 Identification. Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EVSE. Construction documents shall also provide information on amperage of future EVSE, raceway methods, wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformers, meet the requirements of this code. Parking spaces equipped with EVSE shall be identified by signage. A permanent and visible "EV-Capable" or "EV-Ready" label shall be posted in a conspicuous place at the service panel to identify each panel space reserved to support EV-Capable or EV-Ready Spaces, respectively and at the termination point of the raceway or circuit termination point.

Commentary: Definitions for Electric Vehicle, Electric Vehicle Supply Equipment (EVSE), EV-Ready Space and EV-Capable Space have been added to Chapter 2.

Reference Section 1107 Motor Vehicle-Related Facilities – Exception to 1107.2 Electrical Vehicle Charging Stations has been deleted.

Chapter 9 Fire Protection and Life Safety Systems.

Reference 2021 International Fire Code Chapter 9 as adopted and amended by the City of Evanston. (Commentary: 2021 IBC Chapter 9 parallels and is substantially duplicated in Chapter 9 of the International Fire Code).

Reference 2021 International Residential Code Section R313 Automatic Fire Sprinkler Systems as amended for provisions for townhouses and one- and two-family dwellings including those with accessory dwelling units.

1009.6.1.1: Area of Refuge. The floor of the area of refuge shall be designed with striping or other such means and labeled with the International symbol of access, such that this area is reserved at all times for the intended purpose.

1011.16: Stairway to Roof. Revise this section to read as follows:

In building four (4) or more stories above grade plane, all stairways shall extend to the main roof surface, unless the roof has a slope steeper than four units vertical to twelve units horizontal (33% slope). One stair shall terminate at a minimum four feet (4') deep landing in a penthouse conforming to Section 1509.2 and shall have a three feet (3') wide side-hinged door to the roof area. If the door is locked a key in an elevator box shall be provided adjacent to the door. Access to the roof from all other stairs shall comply with Section 1009.16.1.

1009.16.1: Access to penthouse roofs. All building penthouse roofs shall have access to them by way of a stairwell or ships ladder. This may be interior or exterior to the penthouse. An interior position shall have access to the roof through a roof hatch which shall be sixteen square feet (16 ft²) minimum and have a minimum dimension of two feet (2').

1107.2 Electrical Vehicle Charging Stations. Electric vehicle charging stations shall comply with Sections 1107.2.1 and 1107.2.2.

(Delete) Exception. Electrical vehicle charging stations provided to serve R-2, R-3 and R-4 occupancies are not required to comply with this section.

1202.1: General. Revise this section to read as follows:

Buildings shall be provided with natural ventilation in accordance with Section 1202.5, or mechanical ventilation in accordance with the International Mechanical Code. All sleeping rooms in new buildings shall be provided with natural ventilation in accordance with Section 1202.5, which may be supplemented with mechanical ventilation in accordance with the International Mechanical Code. The provisions of Section 1203.5.1.1 that allow use of adjoining spaces for ventilation shall not apply to sleeping rooms in new buildings.

1204.1: General. Revise this section to read as follows:

Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with Section 1204.2 or shall be provided with artificial light in accordance with Section 1204.3. Exterior glazed openings shall open directly onto a public way or onto a yard or court in accordance with Section 1204.2.2. Notwithstanding the rest of this Section 1204.1, all sleeping rooms in new buildings shall be provided with natural light by means of exterior glazed openings in accordance with Section 1204.2, which may be supplemented with artificial light in accordance with Section 1204.3. The provisions of Section 1204.2.1 that allow use of adjoining spaces for light shall not apply to sleeping rooms in new buildings.

1502.2.1 Separate Systems Required. Secondary roof drain systems shall have the end point of discharge separate from the primary system. Discharge shall be above grade, in a location that would normally be observed by the building occupants or maintenance personnel. Exception to the above grade discharge requirement shall be by the city’s Building Official or Civil Engineer.

Table 1607.1: Minimum Uniformly Distributed Live Loads and Minimum Concentrated Live Loads. Revise this table to read as follows:

| Occupancy or Use | Uniform (psf) | Concentrated (lbs.) |
|---|---------------|---------------------|
| Balconies and decks (including porches) | 100 | — |

Chapter 29 Plumbing Systems. This Chapter shall be retained with the following amendments:

Commentary: Definitions for Single Occupancy Restroom, Multiple Occupancy Restroom, Gender Identity and Gender Neutral Restroom have been added to Chapter 2.

2901 General. Delete.

2902.1 Minimum Number of Fixtures. Delete.

Table 2902.1 Minimum Number of Required Plumbing Fixtures. Delete.

2902.1.1 Fixture Calculations. Delete.

2902.2: Separate Facilities. Revise this section to read as follows:

Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required to be designated by sex where single occupancy restrooms are provided in accordance with Section 2902.1.2. Single occupancy restrooms shall not have more than one water closet and one lavatory and the option of one urinal.
3. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets is provided. Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

Exceptions:

1. Water closet compartments shall not be required in a single-occupant restroom with a lockable door.
2. Restrooms located in child day care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.
3. This provision is not applicable to toilet areas located within I-3 housing areas.

Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.

Multiple occupancy, gender neutral facilities are not required but can be used as an alternative to be determined by the property owner or the property owner's agent.

2902.3 Employee and public toilet facilities. Delete.

2902.3.3 Location of toilet facilities in occupancies other than malls. Delete.

2902.3.4 Location of toilet facilities in malls. Delete.

2902.5 Drinking fountain locations: Delete.

2902.4 Signage. All public restroom facilities shall be designated by legible signs, stating that the public facilities are for men, women, or are gender neutral, as applicable. Single occupancy and family or assisted-use restrooms shall be outfitted with exterior signage that marks the single-occupancy, family or assisted-use restroom as a restroom and does not indicate any specific gender. Signs shall be readily visible and located near the entrance to each toilet facility. Signs for accessible toilet facilities shall comply with the Illinois Accessibility Code.

2902.4 Signage. All public restroom facilities shall be designated by legible signs, stating that the public facilities are for men, women, or are gender neutral, as

applicable. For public facilities that have multiple occupancy restrooms, signs shall indicate that the multiple occupancy restrooms are either designated for men, women or gender neutral. For single occupancy restrooms each single-occupancy restroom shall be outfitted with exterior signage that marks the single-occupancy restroom as a restroom and does not indicate any specific gender. Signs shall be readily visible and located near the entrance to each toilet facility. Signs for accessible toilet facilities shall comply with the Illinois Accessibility Code.

2902.4.2 Existing Facilities. All existing single occupancy restrooms and family or assisted-use restrooms shall be provided with signage in accordance with Section 2902.4

3105.1: General. Revise this section to read as follows:

Awnings or canopies shall comply with the requirements of this Section and other applicable Sections of this Code. No person shall erect, install, remove, re-hang, alter, or maintain over public property any awning or canopy for which a permit is required under the provisions of this Code until the requirements of the sign regulations ordinance, Title 4, Chapter 10 of the City Code, are met. Awnings and canopies shall only extend to a point 2 feet back from the curb line.

3106.1: General. Revise this section to read as follows:

Marquees shall comply with this Section and other applicable Sections of this Code. No person shall erect, install, remove, re-hang, alter, or maintain over public property any marquee for which a permit is required under the provisions of this Code until the requirements of Title 4, Chapter 10 of the City Code, are met. Marquees shall only extend to a point 2 feet back from the curb line.

3107.1: General. Revise this section to read as follows:

Signs shall be designed, constructed, and maintained in accordance with this Code. No person shall erect, install, remove, re-hang, alter, or maintain over public property any sign for which a permit is required under the provisions of this Code until the requirements of the sign regulations ordinance, Title 4, Chapter 10 of the City Code, are met.

3201.5: Building Deterioration. In the event that a piece or part of an existing building dislodges and falls onto the public way evidencing movement of building components that comprise imminent danger, the following shall be required:

- 1) Within forty-eight (48) hours of a written notice of the imminent danger or failed condition by the City of Evanston, the property owner(s) shall install illuminated sidewalk and/or street protection as required by the City of Evanston. If this is not completed in accordance with all city Codes, the City may install such protection at the expense of the property owner(s).
- 2) Within thirty (30) days of such notice, the property owner shall submit to the City a written report of the conditions by a State of Illinois licensed engineer. If this requirement is not fulfilled in accordance with all city Codes, the violator is subject to a fine of a minimum of \$150.00 (one hundred fifty and no/100 dollars) for each day until the report is submitted.

- 3) Within sixty (60) days of such notice, the property owner shall obtain permits for all required repairs. If this requirement is not fulfilled in accordance with all city Codes, the violator is subject to a fine of a minimum of \$150.00 (one hundred fifty and no/100 dollars) per day until the report is submitted.
- 4) Within one hundred eighty (180) days of such notice, all work associated with the repair of the deterioration must be completed and inspected. If the requirement of completion is not fulfilled in accordance with all city Codes, the violator is subject to a fine of a minimum of \$150.00 (one hundred fifty and no/100 dollars) per day until the work is completed, as verified by a city inspector.

3301.2: Storage and Placement. Revise this section to read as follows:

Construction equipment and materials shall be stored and placed so as not to endanger the public, the workers or adjoining property for the duration of the construction project. In no case, shall construction equipment or materials be kept or stored on any public way or property.

3303.4: Vacant Lot. Revise this section to read as follows:

Every vacant lot shall be filled, graded, seeded, and/or sodded in accord with 3303.4.1.

3303.4.1: Wrecking, Demolition, or Razing of Structures.

- 1) Prior to the issuance of any permit for the wrecking, demolishing, or razing of any building or other structure, the owner of said structure shall deposit, in escrow, funds in an amount deemed sufficient by the Director of Community Development to secure the owner's obligations to grade, place topsoil, seed, sod, and/or fence any unimproved surface. Should the owner and/or owner's successor(s) in interest fail to perform said duties, the City may draw on said funds to complete them.
- 2) Prior to the start of demolition work, the owner and/or owner's successor(s) shall deliver all water meters on the property to the Utilities Department.
- 3) Demolition work shall not begin until site has been inspected by the City for placement of temporary fencing and temporary tree protection, and any related measures implemented.
- 4) Demolition work shall not begin until the owner and/or owner's successor(s) has established, either by way of a hose connected to the public water hydrant or by the use of a water truck on site, a source for wetting down the structure and resulting debris during the demolition process to minimize the creation of air-borne dust and debris.
- 5) Written notice stating the date on which work is to begin shall be given to the Director of Community Development and to owners/occupants of adjoining property at least forty-eight (48) hours before beginning the wrecking, demolishing, or razing of any building or other structure.
- 6) During demolition, any temporary structure erected adjacent to or on any public way, used as temporary storage for debris and wreckage, shall be outfitted

with reflective orange material outlining every top and bottom corner of said temporary structure, which reflective material will be visible when struck by headlight beams three hundred feet (300') away at night. Said markings shall be approved by the City Engineer.

- 7) All foundations and footings associated with the demolished structure shall be removed in the course of demolition. The property owner and/or owner's successor(s) in interest shall schedule and permit an inspection by the Building Official or his/her designee to determine removal of all foundations and footings prior to the backfill of any excavated area.
- 8) Debris caused from the demolition of a building or structure in excess of that required to fill openings shall be removed from the site as wrecking progresses. Salvaged material, if left on the premises, shall be stored neatly. Debris shall be kept from adjacent properties and public ways at all times.
- 9) On completion of demolition, all debris, equipment and temporary protections shall be removed from the site. In no case shall demolition debris be allowed to remain on the site longer than seven (7) days after the structure has been demolished.
- 10) On completion of demolition, owner and/or owner's successor(s) shall immediately restore the public right-of-way to its original condition upon completion of the work, including restoration of openings, broom sweeping walks and streets and raking of grassy areas.
- 11) On completion of demolition, the property owner and/or owner's successor(s) in interest shall fill with clean inorganic material with the upper eight inches (8") filled in friable topsoil and graded to the level of sidewalks, alleys, or adjoining property with allowance for settlement.
- 12) On completion of demolition, the property owner and/or owner's successor(s) in interest shall schedule and permit an inspection by the Building Official or his/her designee to determine compliance with the City Code.
- 13) Unless construction of a new structure on the site commences within sixty (60) days of completion of demolition, the property owner and/or owner's successor(s) shall seed the property with grass or place sod thereon no later than fifteen (15) days after completion of demolition. The temporary construction fence shall be removed no later than fifteen (15) days after such seeding or sodding.

Table 3306.1: Protection of Pedestrians. Revise this table to read as follows:

| Height of Construction | Distance from Construction to Lot Line | Type of Protection Required |
|------------------------|--|-----------------------------|
| 8 feet or less | Less than 5 feet | Construction railings |
| 8 feet or less | 5 feet or more | Construction railings |

| | | |
|------------------|--|--|
| More than 8 feet | Less than 5 feet | Barrier and covered walkway |
| More than 8 feet | 5 feet or more, but not more than one-fourth the height of construction | Barrier and covered walkway |
| More than 8 feet | 5 feet or more, but between one-fourth and one-half the height of construction | Barrier |
| More than 8 feet | Less than 5 feet | Barrier and covered walkway |
| More than 8 feet | 5 feet or more, but exceeding one-half of the height of construction | 8-foot high chain link fence, firmly anchored into the ground. |

3307.1: Protection Required: Add the following sentence. "Required notice to Owner shall also be required for building demolition."

Chapter 34 Existing Structures of the 2012 IBC will be retained with the following changes:

3401.6: Alternative Compliance. Delete.

3406.1.3: New Fire Escape. Delete.

3406.1.4: Limitations. Delete.

3412: COMPLIANCE ALTERNATIVES. Delete.

Appendix A

BUILDING CODE REGULATIONS FOR FIREARM RANGES

(1) **DEFINITIONS.** For purposes of this Appendix, the following definitions apply:

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| ANCILLARY SPACES. | The uses associated with the operations of the firearm range outside of the practice area, which directly support the operations of the practice area. "Ancillary spaces" may include, but are not limited to, offices, classrooms, locker facilities, washroom facilities, and spectator spaces. |
| FIREARM RANGE. | Any indoor establishment where the discharging of a firearm, as defined in Section 9-8-1 and Section 6-18-3, is allowed for a sporting event or for practice, instruction, testing, or training in the use of a firearm. A Firearm Range may also include rental of a firearm for allowable uses within the establishment and a firearm dealer as defined and regulated by Title 9 Chapter 9 — Weapon of the City Code. |
| FIRING LINE. | The point where a person stands or positions himself to discharge a firearm. |
| REAR WALL. | The wall located in a practice area that is parallel to and opposite |

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|--------------------|---|
| | from, the wall where the bullet trap/backstop is located. |
| SHOOTING BOOTH. | The space between fixed panels along the firing line designed to protect someone discharging a firearm from an adjacent person discharging a firearm. |
| SHOOTING POSITION. | The space along the firing line designated for an individual practice area patron to use when discharging a firearm. |
| PRACTICE AREA. | The section of the firearm range facility from the firing line to the rear (exterior) wall of the structure behind the backstop. |

(2) GENERAL REQUIREMENTS.

- (a) Every firearm range erected, constructed within an existing building, or substantially rehabilitated shall comply with all applicable special provisions of this appendix.
- (b) Every firearm range erected, constructed within an existing building, or substantially rehabilitated shall comply with the requirements the applicable code requirements for the specific use of the space as determined by Title 4, Chapter 2 "Building Code" of the Evanston City Code of 2021, as amended.
- (c) Where a more specific or restrictive requirement is provided in this section than found elsewhere in the code, the requirements in this section shall govern.

(3) PERMITS REQUIRED.

- (a) It shall be unlawful to proceed with the construction, installation, enlargement or alteration of a firearm range without first obtaining a permit from the Division Manager of Building and Inspection Services Division or his/her designee and other required departments.
- (b) The permit fee for the initial installation and inspection of the firearm range shall be in the amount required by Ordinance 138-O-14, as amended.
- (c) The permit application shall include drawings and documents that fully describe all features of the firearm range, including but not limited to the installed equipment and all required ballistic safety features, along with all supporting documents to fully describe the building, all appurtenances and the intended caliber of ballistics.

(4) ENCLOSURE REQUIREMENTS.

- (a) A practice area must be totally enclosed with contiguous walls, a ceiling, and a floor that separates the practice area from the remaining part of the firearm range and any other uses located in the building. Except as provided in subsection (b) of this section, the enclosure shall be penetration-proof for the heaviest caliber of ammunition used in the practice area if fired point blank into the enclosure at 90 degrees to the surface. Enclosure walls, floors, ceiling assemblies, doors and opening protective assemblies for the practice area shall be designed and constructed with materials and assemblies sufficient to stop all bullets fired or projectiles from penetrating beyond the practice area enclosure.

- (b) The rear wall shall be designed and constructed of materials, assemblies, and opening protectives strong enough to be capable of stopping a ricochet of a bullet, fragment or back splatter, from penetrating beyond the rear wall.
 - (c) All enclosure requirements shall comply with *Range Design Criteria - U.S. Department of Energy Section 5 - Indoor Range Design, as amended*.
- (5) **ANCILLARY SPACES.** Ancillary spaces shall be contiguous to the practice area and directly support the operations of the practice area. These spaces shall be separated from the practice area with appropriate means to diminish contamination from the by-products of the practice area and be protected from any projectiles straying from the practice area.
- (6) **OCCUPANCY REQUIREMENTS.**
- (a) A firearm range occupancy classification shall be an A-3 occupancy. All ancillary spaces shall have an occupancy classification in accordance with all of the requirements that are applicable to each of the purposes for which the room or space will be occupied. Where a structure is proposed for a purpose that is not specifically provided for in this code, such structure shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard involved. The most restrictive ancillary space occupancy which is greater than 5% of the total firearm range area shall govern the occupancy classification. A firearm range shall comply with the applicable code requirements for the specific use of the space as determined by Title 4, Chapter 2 and this section. The amount of area per person shall be determined by 2021 International Building Code, Section 1004, as amended.
 - (b) The occupancy calculation to determine the occupancy count of the practice area shall be determined by calculating the amount of area behind the firing line between the firing line and the perimeter of the enclosure protecting the remaining firearm range facility from projectiles and dividing that area by 20 square feet. All firing lines shall be stationary.
 - (c) The occupancy count shall be used to determine the required number and size of the exits. The area between the firing line and the bullet trap/backstop shall be unoccupied and shall not be counted in the occupancy load calculations or be considered for exiting travel distance.
- (7) **HEIGHT AND AREA LIMITATIONS.**
- (a) The height and area limitations of a firearm range shall be as provided in Title 4, Chapter 2 and the 2021 International Building Code, Chapter 5. In calculating the maximum allowable area of the firearm range, the total area in the practice area, including the area from the firing line to the wall behind the backstop/bullet trap, shall be included in such calculations.
 - (b) The maximum height of every practice area erected or constructed within a new or existing building shall be one-story or 20 feet, whichever is less, and the maximum area shall match the limitations for H-3 classification,

Construction Type I or II only per 2021 International Building Code, table 506.2.

(8) PRACTICE AREA FACILITY REQUIREMENTS.

- (a) The firearm range must comply with all applicable code sections as determined by the occupancy classification. Where the ancillary spaces are under the direct control and management of the owner of the practice area, no mixed occupancy separation is required between the practice area and the ancillary spaces. Where the ancillary spaces are not under the direct control and management of the owner of the practice area, or where the practice area is constructed without ancillary spaces, the mixed occupancy separation shall be as set forth in the 2021 International Building Code, Table 508.4.
- (b) Exiting for the firearm range shall not be through the practice area.
- (c) (1) The firearm range may include the following uses: office space, mercantile, training, classroom or spectator space, general patron use space, locker rooms including showers, range master booth, storage of ammunition, and storage of firearms.
(2) The firearm range shall include the following uses:
 - (a) a practice area;
 - (b) security entrance;
 - (c) toilet facilities in compliance with current edition of the Illinois Plumbing Code; and
 - (d) all occupancies within the firearm range must be protected from any projectiles straying from the practice area.

(9) PRACTICE AREA REQUIREMENTS.

- (a) Every practice area shall be separated from the rest of the firearm range facility and/or other occupancies with a separation that prevents projectiles from straying from the practice area.
- (b) Every practice area shall comply with the following:
 - (1) *Area Requirement:* The shooting range shall have a minimum ceiling height of 8 feet. The area between the firing line and the rear wall shall be at a minimum adequate to accommodate a designated exit path beyond the depth of the area occupied by the practice area patron and any appurtenances. The exit path shall be in addition to the area required for practice area patrons to easily and directly move from one shooting booth or shooting position to another along the firing line without disturbing another practice area patron, and in addition to the area required for the range master to monitor operations;
 - (2) *Sound Control:* The noise emanating from the practice area to areas outside of the firearm range is subject to City of Evanston Code, Title 6, 13-1-4, compliance with applicable regulations for noise and vibration

control. The maximum noise emanating from the firearm range shall not be more than 55 dB when measured from a distance of 100 feet or more from the source, or 70 dB when measured from a distance of 10 feet or more from the source. The practice area shall conform to the requirements of The Occupational Noise Exposure Standard Section 1910.95 of 29 CFR Part 1910 and shall be designed and constructed to contain noise generated from the discharge of firearms.

- (3) *Special Ballistic Protectives:* The practice area shall have ceiling baffles, deflector plates and floor guards of appropriate materials, such as steel plate covered with wood or other materials, which are designed with sufficient bullet resistive strength, thickness, and configuration to function safely for the type and caliber of firearms and ammunition used within the practice area. Such protectives shall be permanently located and anchored to protect the building structure, lighting fixtures, HVAC ductwork and appurtenances, plumbing hose bibbs, floor drains and cleaning apparatus, ceilings, target carrier apparatus or other range appurtenances or assemblies to protect against ricochets or back splatter and to re-direct the projectiles to the backstop;
- (4) *Bullet Trap/Backstop:* The practice area shall have a permanent, fixed, manufactured bullet trap system capable of stopping and containing the bullets or projectiles from any firearms discharged in the practice area. The bullet trap shall be designed and constructed of appropriate bullet resistive, durable materials, such as steel plate. The bullet trap shall be capable of functioning safely for the type, amount and duration of firearm usage at the practice area. The bullet trap shall cover the entire space between the two side walls of the practice area and provide complete coverage for all firing positions from floor to the underside of the structural ceiling assembly. Bullet trap systems which utilize rubber chunks, blocks, sheets, layered rubber, laminated carpeting or other materials potentially subject to combustion, shall be fire-treated to be fire-resistive and meet the flame spread requirements of Class 1, unless the building is equipped with an approved automated sprinkler system, in which case Class 2 requirements shall apply. Mobile or temporary bullet traps/backstops are prohibited;
- (5) *Exit Pathways:* Exits and exit pathways serving the practice area shall not require occupants to pass beyond the firing line and cross through the practice area. The area from the firing line to the back of the backstop/bullet trap shall not be included in the exiting travel distances. No exits shall be located in this area;
- (6) *No Doors or Windows Downrange:* No doors or windows shall be located in the practice area in the space between the back face of the bullet trap to a point five feet behind the firing line located the farthest distance from the bullet trap/ backstop;

- (7) *Floors, Ceilings, and Walls:* The floors, ceilings, and walls of every practice area shall be constructed of smooth non-porous materials to facilitate effective maintenance and cleaning and removal of lead particulate.
- (8) *Shooting Booths:* Where shooting booth separations are provided, the shooting booth panels shall be constructed of permanently fixed, cleanable, non-porous materials. The shooting booths shall be constructed to provide an impenetrable protective barrier between people in the shooting booths and to protect against the effects of ejected bullet casings and muzzle blast;
- (9) *Range Master Booth:* Where a range master booth is provided, the practice area shall be limited in size to the area that can be directly visible to the range master at all times. The range master booth shall be constructed to provide:
- (i) protection from any projectiles straying from the practice area;
 - (ii) clear visibility of all firing positions at the practice area;
 - (iii) ready access to the practice area;
 - (iv) acoustical protection and separation for the range master;
 - (v) protection from exposure to lead particulate from the practice area, as provided for in rules and regulations promulgated by the department of health; and
 - (vi) immediate access to and use of the practice area communication system;
- (10) *Removal of Lead Particulate:* The practice area shall be equipped with a lead particulate removal system, such as a HEPA vacuum or other such system approved by the commissioner of public health, or a lead particulate removal system which removes the lead particulate using water; and
- (11) If the practice area uses a lead particulate removal system that removes the lead particulate using water, the practice area shall have a floor drain at the backstop/bullet trap that collects lead and other hazardous waste material in a separate drainage system to an approved collection device or treatment system that complies with all applicable local, state or federal laws and standards.
- (10) **VENTILATION REQUIREMENTS.** In addition to general building ventilation and heat requirements applicable to a firearm range, the practice area shall be provided with an engineered ventilation and exhaust system that complies with OSHA Lead Standard for General Industry, 29 CFR 1910.1025 that limits lead exposure and prevents the build-up of noxious gases caused by the discharge of firearms. The practice area ventilation and exhaust system shall conform to the following requirements:

- (a) The ventilation air supply system shall provide a horizontal laminar air flow from floor to ceiling at the firing line of 75 fpm. The minimum allowable range laminar air flow shall be 50 fpm from the firing line to the bullet trap. The laminar flow of air shall be directed away from shooters at the firing line downrange towards the backstop/bullet trap area.
- (b) The entire practice area shall be maintained at a slightly negative pressure with respect to adjacent areas to prevent the escape of contaminants from the shooting range. Exhaust air shall exceed supplied air by a minimum of 10%.
- (c) The practice area shall be designed and constructed with separation walls, doors, windows and assemblies with related gaskets and sealing materials sufficient to close off the practice area from the firearm range and adjacent spaces to provide the air pressures required for the practice area ventilation and exhaust system to operate correctly.
- (d) Where a firearm range contains multiple practice areas, each practice area shall be provided with a separate ventilation and exhaust system.
- (e) The supply and exhaust systems shall be electrically interlocked to turn on each system at the same time.
- (f) The practice area ventilation and exhaust system shall be a totally separate system isolated from any other ventilation and exhaust system which serves the ancillary spaces of the firearm range facility.
- (g) The ventilation and exhaust system shall be commissioned prior to initial operation, and a regular schedule of maintenance and system adjustment shall be included in the description of the ventilation and exhaust system as part of the permit application. For purposes of this subsection (g), "commissioned" has the same meaning ascribed to that term in *American Society of Heating, Refrigeration, and Air-conditioning Engineers Guideline 0-2005, as amended*. The practice area ventilation and exhaust system shall be operated and maintained in conformity with the submitted schedules and procedures.
- (h) The practice area ventilation and exhaust systems shall be either:
 - (1) a 100% total exhaust/purge system utilizing 100% fresh make up air. All air from the practice area shall be completely exhausted. The exhausted air shall be filtered and cleaned to remove lead particulate before exhausting to the open atmosphere. Twenty-five percent of the airflow shall be exhausted 15 feet downrange from the firing line and the other 75% shall be exhausted at the apex of the backstop/bullet trap. The ventilation system shall operate at one fan speed only and shall be designed and provided with automatic sensors and controls, where required, to monitor and ensure the performance and safety of the system; or
 - (2) an air cleaning re-circulation system that re-circulates up to a maximum of 75% of the air and cleans and exhausts a minimum of 25% of the air in the practice area. The air re-circulation system shall be designed and provided

with primary and secondary filters, high efficiency particulate air (HEPA) filters, electronic precipitators or other air filtering and cleaning technology, as reviewed and approved by the Building Official, to remove lead particulate from the re-circulated air before re-introduction into the practice area. System exhaust fans may operate at variable speeds. The ventilation system shall be designed and provided with automatic sensors and controls, where required, to monitor and ensure the performance and safety of the system.

- (i) New technology or designs for practice area ventilation and exhaust systems not authorized in this code shall be reviewed and approved by the Building Official on standards and tests prior to installation.
- (j) All other ventilation, refrigeration and heating systems for the firearm range shall conform to the requirements of the 2021 International Mechanical Code, as amended by the City of Evanston.
- (k) The practice area shall be provided with heating and cooling for the comfort of practice area patrons and staff. Where the heating or cooling system is not a component of the ventilation and exhaust system, such as radiant heating or geothermal sourcing, one heating or cooling system in the firearm range is permitted.
- (l) All ventilation and exhaust equipment, ducts and appurtenances shall be located and installed to allow ready maintenance and inspection.

(11) PLUMBING REQUIREMENTS.

- (a) Every firearm range shall meet all applicable plumbing code requirements of the Illinois Plumbing Code as adopted and amended by the City of Evanston.
- (b) The occupancy calculation to determine the required number of plumbing fixtures for the firearm range shall be determined by this Appendix, Occupancy requirements.
- (c) The discharge of any waste from the firearm range shall be in compliance with all applicable local, state or federal laws or standards, and shall comply with the requirements of the City of Evanston Code, Title 4, Chapter 13 to prevent the discharge of any prohibited waste from entering into any sewer, watercourse, natural outlet or waters.
- (d) Interceptors or separators shall be installed to recover solids from metal particles, metal chips, shavings, plaster, stone, clay, sand, cinder, ashes, glass, gravel, oily or greasy residual waste and similar materials in separating lighter than water waste from heavier than water waste or waste from soiled water to prevent such matter from entering the drain line. The size, type, location and construction material of each interceptor and of each separator shall be designed and installed in accordance with the manufacturer's instructions. All interceptors and all separators shall be installed in an accessible location to permit the convenient removal of the lid and internal contents and to permit service and maintenance. Unless otherwise approved,

all interceptors and separators shall have an inspection manhole located outside on private property to permit observation, measurement and sampling downstream of the interceptors or separators.

- (e) Waste that does not require treatment or separation need not be discharged into any interceptor or separator and may be in a separate line until after the interceptor or separator but must connect to the building sewer before the public way. Waste from the firearm range which does not have a lead contamination level of more than 0.5 mg/L is not required to discharge into an interceptor or separator.
- (f) Grease traps approved by the department of buildings shall have the waste retention capacity indicated in the Illinois Plumbing Code for the flow-through rated indicated.

(12) ELECTRICAL REQUIREMENTS.

- (a) Every firearm range shall be constructed with emergency lighting in conformance with the requirements of 2020 National Electric Code, Article 700.
- (b) The practice area shall be constructed to be free of excessive glare and major differences in light levels. Floors and ceilings shall be designed to provide light reflection.
- (c) The lighting design and construction of every practice area shall include the following:
 - (1) General lighting shall provide uniform light levels over the entire practice area and adjoining spaces;
 - (2) Local lighting shall supplement general lighting along the firing line to provide better visibility;
 - (3) Semi-direct lighting shall be provided to direct 60 to 90 percent of the lighting on the target.

(13) GREEN BUILDING STANDARDS. All new buildings or spaces altered shall comply with the City of Evanston, Title 4, Chapter 21, Green Building Ordinance.

4-2-3. BUILDING CONTRACTORS.

- (A) *Definition.* The term "building contractor" means any person, individual, company, or corporation engaged in the business of constructing, enlarging, altering, removing, or remodeling any structure including constructing, maintaining, repairing or installing landscape systems by furnishing of labor, material, and methods necessary to accomplish a given result, and who retains for himself/herself the control of the means, method, and manner of accomplishing this desired result.
- (B) *Registration Required.* Any person engaged in the business of building contractor, including general and trade contractors, within the City for which a building permit is required must register with the Community Development Department. Any person engaged in the business of constructing, maintaining, repairing or installing landscape systems is required to register with the Community Development

Department. Registration must be submitted on forms available from the City and must include the following information:

1. Contractor's name;
2. Business name;
3. Business address;
4. Business telephone;
5. Business email address;
6. Federal Employer Identification Number (FEIN);
7. Whether the business is a sole proprietorship, partnership or corporation, and registered agent, if applicable;
8. Whether the contractor is required to be licensed by the State of Illinois, a copy of the current license number and an original certificate of insurance as detailed in this Section;
9. Electrical contractors must be licensed by an accredited licensure commission, a copy of the current license with the license number, and an original certificate of insurance as detailed in this Section;
10. Cross Connection Control (C3) contractors shall submit a copy of their City of Evanston C3 license issued in accordance with Section 7-12-16-3 of the City Code.
11. Pavement Sealant contractors shall provide verification that coal tar, coal tar derivatives or coal tar mixtures shall not be applied to any public or private property in the City of Evanston in accordance with Title 7, Chapter 18 of the City Code.
12. Landscape contractors shall submit the Office of Sustainability's Landscape Company Survey and a vehicle list with photo documentation of company vehicle(s) signage displaying the company name and company phone number. Signage shall be 100 square inches (minimally).
13. An original certificate of insurance or policy declaration documenting that the contractor carries general liability insurance with a minimum of three hundred thousand dollars (\$300,000.00) per occurrence, bodily injury insurance with a minimum of one hundred thousand dollars (\$100,000.00) per occurrence, property damage insurance with a minimum of one hundred thousand dollars (\$100,000.00) per occurrence and workers' compensation insurance at the statutory minimum amounts. Exceptions:
 - a. Sole proprietorships and partnerships with no employees are exempt from the workers' compensation insurance requirement with submission of an affidavit.
 - b. Contractors required to maintain insurance as part of their State licensure must provide proof of insurance in forms and amounts required by State law.

- c. Contractors who are engaged to perform work in the public right-of-way must carry general liability insurance with a minimum of one million dollars (\$1,000,000.00) per occurrence and name the City of Evanston as an additional insured.
- (C) *Registration Fee.* The amount of the annual registration fee for persons engaged in the business of building contractor shall be established from time to time by action of the City Council.
- (D) *Renewal of Registration.* Registration is valid for one (1) year from the date of issuance. Registration may be renewed based upon an application for renewal and the payment of the annual registration fee. The City Manager or his/her designee is authorized to review a renewal request in the same manner as the initial application.
- (E) *Amended Registration.* Registered individuals must notify the Community Development Department within twenty (20) business days of any change in the registration information by filing an amended registration statement on a form provided by the Community Development Department for such purpose. There is no additional fee for filing an amended registration.
- (F) *Suspension or Revocation of Registration.*
1. If any person shall violate any of the provisions of this Chapter or the Code adopted hereby, he/she shall be liable to be prosecuted against for any fine or penalty imposed thereto and his/her registration may be suspended or revoked by the City Manager.
 2. No such registration shall be so revoked or suspended except after a hearing by the City Manager or his/her designee with a three (3) business day notice to the registered person affording the registered person an opportunity to appear and defend. The notice shall specify the reason for the contemplated suspension or revocation and shall give the date, time, and room number in the civic center of the hearing. Notice shall be sufficient if sent to the address stated on the registered person's application.
 3. If the Building Official certifies to the City Manager that he/she has reason to believe that immediate suspension of the registration is necessary to prevent the threat of immediate harm to the community, the City Manager may, upon the issuance of a written order stating the reason for such conclusion and without notice or hearing, order the registration suspended for not more than seven (7) days. The City Manager may extend the suspension during the pendency of a hearing upon a written determination that doing so is necessary to prevent the aforesaid harm to the community.
 4. Hearings shall be conducted in accordance with procedures on file with the City Clerk.
 5. The City Manager shall issue his/her decision within ten (10) business days after the close of the hearing. In reaching a decision, the City Manager may consider any of the following:

- a. The nature of the violation.
 - b. The nature and extent of the harm caused by the licensee's action or failure to act.
 - c. The factual situation and circumstances surrounding the violation.
 - d. Whether or not the action or failure to act was willful.
 - e. The record of the registered person with respect to violations.
6. The City Manager may suspend a registration for a period of up to ninety (90) days. A registered person whose registration has been revoked shall not be eligible to reapply for a registration until the expiration of one (1) year after the effective date of the revocation.

4-2-4. PENALTY FOR VIOLATIONS.

Any person found to have violated any provision of the 2021 International Building Code as adopted by the City, or who shall fail to comply with any of the requirements thereof, or who shall erect, construct, alter or repair a building or structure in violation of any approved plan or direction of the Building Official or of any permit or certificate issued by the Building Official or his/her designee, shall be guilty of an offense and fined as follows:

- (A) 1. The fine for a first violation is one hundred fifty dollars (\$150.00).
2. The fine for a second violation is four hundred dollars (\$400.00).
3. The fine for a third or subsequent violation is seven hundred fifty dollars (\$750.00).
- (B) Each day a provision of this Chapter is found to have been violated constitutes a separate violation subject to the fine schedule set forth in Subsection (A) of this Section.
- (C) The fines provided for herein shall not be construed as limiting the power of a court of competent jurisdiction or an administrative hearing officer to impose other penalties and remedies as provided for by applicable legislation.

4-2-5. SEVERABILITY.

It is the intention of the City Council that the provisions of this Chapter and the Code adopted hereby are severable and the invalidity of any Section or any portion of any such Section of either of them shall not affect any other Section.

4-2-6. – IDENTIFICATION OF ORDINANCE WITH THE ILLINOIS CAPITAL BOARD.

The adoption of this Ordinance and code, by title and edition, shall be reported to the Illinois Capital Development Board Illinois or any successor agency of the State of Illinois pursuant to Section 1-2-3.1 of the Illinois Municipal Code, 65ILCS 5/1-2-3.1.

4-2-7. – EFFECTIVE DATE.

This Ordinance shall be in full force and effect thirty (30) days after its approval and passage. For projects in design concurrent with the adoption of this ordinance, the building official is authorized to accept construction documents designed in accordance with the requirements of the 2012 International Building Code for up to one hundred and eighty (180) days after this ordinance's approval and passage.

CHAPTER 34

EXISTING BUILDINGS AND STRUCTURES

SECTION 3401 GENERAL

3401.1 Scope. The provisions of this chapter shall control the *alteration, repair, addition* and change of occupancy of existing buildings and structures.

Exception: Existing *bleachers, grandstands* and folding and telescopic seating shall comply with ICC 300.

3401.2 Maintenance. Buildings and structures, and parts thereof, shall be maintained in a safe and sanitary condition. Devices or safeguards which are required by this code shall be maintained in conformance with the code edition under which installed. The owner or the owner's designated agent shall be responsible for the maintenance of buildings and structures. To determine compliance with this subsection, the *building official* shall have the authority to require a building or structure to be reinspected. The requirements of this chapter shall not provide the basis for removal or abrogation of fire protection and safety systems and devices in existing structures.

3401.3 Compliance. *Alterations, repairs, additions* and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for *alterations, repairs, additions* and changes of occupancy or relocation, respectively, in the *International Energy Conservation Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code, International Residential Code* and NFPA 70. Where provisions of the other codes conflict with provisions of this chapter, the provisions of this chapter shall take precedence.

3401.4 Building materials and systems. Building materials and systems shall comply with the requirements of this section.

3401.4.1 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the *building official* to be unsafe per Section 116.

3401.4.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not *permit* their use in buildings of similar occupancy, purpose and location.

3401.4.3 Existing seismic force-resisting systems. Where the existing seismic force-resisting system is a type that can be designated ordinary, values of R , Ω_0 , and C_d for

the existing seismic force-resisting system shall be those specified by this code for an ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a detailed, intermediate or special system.

3401.5 Dangerous conditions. The *building official* shall have the authority to require the elimination of conditions deemed *dangerous*.

3401.6 Alternative compliance. Work performed in accordance with the *International Existing Building Code* shall be deemed to comply with the provisions of this chapter.

SECTION 3402 DEFINITIONS

3402.1 Definitions. The following terms are defined in Chapter 2:

DANGEROUS.

EXISTING STRUCTURE.

PRIMARY FUNCTION.

SUBSTANTIAL STRUCTURAL DAMAGE.

TECHNICALLY INFEASIBLE.

SECTION 3403 ADDITIONS

3403.1 General. *Additions* to any building or structure shall comply with the requirements of this code for new construction. *Alterations* to the existing building or structure shall be made to ensure that the existing building or structure together with the *addition* are no less conforming with the provisions of this code than the existing building or structure was prior to the *addition*. An existing building together with its *additions* shall comply with the height and area provisions of Chapter 5.

3403.2 Flood hazard areas. For buildings and structures in *flood hazard areas* established in Section 1612.3, any *addition* that constitutes *substantial improvement* of the *existing structure*, as defined in Section 202, shall comply with the flood design requirements for new construction, and all aspects of the *existing structure* shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in *flood hazard areas* established in Section 1612.3, any additions that do not constitute *substantial improvement* of the *existing structure*, as defined in Section 202, are not required to comply with the flood design requirements for new construction.

3403.3 Existing structural elements carrying gravity load. Any existing gravity load-carrying structural element for which an *addition* and its related alterations cause an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by this code for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased shall be considered an altered element subject to the requirements of Section 3404.3. Any existing element that will form part of the lateral load path for any part of the *addition* shall be considered an existing lateral load-carrying structural element subject to the requirements of Section 3403.4.

3403.3.1 Design live load. Where the *addition* does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads *approved* prior to the *addition*. If the *approved* live load is less than that required by Section 1607, the area designed for the non-conforming live load shall be posted with placards of *approved* design indicating the *approved* live load. Where the *addition* does result in increased design live load, the live load required by Section 1607 shall be used.

3403.4 Existing structural elements carrying lateral load. Where the *addition* is structurally independent of the *existing structure*, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the *addition* is not structurally independent of the *existing structure*, the *existing structure* and its *addition* acting together as a single structure shall be shown to meet the requirements of Sections 1609 and 1613.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the *addition* considered is no more than 10 percent greater than its demand-capacity ratio with the *addition* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.

3403.5 Smoke alarms in existing portions of a building. Where an *addition* is made to a building or structure of a Group R or I-1 occupancy, the existing building shall be provided with *smoke alarms* in accordance with Section 1103.8 of the *International Fire Code*.

SECTION 3404 ALTERATIONS

3404.1 General. Except as provided by Section 3401.4 or this section, *alterations* to any building or structure shall comply with the requirements of the code for new construction. *Alterations* shall be such that the existing building or structure is no less complying with the provisions of this code

than the existing building or structure was prior to the *alteration*.

Exceptions:

1. An existing *stairway* shall not be required to comply with the requirements of Section 1011 where the existing space and construction does not allow a reduction in pitch or slope.
2. *Handrails* otherwise required to comply with Section 1011.11 shall not be required to comply with the requirements of Section 1014.6 regarding full extension of the *handrails* where such extensions would be hazardous due to plan configuration.

3404.2 Flood hazard areas. For buildings and structures in *flood hazard areas* established in Section 1612.3, any *alteration* that constitutes *substantial improvement* of the *existing structure*, as defined in Section 202, shall comply with the flood design requirements for new construction, and all aspects of the *existing structure* shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in *flood hazard areas* established in Section 1612.3, any *alterations* that do not constitute *substantial improvement* of the *existing structure*, as defined in Section 202, are not required to comply with the flood design requirements for new construction.

3404.3 Existing structural elements carrying gravity load. Any existing gravity load-carrying structural element for which an *alteration* causes an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by this code for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the *alteration* shall be shown to have the capacity to resist the applicable design gravity loads required by this code for new structures.

3404.3.1 Design live load. Where the *alteration* does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads *approved* prior to the *alteration*. If the *approved* live load is less than that required by Section 1607, the area designed for the non-conforming live load shall be posted with placards of *approved* design indicating the *approved* live load. Where the *alteration* does result in increased design live load, the live load required by Section 1607 shall be used.

3404.4 Existing structural elements carrying lateral load. Except as permitted by Section 3404.5, where the *alteration* increases design lateral loads in accordance with Section 1609 or 1613, or where the *alteration* results in a structural irregularity as defined in ASCE 7, or where the *alteration* decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall be shown to meet the requirements of Sections 1609 and 1613.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the *alteration*

considered is no more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces per Sections 1609 and 1613. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.

3404.5 Voluntary seismic improvements. *Alterations* to existing structural elements or additions of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic force-resisting system of an *existing structure* or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, provided that an engineering analysis is submitted demonstrating the following:

1. The altered structure and the altered nonstructural elements are no less conforming with the provisions of this code with respect to earthquake design than they were prior to the alteration.
2. New structural elements are detailed as required for new construction.
3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required for new construction.
4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.

3404.6 Smoke alarms. Individual *sleeping units* and individual *dwelling units* in Group R and I-1 occupancies shall be provided with *smoke alarms* in accordance with Section 1103.8 of the *International Fire Code*.

SECTION 3405 REPAIRS

3405.1 General. Buildings and structures, and parts thereof, shall be repaired in compliance with Section 3405 and 3401.2. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the requirements for *alterations* in this chapter. Routine maintenance required by Section 3401.2, ordinary repairs exempt from *permit* in accordance with Section 105.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for *repairs* in this section.

3405.2 Substantial structural damage to vertical elements of the lateral force-resisting system. A building that has sustained *substantial structural damage* to the vertical elements of its lateral force-resisting system shall be evaluated and repaired in accordance with the applicable provisions of Sections 3405.2.1 through 3405.2.3.

Exceptions:

1. Buildings assigned to *Seismic Design Category A*, *B*, or *C* whose *substantial structural damage* was

not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

3405.2.1 Evaluation. The building shall be evaluated by a *registered design professional*, and the evaluation findings shall be submitted to the *building official*. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state, would comply with the provisions of this code for wind and earthquake loads.

Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613.

3405.2.2 Extent of repair for compliant buildings. If the evaluation establishes compliance of the pre-damage building in accordance with Section 3405.2.1, then repairs shall be permitted that restore the building to its pre-damage state, based on material properties and design strengths applicable at the time of original construction.

3405.2.3 Extent of repair for noncompliant buildings. If the evaluation does not establish compliance of the pre-damage building in accordance with Section 3404.2.1, then the building shall be rehabilitated to comply with applicable provisions of this code for load combinations that include wind or seismic loads. The wind loads for the repair shall be as required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be as required by this code. Earthquake loads for this rehabilitation design shall be those required for the design of the pre-damage building, but not less than 75 percent of those prescribed in Section 1613. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3405.3 Substantial structural damage to gravity load-carrying components. Gravity load-carrying components that have sustained *substantial structural damage* shall be rehabilitated to comply with the applicable provisions of this code for dead and live loads. Snow loads shall be considered if the *substantial structural damage* was caused by or related to snow load effects. Existing gravity load-carrying structural elements shall be permitted to be designed for live loads *approved* prior to the damage. Nondamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated or shown to have the capacity to carry the design loads of the rehabilitation design. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3405.3.1 Lateral force-resisting elements. Regardless of the level of damage to vertical elements of the lateral force-resisting system, if *substantial structural damage* to gravity load-carrying components was caused primarily by

wind or earthquake effects, then the building shall be evaluated in accordance with Section 3405.2.1 and, if noncompliant, rehabilitated in accordance with Section 3405.2.3.

Exceptions:

1. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. Buildings assigned to *Seismic Design Category* A, B, or C whose *substantial structural damage* was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

3405.4 Less than substantial structural damage. For damage less than *substantial structural damage*, repairs shall be allowed that restore the building to its pre-damage state, based on material properties and design strengths applicable at the time of original construction. New structural members and connections used for this repair shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.

3405.5 Flood hazard areas. For buildings and structures in *flood hazard areas* established in Section 1612.3, any repair that constitutes *substantial improvement* of the existing structure, as defined in Section 202, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in *flood hazard areas* established in Section 1612.3, any repairs that do not constitute *substantial improvement* or *repair of substantial damage* of the existing structure, as defined in Section 202, are not required to comply with the flood design requirements for new construction.

SECTION 3406 FIRE ESCAPES

3406.1 Where permitted. Fire escapes shall be permitted only as provided for in Sections 3406.1.1 through 3406.1.4.

3406.1.1 New buildings. Fire escapes shall not constitute any part of the required *means of egress* in new buildings.

3406.1.2 Existing fire escapes. Existing fire escapes shall be continued to be accepted as a component in the *means of egress* in existing buildings only.

3406.1.3 New fire escapes. New fire escapes for existing buildings shall be permitted only where exterior stairs cannot be utilized due to lot lines limiting stair size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.

3406.1.4 Limitations. Fire escapes shall comply with this section and shall not constitute more than 50 percent of the required number of *exits* nor more than 50 percent of the required *exit* capacity.

3406.2 Location. Where located on the front of the building and where projecting beyond the building line, the lowest landing shall not be less than 7 feet (2134 mm) or more than 12 feet (3658 mm) above grade, and shall be equipped with a counterbalanced stairway to the street. In alleyways and thoroughfares less than 30 feet (9144 mm) wide, the clearance under the lowest landing shall not be less than 12 feet (3658 mm).

3406.3 Construction. The fire escape shall be designed to support a live load of 100 pounds per square foot (4788 Pa) and shall be constructed of steel or other *approved* noncombustible materials. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are permitted on buildings of Type V construction. Walkways and railings located over or supported by combustible roofs in buildings of Type III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.

3406.4 Dimensions. Stairs shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm) and landings at the foot of stairs not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 8 inches (203 mm) below the door.

3406.5 Opening protectives. Doors and windows along the fire escape shall be protected with $\frac{3}{4}$ -hour opening protectives.

SECTION 3407 GLASS REPLACEMENT

3407.1 Conformance. The installation or replacement of glass shall be as required for new installations.

SECTION 3408 CHANGE OF OCCUPANCY

3408.1 Conformance. No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancies or in a different group of occupancies, unless such building is made to comply with the requirements of this code for such division or group of occupancies. Subject to the approval of the *building official*, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

3408.2 Certificate of occupancy. A certificate of occupancy shall be issued where it has been determined that the requirements for the new occupancy classification have been met.

3408.3 Stairways. An existing *stairway* shall not be required to comply with the requirements of Section 1009 where the existing space and construction does not allow a reduction in pitch or slope.

3408.4 Seismic. When a change of occupancy results in a structure being reclassified to a higher risk category, the

structure shall conform to the seismic requirements for a new structure of the higher risk category.

Exceptions:

1. Specific seismic detailing requirements of Section 1613 for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A demonstration of equivalence shall consider the regularity, overstrength, redundancy and ductility of the structure.
2. When a change of use results in a structure being reclassified from Risk Category I or II to Risk Category III and the structure is located where the seismic coefficient, S_{DS} , is less than 0.33, compliance with the seismic requirements of Section 1613 are not required.

SECTION 3409 HISTORIC BUILDINGS

3409.1 Historic buildings. The provisions of this code relating to the construction, *repair*, *alteration*, *addition*, restoration and movement of structures, and change of occupancy shall not be mandatory for *historic buildings* where such buildings are judged by the *building official* to not constitute a distinct life safety hazard.

3409.2 Flood hazard areas. Within *flood hazard areas* established in accordance with Section 1612.3, where the work proposed constitutes *substantial improvement* as defined in Section 202, the building shall be brought into compliance with Section 1612.

Exception: *Historic buildings* that are:

1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;
2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
3. Designated as historic under a state or local historic preservation program that is *approved* by the Department of Interior.

SECTION 3410 MOVED STRUCTURES

3410.1 Conformance. Structures moved into or within the jurisdiction shall comply with the provisions of this code for new structures.

SECTION 3411 ACCESSIBILITY FOR EXISTING BUILDINGS

3411.1 Scope. The provisions of Sections 3411.1 through 3411.9 apply to maintenance, change of occupancy, *additions*

and *alterations* to existing buildings, including those identified as *historic buildings*.

3411.2 Maintenance of facilities. A *facility* that is constructed or altered to be *accessible* shall be maintained *accessible* during occupancy.

3411.3 Extent of application. An *alteration* of an existing *facility* shall not impose a requirement for greater accessibility than that which would be required for new construction. *Alterations* shall not reduce or have the effect of reducing accessibility of a *facility* or portion of a *facility*.

3411.4 Change of occupancy. Existing buildings that undergo a change of group or occupancy shall comply with this section.

Exception: *Type B dwelling units* or *sleeping units* required by Section 1107 of this code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with *alterations* where the work area is 50 percent or less of the aggregate area of the building.

3411.4.1 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any *alterations* shall comply with Sections 3411.6, 3411.7 and 3411.8.

3411.4.2 Complete change of occupancy. Where an entire building undergoes a change of occupancy, it shall comply with Section 3411.4.1 and shall have all of the following *accessible* features:

1. At least one *accessible* building entrance.
2. At least one *accessible route* from an *accessible* building entrance to *primary function* areas.
3. Signage complying with Section 1111.
4. *Accessible* parking, where parking is being provided.
5. At least one *accessible* passenger loading zone, when loading zones are provided.
6. At least one *accessible route* connecting *accessible* parking and *accessible* passenger loading zones to an *accessible* entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent *technically feasible*.

Exception: The *accessible* features listed in Items 1 through 6 are not required for an *accessible* route to *Type B units*.

3411.5 Additions. Provisions for new construction shall apply to *additions*. An *addition* that affects the accessibility to, or contains an area of, a *primary function* shall comply with the requirements in Section 3411.7.

3411.6 Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of this code, unless *technically infeasible*. Where compliance with this

section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an *accessible route*, unless required by Section 3411.7.
2. *Accessible means of egress* required by Chapter 10 are not required to be provided in existing facilities.
3. The *alteration* to *Type A* individually owned *dwelling units* within a Group R-2 occupancy shall be permitted to meet the provision for a *Type B dwelling unit*.
4. *Type B dwelling or sleeping units* required by Section 1107 of this code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with *alterations* where the work area is 50 percent or less of the aggregate area of the building.

3411.7 Alterations affecting an area containing a primary function. Where an *alteration* affects the accessibility to, or contains an area of *primary function*, the route to the *primary function* area shall be *accessible*. The *accessible route* to the *primary function* area shall include toilet facilities or drinking fountains serving the area of *primary function*.

Exceptions:

1. The costs of providing the *accessible route* are not required to exceed 20 percent of the costs of the *alterations* affecting the area of *primary function*.
2. This provision does not apply to *alterations* limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.
5. This provision does not apply to altered areas limited to *Type B dwelling and sleeping units*.

3411.8 Scoping for alterations. The provisions of Sections 3411.8.1 through 3411.8.14 shall apply to *alterations* to existing buildings and facilities.

3411.8.1 Entrances. *Accessible* entrances shall be provided in accordance with Section 1105.

Exception: Where an *alteration* includes *alterations* to an entrance, and the *facility* has an *accessible* entrance, the altered entrance is not required to be *accessible*, unless required by Section 3411.7. Signs complying with Section 1111 shall be provided.

3411.8.2 Elevators. Altered elements of existing elevators shall comply with ASME A17.1 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

3411.8.3 Platform lifts. Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an *accessible route*.

3411.8.4 Stairs and escalators in existing buildings. In *alterations*, change of occupancy or *additions* where an escalator or *stair* is added where none existed previously and major structural modifications are necessary for installation, an *accessible route* shall be provided between the levels served by the escalator or *stairs* in accordance with Sections 1104.4 and 1104.5.

3411.8.5 Ramps. Where slopes steeper than allowed by Section 1012.2 are necessitated by space limitations, the slope of ramps in or providing access to existing *facilities* shall comply with Table 3411.8.5.

TABLE 3411.8.5
RAMPS

| SLOPE | MAXIMUM RISE |
|---|--------------|
| Steeper than 1:10 but not steeper than 1:8 | 3 inches |
| Steeper than 1:12 but not steeper than 1:10 | 6 inches |

For SI: 1 inch = 25.4 mm.

3411.8.6 Performance areas. Where it is *technically infeasible* to alter performance areas to be on an *accessible route*, at least one of each type of performance area shall be made *accessible*.

3411.8.7 Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 *dwelling or sleeping units* are being altered or added, the requirements of Section 1107 for *Accessible units* apply only to the quantity of spaces being altered or added.

3411.8.8 Type A dwelling or sleeping units. Where more than 20 Group R-2 *dwelling or sleeping units* are being altered or added, the requirements of Section 1107 for *Type A units* apply only to the quantity of the spaces being altered or added.

3411.8.9 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 *dwelling or sleeping units* are being added, the requirements of Section 1107 for *Type B units* apply only to the quantity of the spaces being added. Where Group I-1, I-2, R-1, R-2, R-3 or R-4 *dwelling or sleeping units* are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 for *Type B units* apply only to the quantity of the spaces being altered.

3411.8.10 Jury boxes and witness stands. In *alterations*, *accessible* wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where the ramp or lift access restricts or projects into the *means of egress*.

3411.8.11 Toilet rooms. Where it is *technically infeasible* to alter existing toilet and bathing rooms to be *accessible*, an *accessible* family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 is permitted. The family or assisted-use toilet or bathing room shall

be located on the same floor and in the same area as the existing toilet or bathing rooms.

3411.8.12 Dressing, fitting and locker rooms. Where it is *technically infeasible* to provide *accessible* dressing, fitting or locker rooms at the same location as similar types of rooms, one *accessible* room on the same level shall be provided. Where separate-sex facilities are provided, *accessible* rooms for each sex shall be provided. Separate-sex facilities are not required where only unisex rooms are provided.

3411.8.13 Fuel dispensers. Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

3411.8.14 Thresholds. The maximum height of thresholds at doorways shall be $\frac{3}{4}$ inch (19.1 mm). Such thresholds shall have beveled edges on each side.

3411.9 Historic buildings. These provisions shall apply to facilities designated as historic structures that undergo *alterations* or a change of occupancy, unless *technically infeasible*. Where compliance with the requirements for *accessible routes*, entrances or toilet rooms would threaten or destroy the historic significance of the facility, as determined by the applicable governing authority, the alternative requirements of Sections 3411.9.1 through 3411.9.4 for that element shall be permitted.

Exception: *Type B dwelling or sleeping units* required by Section 1107 are not required to be provided in historical buildings.

3411.9.1 Site arrival points. At least one *accessible* route from a site arrival point to an *accessible* entrance shall be provided.

3411.9.2 Multilevel buildings and facilities. An *accessible route* from an *accessible* entrance to public spaces on the level of the *accessible* entrance shall be provided.

3411.9.3 Entrances. At least one main entrance shall be *accessible*.

Exceptions:

1. If a main entrance cannot be made *accessible*, an *accessible* nonpublic entrance that is unlocked while the building is occupied shall be provided; or
2. If a main entrance cannot be made *accessible*, a locked *accessible* entrance with a notification system or remote monitoring shall be provided.

Signs complying with Section 1111 shall be provided at the primary entrance and the *accessible* entrance.

3411.9.4 Toilet and bathing facilities. Where toilet rooms are provided, at least one *accessible* family or assisted-use toilet room complying with Section 1109.2.1 shall be provided.

SECTION 3412 COMPLIANCE ALTERNATIVES

3412.1 Compliance. The provisions of this section are intended to maintain or increase the current degree of public safety, health and general welfare in existing buildings while permitting repair, *alteration*, *addition* and change of occupancy without requiring full compliance with Chapters 2 through 33, or Sections 3401.3, and 3403 through 3409, except where compliance with other provisions of this code is specifically required in this section.

3412.2 Applicability. Structures existing prior to [DATE TO BE INSERTED BY THE JURISDICTION. NOTE: IT IS RECOMMENDED THAT THIS DATE COINCIDE WITH THE EFFECTIVE DATE OF BUILDING CODES WITHIN THE JURISDICTION], in which there is work involving *additions*, *alterations* or changes of occupancy shall be made to comply with the requirements of this section or the provisions of Sections 3403 through 3409. The provisions in Sections 3412.2.1 through 3412.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, M, R, S and U. These provisions shall not apply to buildings with occupancies in Group H or I.

3412.2.1 Change in occupancy. Where an existing building is changed to a new occupancy classification and this section is applicable, the provisions of this section for the new occupancy shall be used to determine compliance with this code.

3412.2.2 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, and that portion is separated from the remainder of the building with *fire barriers* or *horizontal assemblies* having a *fire-resistance rating* as required by Table 508.4 for the separate occupancies, or with *approved* compliance alternatives, the portion changed shall be made to comply with the provisions of this section.

Where a portion of the building is changed to a new occupancy classification, and that portion is not separated from the remainder of the building with *fire barriers* or *horizontal assemblies* having a *fire-resistance rating* as required by Table 508.4 for the separate occupancies, or with *approved* compliance alternatives, the provisions of this section which apply to each occupancy shall apply to the entire building. Where there are conflicting provisions, those requirements which secure the greater public safety shall apply to the entire building or structure.

3412.2.3 Additions. *Additions* to existing buildings shall comply with the requirements of this code for new construction. The combined height and area of the existing building and the new *addition* shall not exceed the height and area allowed by Chapter 5. Where a *fire wall* that complies with Section 706 is provided between the *addition* and the existing building, the *addition* shall be considered a separate building.

3412.2.4 Alterations and repairs. An existing building or portion thereof, which does not comply with the requirements of this code for new construction, shall not be altered or repaired in such a manner that results in the building being less safe or sanitary than such building is currently. If, in the *alteration* or repair, the current level of safety or sanitation is to be reduced, the portion altered or repaired shall conform to the requirements of Chapters 2 through 12 and Chapters 14 through 33.

3412.2.4.1 Flood hazard areas. For existing buildings located in *flood hazard areas* established in Section 1612.3, if the *alterations* and *repairs* constitute *substantial improvement* of the existing building, the existing building shall be brought into compliance with the requirements for new construction for flood design.

3412.2.5 Accessibility requirements. All portions of the buildings proposed for change of occupancy shall conform to the accessibility provisions of Section 3411.

3412.3 Acceptance. For *repairs*, *alterations*, *additions* and changes of occupancy to existing buildings that are evaluated in accordance with this section, compliance with this section shall be accepted by the *building official*.

3412.3.1 Hazards. Where the *building official* determines that an unsafe condition exists, as provided for in Section 116, such unsafe condition shall be abated in accordance with Section 116.

3412.3.2 Compliance with other codes. Buildings that are evaluated in accordance with this section shall comply with the *International Fire Code* and the *International Property Maintenance Code*.

3412.4 Investigation and evaluation. For proposed work covered by this section, the building owner shall cause the existing building to be investigated and evaluated in accordance with the provisions of this section.

3412.4.1 Structural analysis. The owner shall have a structural analysis of the existing building made to determine adequacy of structural systems for the proposed *alteration*, *addition* or change of occupancy. The analysis shall demonstrate that the building with the work completed is capable of resisting the loads specified in Chapter 16.

3412.4.2 Submittal. The results of the investigation and evaluation as required in Section 3412.4, along with proposed compliance alternatives, shall be submitted to the *building official*.

3412.4.3 Determination of compliance. The *building official* shall determine whether the existing building, with the proposed *addition*, *alteration* or change of occupancy, complies with the provisions of this section in accordance with the evaluation process in Sections 3412.5 through 3412.9.

3412.5 Evaluation. The evaluation shall be comprised of three categories: fire safety, means of egress and general safety, as defined in Sections 3412.5.1 through 3412.5.3.

3412.5.1 Fire safety. Included within the fire safety category are the structural fire resistance, automatic fire detec-

tion, fire alarm, automatic sprinkler system and fire suppression system features of the facility.

3412.5.2 Means of egress. Included within the means of egress category are the configuration, characteristics and support features for *means of egress* in the facility.

3412.5.3 General safety. Included within the general safety category are the fire safety parameters and the means of egress parameters.

3412.6 Evaluation process. The evaluation process specified herein shall be followed in its entirety to evaluate existing buildings. Table 3412.7 shall be utilized for tabulating the results of the evaluation. References to other sections of this code indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined. In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in Section 3412.6.16, the score for each occupancy shall be determined and the lower score determined for each section of the evaluation process shall apply to the entire building.

Where the separation between mixed occupancies qualifies for any category indicated in Section 3412.6.16, the score for each occupancy shall apply to each portion of the building based on the occupancy of the space.

3412.6.1 Building height. The value for building height shall be the lesser value determined by the formula in Section 3412.6.1.1. Chapter 5 shall be used to determine the allowable height of the building, including allowable increases due to automatic sprinklers as provided for in Section 504.2. Subtract the actual *building height* in feet from the allowable and divide by 12 ¹/₂ feet. Enter the height value and its sign (positive or negative) in Table 3412.7 under Safety Parameter 3412.6.1, Building Height, for fire safety, means of egress and general safety. The maximum score for a building shall be 10.

3412.6.1.1 Height formula. The following formulas shall be used in computing the *building height* value.

$$\text{Height value, feet} = \frac{(AH) - (EBH)}{12.5} \times CF \quad (\text{Equation 34-1})$$

$$\text{Height value, feet} = (AS - EBS) \times CF \quad (\text{Equation 34-2})$$

where:

AH = Allowable height in feet from 2012 IBC Table 503.

EBH = Existing *building height* in feet.

AS = Allowable height in stories from 2012 IBC Table 503.

EBS = Existing *building height* in stories.

CF = 1 if $(AH) - (EBH)$ is positive.

CF = Construction-type factor shown in Table 3412.6.6(2) if $(AH) - (EBH)$ is negative.

Note: Where mixed occupancies are separated and individually evaluated as indicated in Section 3412.6,

the values AH, AS, EBH and EBS shall be based on the height of the occupancy being evaluated.

3412.6.2 Building area. The value for building area shall be determined by the formula in Section 3412.6.2.2. Section 503 and the formula in Section 3412.6.2.1 shall be used to determine the allowable area of the building. This shall include any allowable increases due to frontage and automatic sprinklers as provided for in Section 506. Subtract the actual *building area* in square feet from the allowable area and divide by 1,200 square feet. Enter the area value and its sign (positive or negative) in Table 3412.7 under Safety Parameter 3412.6.2, Building Area, for fire safety, means of egress and general safety. In determining the area value, the maximum permitted positive value for area is 50 percent of the fire safety score as listed in Table 3412.8, Mandatory Safety Scores.

3412.6.2.1 Allowable area formula. The following formula shall be used in computing allowable area:

$$A_a = [A_t + (A_t \times I_f) + (A_t \times I_s)] \quad \text{(Equation 34-3)}$$

where:

A_a = Allowable *building area* per story (square feet).

A_t = Tabular *building area* per story in accordance with 2012 IBC Table 503. (square feet).

I_s = Area increase factor due to sprinkler protection as calculated in accordance with 2012 IBC Section 506.3.

I_f = Area increase factor due to for frontage as calculated in accordance with 2012 IBC Section 506.2.

3412.6.2.2 Area formula. The following formula shall be used in computing the area value. Determine the area value for each occupancy floor area on a floor-by-floor basis. For each occupancy, choose the minimum area value of the set of values obtained for the particular occupancy

$$\text{Area value } i = \frac{\text{Allowable area } i}{1,200 \text{ square feet}} \left[1 - \left(\frac{\text{Actual area } i}{\text{Allowable area } i} + \dots + \frac{\text{Actual area } n}{\text{Allowable area } n} \right) \right] \quad \text{(Equation 34-4)}$$

where:

i = Value for an individual separated occupancy on a floor.

n = Number of separated occupancies on a floor.

3412.6.3 Compartmentation. Evaluate the compartments created by *fire barriers* or *horizontal assemblies* which comply with Sections 3412.6.3.1 and 3412.6.3.2 and which are exclusive of the wall elements considered under Sections 3412.6.4 and 3412.6.5. Conforming compartments shall be figured as the net area and do not include shafts, chases, *stairways*, walls or columns. Using Table 3412.6.3, determine the appropriate compartmentation value (CV) and enter that value into Table 3412.7 under Safety Parameter 3412.6.3, Compartmentation, for fire safety, means of egress and general safety.

3412.6.3.1 Wall construction. A wall used to create separate compartments shall be a *fire barrier* conforming to Section 707 with a *fire-resistance rating* of not less than 2 hours. Where the building is not divided into more than one compartment, the compartment size shall be taken as the total floor area on all floors. Where there is more than one compartment within a *story*, each compartmented area on such *story* shall be provided with a *horizontal exit* conforming to Section 1026. The *fire door* serving as the *horizontal exit* between compartments shall be so installed, fitted and gasketed that such *fire door* will provide a substantial barrier to the passage of smoke.

3412.6.3.2 Floor/ceiling construction. A floor/ceiling assembly used to create compartments shall conform to Section 711 and shall have a *fire-resistance rating* of not less than 2 hours.

3412.6.4 Tenant and dwelling unit separations. Evaluate the *fire-resistance rating* of floors and walls separating tenants, including *dwelling units*, and not evaluated under Sections 3412.6.3 and 3412.6.5. Under the categories and occupancies in Table 3412.6.4, determine the appropriate value and enter that value in Table 3412.7 under Safety Parameter 3412.6.4, Tenant and Dwelling Unit Separations, for fire safety, means of egress and general safety.

TABLE 3412.6.4 SEPARATION VALUES

| OCCUPANCY | CATEGORIES | | | | |
|---------------------------|------------|----|---|---|---|
| | a | b | c | d | e |
| A-1 | 0 | 0 | 0 | 0 | 1 |
| A-2 | -5 | -3 | 0 | 1 | 3 |
| A-3, A-4, B, E, F, M, S-1 | -4 | -3 | 0 | 2 | 4 |
| R | -4 | -2 | 0 | 2 | 4 |
| S-2 | -5 | -2 | 0 | 2 | 4 |

3412.6.4.1 Categories. The categories for tenant and *dwelling unit* separations are:

1. Category a—No *fire partitions*; incomplete *fire partitions*; no doors; doors not self-closing or automatic-closing.
2. Category b—*Fire partitions* or floor assemblies with less than a 1-hour *fire-resistance rating* or not constructed in accordance with Sections 708 or 711.
3. Category c—*Fire partitions* with a 1-hour or greater *fire-resistance rating* constructed in accordance with Section 708 and floor assemblies with a 1-hour but less than 2-hour *fire-resistance rating* constructed in accordance with Section 711, or with only one tenant within the floor area.
4. Category d—*Fire barriers* with a 1-hour but less than 2-hour *fire-resistance rating* constructed in accordance with Section 707 and floor assemblies with a 2-hour or greater *fire-resistance rating* constructed in accordance with Section 711.

- 5. Category c—*Fire barriers* and floor assemblies with a 2-hour or greater *fire-resistance rating* and constructed in accordance with Sections 707 and 711, respectively.

3412.6.5 Corridor walls. Evaluate the *fire-resistance rating* and degree of completeness of walls which create *corridors* serving the floor, and constructed in accordance with Section 1020. This evaluation shall not include the wall elements considered under Sections 3412.6.3 and 3412.6.4. Under the categories and groups in Table 3412.6.5, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.5, Corridor Walls, for fire safety, means of egress and general safety.

**TABLE 3412.6.5
CORRIDOR WALL VALUES**

| OCCUPANCY | CATEGORIES | | | |
|-------------------|------------|-----|----|----|
| | a | b | c* | d* |
| A-1 | -10 | -4 | 0 | 2 |
| A-2 | -30 | -12 | 0 | 2 |
| A-3, F, M, R, S-1 | -7 | -3 | 0 | 2 |
| A-4, B, E, S-2 | -5 | -2 | 0 | 5 |

a. Corridors not providing at least one-half the travel distance for all occupants on a floor shall be category b.

3412.6.5.1 Categories. The categories for Corridor Walls are:

1. Category a—No *fire partitions*; incomplete *fire partitions*; no doors; or doors not self-closing.
2. Category b—Less than 1-hour *fire-resistance rating* or not constructed in accordance with Section 708.4.
3. Category c—1-hour to less than 2-hour *fire-resistance rating*, with doors conforming to Section 716 or without *corridors* as permitted by Section 1020.
4. Category d—2-hour or greater *fire-resistance rating*, with doors conforming to Section 716.

3412.6.6 Vertical openings. Evaluate the *fire-resistance rating* of *exit* enclosures, hoistways, escalator openings and other shaft enclosures within the building, and openings between two or more floors. Table 3412.6.6(1) contains the appropriate protection values. Multiply that value

by the construction type factor found in Table 3412.6.6(2). Enter the vertical opening value and its sign (positive or negative) in Table 3412.7 under Safety Parameter 3412.6.6, Vertical Openings, for fire safety, means of egress, and general safety. If the structure is a one-story building or if all the unenclosed vertical openings within the building conform to the requirements of Section 712, enter a value of 2. The maximum positive value for this requirement shall be 2.

**TABLE 3412.6.6(1)
VERTICAL OPENING PROTECTION VALUE**

| PROTECTION | VALUE |
|----------------------------|----------------------------------|
| None (unprotected opening) | -2 times number floors connected |
| Less than 1 hour | -1 times number floors connected |
| 1 to less than 2 hours | 1 |
| 2 hours or more | 2 |

**TABLE 3412.6.6(2)
CONSTRUCTION-TYPE FACTOR**

| FACTOR | TYPE OF CONSTRUCTION | | | | | | | | |
|--------|----------------------|-----|-----|-----|------|------|-----|-----|----|
| | IA | IB | IIA | IIB | IIIA | IIIB | IV | VA | VB |
| | 1.2 | 1.5 | 2.2 | 3.5 | 2.5 | 3.5 | 2.3 | 3.3 | 7 |

3412.6.6.1 Vertical opening formula. The following formula shall be used in computing vertical opening value.

$$VO = PV \times CF \quad \text{(Equation 34-5)}$$

where:

VO = Vertical opening value.

PV = Protection value [Table 3412.6.6(1)].

CF = Construction type factor [Table 3412.6.6(2)].

3412.6.7 HVAC systems. Evaluate the ability of the HVAC system to resist the movement of smoke and fire beyond the point of origin. Under the categories in Section 3412.6.7.1, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.7, HVAC Systems, for fire safety, means of egress and general safety.

**TABLE 3412.6.3
COMPARTMENTATION VALUES**

| OCCUPANCY | CATEGORIES* | | | | |
|----------------|---|---|--|--|--|
| | a Compartment size equal to or greater than 15,000 square feet | b Compartment size of 10,000 square feet | c Compartment size of 7,500 square feet | d Compartment size of 5,000 square feet | e Compartment size of 2,500 square feet or less |
| A-1, A-3 | 0 | 6 | 10 | 14 | 18 |
| A-2 | 0 | 4 | 10 | 14 | 18 |
| A-4, B, E, S-2 | 0 | 5 | 10 | 15 | 20 |
| F, M, R, S-1 | 0 | 4 | 10 | 16 | 22 |

For SI: 1 square foot = 0.093 m².

a. For areas between categories, the compartmentation value shall be obtained by linear interpolation.

3412.6.7.1 Categories. The categories for HVAC systems are:

1. Category a—Plenums not in accordance with Section 602 of the *International Mechanical Code*. -10 points.
2. Category b—Air movement in egress elements not in accordance with Section 1020.5. -5 points.
3. Category c—Both categories a and b are applicable. -15 points.
4. Category d—Compliance of the HVAC system with Section 1018.5 and Section 602 of the *International Mechanical Code*. 0 points.
5. Category e—Systems serving one story; or a central boiler/chiller system without ductwork connecting two or more stories. 5 points.

3412.6.8 Automatic fire detection. Evaluate the smoke detection capability based on the location and operation of *automatic fire detectors* in accordance with Section 907 and the *International Mechanical Code*. Under the categories and occupancies in Table 3412.6.8, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.8, Automatic Fire Detection, for fire safety, means of egress and general safety.

**TABLE 3412.6.8
AUTOMATIC FIRE DETECTION VALUES**

| OCCUPANCY | CATEGORIES | | | | |
|------------------------|------------|----|---|---|---|
| | a | b | c | d | e |
| A-1, A-3, F, M, R, S-1 | -10 | -5 | 0 | 2 | 6 |
| A-2 | -25 | -5 | 0 | 5 | 9 |
| A-4, B, E, S-2 | -4 | -2 | 0 | 4 | 8 |

3412.6.8.1 Categories. The categories for automatic fire detection are:

1. Category a—None.
2. Category b—Existing *smoke detectors* in HVAC systems and maintained in accordance with the *International Fire Code*.
3. Category c—*Smoke detectors* in HVAC systems. The detectors are installed in accordance with the requirements for new buildings in the *International Mechanical Code*.
4. Category d—*Smoke detectors* throughout all floor areas other than individual *sleeping units*, tenant spaces and *dwelling units*.
5. Category e—*Smoke detectors* installed throughout the floor area.

3412.6.9 Fire alarm systems. Evaluate the capability of the *fire alarm system* in accordance with Section 907. Under the categories and occupancies in Table 3412.6.9, determine the appropriate value and enter that value into

Table 3412.7 under Safety Parameter 3412.6.9, Fire Alarm Systems, for fire safety, means of egress and general safety.

**TABLE 3412.6.9
FIRE ALARM SYSTEM VALUES**

| OCCUPANCY | CATEGORIES | | | |
|-----------------------------|------------|----------------|----|----|
| | a | b ^a | c | d |
| A-1, A-2, A-3, A-4, B, E, R | -10 | -5 | 0 | 5 |
| F, M, S | 0 | 5 | 10 | 15 |

a. For buildings equipped throughout with an *automatic sprinkler system*, add 2 points for activation by a sprinkler waterflow device.

3412.6.9.1 Categories. The categories for *fire alarm systems* are:

1. Category a—None.
2. Category b—*Fire alarm system* with *manual fire alarm boxes* in accordance with Section 907.4 and alarm notification appliances in accordance with Section 907.5.2.
3. Category c—*Fire alarm system* in accordance with Section 907.
4. Category d—Category c plus a required *emergency voice/alarm communications system* and a *fire command center* that conforms to Section 403.4.6 and contains the *emergency voice/alarm communications system controls*, fire department communication system controls and any other controls specified in Section 911 where those systems are provided.

3412.6.10 Smoke control. Evaluate the ability of a natural or mechanical venting, exhaust or pressurization system to control the movement of smoke from a fire. Under the categories and occupancies in Table 3412.6.10, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.10, Smoke Control, for means of egress and general safety.

**TABLE 3412.6.10
SMOKE CONTROL VALUES**

| OCCUPANCY | CATEGORIES | | | | | |
|---------------|------------|----------------|----------------|----------------|----------------|----------------|
| | a | b | c | d | e | f |
| A-1, A-2, A-3 | 0 | 1 | 2 | 3 | 6 | 6 |
| A-4, E | 0 | 0 | 0 | 1 | 3 | 5 |
| B, M, R | 0 | 2 ^a | 3 ^a | 3 ^a | 3 ^a | 4 ^a |
| F, S | 0 | 2 ^a | 2 ^a | 3 ^a | 3 ^a | 3 ^a |

a. This value shall be 0 if compliance with Category d or e in Section 3412.6.8.1 has not been obtained.

3412.6.10.1 Categories. The categories for smoke control are:

1. Category a—None.
2. Category b—The building is equipped throughout with an *automatic sprinkler system*. Openings are provided in exterior walls at the rate of 20 square feet (1.86 m²) per 50 linear feet (15 240

mm) of exterior wall in each story and distributed around the building perimeter at intervals not exceeding 50 feet (15 240 mm). Such openings shall be readily openable from the inside without a key or separate tool and shall be provided with ready access thereto. In lieu of operable openings, clearly and permanently marked tempered glass panels shall be used.

3. Category c—One enclosed exit stairway, with ready access thereto, from each occupied floor of the building. The stairway has operable exterior windows and the building has openings in accordance with Category b.
4. Category d—One smokeproof enclosure and the building has openings in accordance with Category b.
5. Category e—The building is equipped throughout with an automatic sprinkler system. Each floor area is provided with a mechanical air-handling system designed to accomplish smoke containment. Return and exhaust air shall be moved directly to the outside without recirculation to other floor areas of the building under fire conditions. The system shall exhaust not less than six air changes per hour from the floor area. Supply air by mechanical means to the floor area is not required. Containment of smoke shall be considered as confining smoke to the floor area involved without migration to other floor areas. Any other tested and approved design which will adequately accomplish smoke containment is permitted.
6. Category f—Each stairway shall be one of the following: a smokeproof enclosure in accordance with Section 1023.11; pressurized in accordance with Section 909.20.5 or shall have operable exterior windows.

3412.6.11 Means of egress capacity and number. Evaluate the means of egress capacity and the number of exits available to the building occupants. In applying this section, the means of egress are required to conform to the following sections of this code: 1003.7, 1004, 1005, 1006, 1007, 1016.2, 1017.2, 1026.1, 1029.2, 1028.5, 1029.2, 1029.3, 1029.4 and 1030. The number of exits credited is the number that is available to each occupant of the area being evaluated. Existing fire escapes shall be accepted as a component in the means of egress when conforming to Section 3406.

Under the categories and occupancies in Table 3412.6.11, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.11, Means of Egress Capacity, for means of egress and general safety.

**TABLE 3412.6.11
MEANS OF EGRESS VALUES**

| OCCUPANCY | CATEGORIES | | | | |
|-----------------------|------------|---|---|---|----|
| | a* | b | c | d | e |
| A-1, A-2, A-3, A-4, E | -10 | 0 | 2 | 8 | 10 |
| M | -3 | 0 | 1 | 2 | 4 |
| B, F, S | -1 | 0 | 0 | 0 | 0 |
| R | -3 | 0 | 0 | 0 | 0 |

a. The values indicated are for buildings six stories or less in height. For buildings over six stories above grade plane, add an additional -10 points.

3412.6.11.1 Categories. The categories for Means of Egress Capacity and number of exits are:

1. Category a—Compliance with the minimum required means of egress capacity or number of exits is achieved through the use of a fire escape in accordance with Section 3406.
2. Category b—Capacity of the means of egress complies with Section 1004 and the number of exits complies with the minimum number required by Section 1006.
3. Category c—Capacity of the means of egress is equal to or exceeds 125 percent of the required means of egress capacity, the means of egress complies with the minimum required width dimensions specified in the code and the number of exits complies with the minimum number required by Section 1006.
4. Category d—The number of exits provided exceeds the number of exits required by Section 1006. Exits shall be located a distance apart from each other equal to not less than that specified in Section 1006.
5. Category e—The area being evaluated meets both Categories c and d.

3412.6.12 Dead ends. In spaces required to be served by more than one means of egress, evaluate the length of the exit access travel path in which the building occupants are confined to a single path of travel. Under the categories and occupancies in Table 3412.6.12, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.12, Dead Ends, for means of egress and general safety.

**TABLE 3412.6.12
DEAD-END VALUES**

| OCCUPANCY | CATEGORIES* | | |
|---------------------------------|-------------|---|---|
| | a | b | c |
| A-1, A-3, A-4, B, E, F, M, R, S | -2 | 0 | 2 |
| A-2, E | -2 | 0 | 2 |

a. For dead-end distances between categories, the dead-end value shall be obtained by linear interpolation.

3412.6.12.1 Categories. The categories for dead ends are:

1. Category a—Dead end of 35 feet (10 670 mm) in nonsprinklered buildings or 70 feet (21 340 mm) in sprinklered buildings.
2. Category b—Dead end of 20 feet (6096 mm); or 50 feet (15 240 mm) in Group B in accordance with Section 1020.4, exception 2.
3. Category c—No dead ends; or ratio of length to width (l/w) is less than 2.5:1.

3412.6.13 Maximum exit access travel distance. Evaluate the length of *exit access* travel to an *approved exit*. Determine the appropriate points in accordance with the following equation and enter that value into Table 3412.7 under Safety Parameter 3412.6.13, Maximum Exit Access Travel Distance, for means of egress and general safety. The maximum allowable *exit access* travel distance shall be determined in accordance with Section 1017.1.

$$\text{Points} = 20 \times \frac{\text{Maximum allowable travel distance} - \text{Maximum actual travel distance}}{\text{Max. allowable travel distance}}$$

(Equation 34-6)

3412.6.14 Elevator control. Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Emergency recall and in-car operation of elevator recall controls shall be provided in accordance with the *International Fire Code*. Under the categories and occupancies in Table 3412.6.14, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.14, Elevator Control, for fire safety, means of egress and general safety. The values shall be zero for a single-story building.

3412.6.14.1 Categories. The categories for elevator controls are:

1. Category a — No elevator.
2. Category b—Any elevator without Phase I emergency recall operation and Phase II emergency in-car operation.
3. Category c — All elevators with Phase I emergency recall operation and Phase II emergency in-car operation as required by the *International Fire Code*.

4. Category d—All meet Category c; or Category b where permitted to be without Phase I emergency recall operation and Phase II emergency in-car operation; and at least one elevator that complies with new construction requirements serves all occupied floors.

3412.6.15 Means of egress emergency lighting. Evaluate the presence of and reliability of *means of egress* emergency lighting. Under the categories and occupancies in Table 3412.6.15, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.15, Means of Egress Emergency Lighting, for means of egress and general safety.

**TABLE 3412.6.15
MEANS OF EGRESS EMERGENCY LIGHTING VALUES**

| NUMBER OF EXITS REQUIRED BY SECTION 1007 | CATEGORIES | | |
|--|------------|---|---|
| | a | b | c |
| Two or more exits | NP | 0 | 4 |
| Minimum of one exit | 0 | 1 | 1 |

3412.6.15.1 Categories. The categories for means of egress emergency lighting are:

1. Category a—*Means of egress* lighting and *exit* signs not provided with emergency power in accordance with Chapter 27.
2. Category b—*Means of egress* lighting and *exit* signs provided with emergency power in accordance with Chapter 27.
3. Category c—Emergency power provided to *means of egress* lighting and *exit* signs which provides protection in the event of power failure to the site or building.

3412.6.16 Mixed occupancies. Where a building has two or more occupancies that are not in the same occupancy classification, the separation between the mixed occupancies shall be evaluated in accordance with this section. Where there is no separation between the mixed occupancies or the separation between mixed occupancies does not qualify for any of the categories indicated in Section 3412.6.16.1, the building shall be evaluated as indicated in Section 3412.6 and the value for mixed occupancies shall be zero. Under the categories and occupancies in Table 3412.6.16, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.16, Mixed Occupancies, for fire safety and general safety. For buildings without mixed occupancies, the value shall be zero.

**TABLE 3412.6.14
ELEVATOR CONTROL VALUES**

| ELEVATOR TRAVEL | CATEGORIES | | | |
|---|------------|----|---|----|
| | a | b | c | d |
| Less than 25 feet of travel above or below the primary level of elevator access for emergency fire-fighting or rescue personnel | -2 | 0 | 0 | +2 |
| Travel of 25 feet or more above or below the primary level of elevator access for emergency fire-fighting or rescue personnel | -4 | NP | 0 | +4 |

For SI: 1 foot = 304.8 mm.
NP = Not permitted

**TABLE 3412.6.16
MIXED OCCUPANCY VALUES***

| OCCUPANCY | CATEGORIES | | |
|-------------------------|------------|---|----|
| | a | b | c |
| A-1, A-2, R | -10 | 0 | 10 |
| A-3, A-4, B, E, F, M, S | -5 | 0 | 5 |

a. For fire-resistance ratings between categories, the value shall be obtained by linear interpolation.

3412.6.16.1 Categories. The categories for mixed occupancies are:

1. Category a—Occupancies separated by minimum 1-hour *fire barriers* or minimum 1-hour *horizontal assemblies*, or both.
2. Category b—Separations between occupancies in accordance with Section 508.4.
3. Category c—Separations between occupancies having a *fire-resistance rating* of not less than twice that required by Section 508.4.4.

3412.6.17 Automatic sprinklers. Evaluate the ability to suppress a fire based on the installation of an *automatic sprinkler system* in accordance with Section 903.3.1.1. "Required sprinklers" shall be based on the requirements of this code. Under the categories and occupancies in Table 3412.6.17, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.17, Automatic Sprinklers, for fire safety, means of egress divided by 2 and general safety.

**TABLE 3412.6.17
SPRINKLER SYSTEM VALUES**

| OCCUPANCY | CATEGORIES | | | | | |
|------------------------|------------|----|---|---|---|----|
| | a | b | c | d | e | f |
| A-1, A-3, F, M, R, S-1 | -6 | -3 | 0 | 2 | 4 | 6 |
| A-2 | -4 | -2 | 0 | 1 | 2 | 4 |
| A-4, B, E, S-2 | -12 | -6 | 0 | 3 | 6 | 12 |

3412.6.17.1 Categories. The categories for *automatic sprinkler system* protection are:

1. Category a—Sprinklers are required throughout; sprinkler protection is not provided or the sprinkler system design is not adequate for the hazard protected in accordance with Section 903.
2. Category b—Sprinklers are required in a portion of the building; sprinkler protection is not provided or the sprinkler system design is not adequate for the hazard protected in accordance with Section 903.
3. Category c—Sprinklers are not required; none are provided.
4. Category d—Sprinklers are required in a portion of the building; sprinklers are provided in such portion; the system is one which complied with the code at the time of installation and is main-

tained and supervised in accordance with Section 903.

5. Category e—Sprinklers are required throughout; sprinklers are provided throughout in accordance with Chapter 9.
6. Category f—Sprinklers are not required throughout; sprinklers are provided throughout in accordance with Chapter 9.

3412.6.18 Standpipes. Evaluate the ability to initiate attack on a fire by making a supply of water available readily through the installation of standpipes in accordance with Section 905. Required standpipes shall be based on the requirements of this code. Under the categories and occupancies in Table 3412.6.18, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.18, Standpipes, for fire safety, means of egress and general safety.

**TABLE 3412.6.18
STANDPIPE SYSTEM VALUES**

| OCCUPANCY | CATEGORIES | | | |
|------------------------|------------|---|---|----|
| | a* | b | c | d |
| A-1, A-3, F, M, R, S-1 | -6 | 0 | 4 | 6 |
| A-2 | -4 | 0 | 2 | 4 |
| A-4, B, E, S-2 | -12 | 0 | 6 | 12 |

a. This option cannot be taken if Category a or b in Section 3412.6.17 is used.

3412.6.18.1 Standpipe. The categories for standpipe systems are:

1. Category a—Standpipes are required; standpipe is not provided or the standpipe system design is not in compliance with Section 905.3.
2. Category b—Standpipes are not required; none are provided.
3. Category c—Standpipes are required; standpipes are provided in accordance with Section 905.
4. Category d—Standpipes are not required; standpipes are provided in accordance with Section 905.

3412.6.19 Incidental uses. Evaluate the protection of incidental uses in accordance with Section 509.4.2. Do not include those where this code requires automatic sprinkler systems throughout the buildings, including *covered or open mall buildings, high-rise buildings, public garages and unlimited area buildings*. Assign the lowest score from Table 3412.6.19 for the building or floor area being evaluated and enter that value into Table 3412.7 under safety Parameter 3412.6.19, Incidental Use Area, for fire safety, means of egress and general safety. If there are no specific occupancy areas in the building or floor area being evaluated, the value shall be zero.

3412.7 Building score. After determining the appropriate data from Section 3412.6, enter those data in Table 3412.7 and total the building score.

3412.8 Safety scores. The values in Table 3412.8 are the required mandatory safety scores for the evaluation process listed in Section 3412.6.

3412.9 Evaluation of building safety. The mandatory safety score in Table 3412.8 shall be subtracted from the building score in Table 3412.7 for each category. Where the final score for any category equals zero or more, the building is in compliance with the requirements of this section for that category. Where the final score for any category is less than zero, the building is not in compliance with the requirements of this section.

3412.9.1 Mixed occupancies. For mixed occupancies, the following provisions shall apply:

1. Where the separation between mixed occupancies does not qualify for any category indicated in Section 3412.6.16, the mandatory safety scores for the occupancy with the lowest general safety score in Table 3412.8 shall be utilized (see Section 3412.6).
2. Where the separation between mixed occupancies qualifies for any category indicated in Section 3412.6.16, the mandatory safety scores for each occupancy shall be placed against the evaluation scores for the appropriate occupancy.

**TABLE 3412.6.19
INCIDENTAL USE AREA VALUES**

| PROTECTION REQUIRED BY TABLE 509 | PROTECTION PROVIDED | | | | | | |
|-------------------------------------|---------------------|--------|----|------------|------------------|---------|-------------------|
| | None | 1 Hour | AS | AS with SP | 1 Hour and AS | 2 Hours | 2 Hours and AS |
| 2 Hours and AS | -4 | -3 | -2 | -2 | -1 | -2 | 0 |
| 2 Hours, or 1 Hour and AS | -3 | -2 | -1 | -1 | 0 | 0 | 0 |
| 1 Hour and AS | -3 | -2 | -1 | -1 | 0 | -1 | 0 |
| 1 Hour | -1 | 0 | -1 | 0 | 0 | 0 | 0 |
| 1 Hour, or AS with SP | -1 | 0 | -1 | 0 | 0 | 0 | 0 |
| AS with SP | -1 | -1 | -1 | 0 | 0 | -1 | 0 |
| 1 Hour or AS | -1 | 0 | 0 | 0 | 0 | 0 | 0 |

AS = Automatic sprinkler system; SP = Smoke partitions (See Section 509.4.2).

Note: For Table 3412.7, see next page.

TABLE 3412.7
SUMMARY SHEET—BUILDING CODE

Existing occupancy: _____ Proposed occupancy: _____

Year building was constructed: _____ Number of stories: _____ Height in feet: _____

Type of construction: _____ Area per floor: _____

Percentage of open perimeter increase: _____ %

Completely suppressed: Yes ___ No ___ Corridor wall rating: _____

Compartmentation: Yes ___ No ___ Required door closers: Yes ___ No ___

Fire-resistance rating of vertical opening enclosures: _____

Type of HVAC system: _____, serving number of floors: _____

Automatic fire detection: Yes ___ No ___ Type and location: _____

Fire alarm system: Yes ___ No ___ Type: _____

Smoke control: Yes ___ No ___ Type: _____

Adequate exit routes: Yes ___ No ___ Dead ends: _____ Yes ___ No ___

Maximum exit access travel distance: _____ Elevator controls: Yes ___ No ___

Means of egress emergency lighting: Yes ___ No ___ Mixed occupancies: Yes ___ No ___

| SAFETY PARAMETERS | FIRE SAFETY (FS) | MEANS OF EGRESS (ME) | GENERAL SAFETY (GS) |
|---|----------------------|----------------------|---------------------|
| 3412.6.1 Building Height 3412.6.2 Building Area 3412.6.3 Compartmentation | | | |
| 3412.6.4 Tenant and Dwelling Unit Separations 3412.6.5 Corridor Walls 3412.6.6 Vertical Openings | | | |
| 3412.6.7 HVAC Systems 3412.6.8 Automatic Fire Detection 3412.6.9 Fire Alarm Systems | | | |
| 3412.6.10 Smoke Control 3412.6.11 Means of Egress Capacity 3412.6.12 Dead Ends | **** **** **** | | |
| 3412.6.13 Maximum Exit Access Travel Distance 3412.6.14 Elevator Control 3412.6.15 Means of Egress Emergency Lighting | **** **** | | |
| 3412.6.16 Mixed Occupancies 3412.6.17 Automatic Sprinklers 3412.6.18 Standpipes 3412.6.19 Incidental Use | | **** + 2 = | |
| Building score — total value | | | |

*** No applicable value to be inserted.

**TABLE 3412.8
MANDATORY SAFETY SCORES***

| OCCUPANCY | FIRE SAFETY (MFS) | MEANS OF EGRESS (MME) | GENERAL SAFETY (MGS) |
|-----------|-------------------|-----------------------|----------------------|
| A-1 | 20 | 31 | 31 |
| A-2 | 21 | 32 | 32 |
| A-3 | 22 | 33 | 33 |
| A-4, E | 29 | 40 | 40 |
| B | 30 | 40 | 40 |
| F | 24 | 34 | 34 |
| M | 23 | 40 | 40 |
| R | 21 | 38 | 38 |
| S-1 | 19 | 29 | 29 |
| S-2 | 29 | 39 | 39 |

- a. MFS = Mandatory Fire Safety.
- MME = Mandatory Means of Egress.
- MGS = Mandatory General Safety.

**TABLE 3412.9
EVALUATION FORMULAS***

| FORMULA | T.3412.7 | | | T.3412.8 | SCORE | PASS | FAIL |
|------------|----------|------|---|---------------|-------|-------|-------|
| FS-MFS ≥ 0 | _____ | (FS) | — | _____ (MFS) = | _____ | _____ | _____ |
| ME-MME ≥ 0 | _____ | (ME) | — | _____ (MME) = | _____ | _____ | _____ |
| GS-MGS ≥ 0 | _____ | (GS) | — | _____ (MGS) = | _____ | _____ | _____ |

- a. FS = Fire Safety
- ME = Means of Egress
- GS = General Safety
- MFS = Mandatory Fire Safety
- MME = Mandatory Means of Egress
- MGS = Mandatory General Safety

