

Department of Public Safety

***An Overview of Massachusetts Amendments to
The International Building Code (IBC) 2015
Ninth Edition of The Massachusetts
Building Code (780 CMR)***

by

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The Ninth Edition of the Massachusetts Building Code

Comprised of the following I-Codes

- 2015 International Residential Code
- 2015 International Building Code
- 2015 International Existing Buildings Code
- 2015 International Energy Conservation Code
- 2015 International Mechanical Code
- 2015 International Swimming Pool & Spa Code
- 2015 International Fire Code
- As Amended by the BBRS



Introduction to IRC International Code Council (ICC)



Adoption of the I-Codes throughout the USA



Code Commentaries



Acknowledgement

Portions of this presentation are derived from the International Code Council's, ***International Building Code and Commentary* ®**, which is used with kind permission of the ICC.



Where to Purchase

- All I-Codes may be purchased directly from the ICC by visiting their website @ iccsafe.org
- Massachusetts Amendments are posted on the Department of Public Safety Website @ www.mass.gov/dps or, when finalized,
- May be purchased from the Secretary of State @ <http://www.sec.state.ma.us/spr/spridx.htm>



Department of Public Safety Support

- DPS Website <http://www.mass.gov/eopss/agencies/dps/>
- Update of Ninth Edition Progress
- <http://www.mass.gov/eopss/consumer-prot-and-bus-lic/license-type/buildings/updates-to-draft-9th-edition-of-the-building-code.html>
- State Inspectors by District
- <http://www.mass.gov/eopss/agencies/dps/state-inspector-districts.html>



Department of Public Safety Support

State Inspectors Tewksbury Office

- John Bennett
- John Jarvis
- Gene Novak
- Ron Wetmore
- Rick Bienvenue
- Electrical Inspector Ed Poulin

State Inspectors Milford Office

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- Marc LaPointe
- Andy Majuri
- John Wojciechowicz
- Harold Leaming
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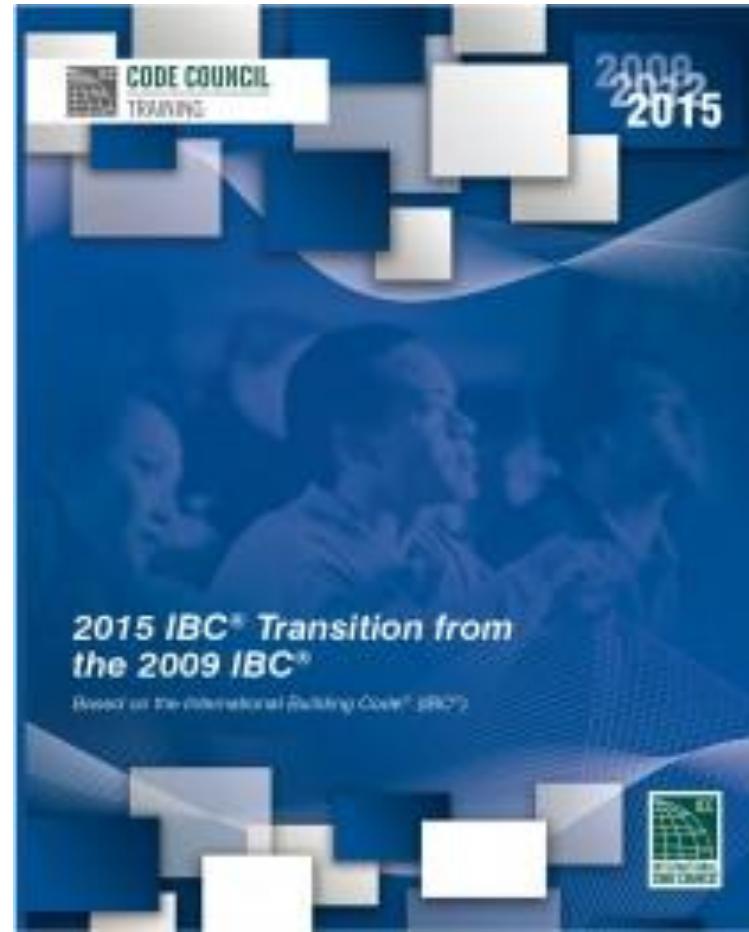
Amendments

**There are 206 pages of amendments
posted on the DPS website @**

<http://www.mass.gov/eopss/docs/dps/buildingcode/inf4/bbrs2016-01-15-basecodepublic-comment.pdf>



The Ninth Edition of the Massachusetts Building Code



Transition to the Ninth Edition

- **Eighth Edition of the Code** based on the 2009 International Codes.
- **Ninth Edition** skips the 2012 I-Code cycle and segues to the 2015 I-Codes.



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Chapter 1 is unique to the Commonwealth

Chapter 2 adds a few definitions not found in the IBC such as:

- **AGRICULTURE. Defined by M.G.L. c. 128, §1A.** Specifically, “farming” or “agriculture” shall include farming in all of its branches and the cultivation and tillage of the soil, dairying, the production, cultivation, growing and harvesting of any agricultural, aquacultural, floricultural or horticultural commodities, the growing and harvesting of forest products upon forest land, the raising of livestock including horses, the keeping of horses as a commercial enterprise, the keeping and raising of poultry, swine, cattle and other domesticated animals used for food purposes, bees, fur-bearing animals, and any forestry or lumbering operations, performed by a farmer, who is hereby defined as one engaged in agriculture or farming as herein defined, or on a farm as an incident to or in conjunction with such farming operations, including preparations for market, delivery to storage or to market or to carriers for transportation to market.



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Chapter 2 adds a few definitions not found in the IBC such as:

- **BUILDING OFFICIAL.** The building commissioner/inspector of buildings, local inspector or state building inspector charged with the administration and enforcement of this code in accordance with M.G.L. c. 143, §§ 3 and 3A.
- **NIGHT CLUB.** An assembly occupancy with a high occupant load density that is generally characterized by at least two of the following: low lighting levels; music generating above-normal sound levels; nighttime operating hours; tables and seating that create ill defined aisles; a specific area designated for dancing; or service facilities for beverages with limited food service. For night club construction requirements see Section 430.
- **TEMPORARY EMERGENCY USES.** A building or space within a building that is used for purposes other than originally designed or intended. A temporary emergency use may only be used pursuant to the provisions of Section 108. A Temporary Emergency Use building or space within a building shall be approved for such use by the municipal or state building official in consultation with the other appropriate municipal and state officials in accordance with Section 3113.



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SECTION 308

INSTITUTIONAL GROUP I

308.1 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care or supervision is provided to persons who are or are not capable of self-preservation without physical assistance or in which persons are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4.

308.6 Institutional Group I-4, day care facilities. Institutional Group I-4 occupancy shall include buildings and structures occupied by more than five persons of any age who receive *custodial care* for fewer than 24 hours per day by persons other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:

Adult day care

Child day care



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308.6 Add the following exception:

- **Exception:** Day care licensed as Family Child Care Homes and Large Family Child Care Homes under M.G.L. c. 15D shall be classified as ancillary to the main use of the building.
- **308.6.1 Change “2½ years” to “2.9 years”.**



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"Family child care home", a private residence which, on a regular basis, receives for temporary custody and care during part or all of the day, children under 7 years of age, or children under 16 years of age if those children have special needs, and receives for temporary custody and care for a limited number of hours children of school age under regulations adopted by the board. The total number of children under 16 in a family child care home shall not exceed 6, including participating children living in the residence. Family child care home shall not mean a private residence used for an informal cooperative arrangement among neighbors or relatives, or the occasional care of children with or without compensation.



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"Large family child care home", a private residence which, on a regular basis, receives for temporary custody and care during part, or all of the day, children under 7 years of age, or children under 16 years of age if such children have special needs, and receives for temporary custody and care for a limited number of hours children of school age under regulations promulgated by the board, but the number of children under the age of 16 in a large family child care home shall not exceed 10, including participating children living in the residence. A large family child care home shall have at least 1 approved assistant when the total number of children participating in child care exceeds 6. Large family child care home shall not mean a private residence used for an informal cooperative arrangement among neighbors or relatives, or the occasional care of children with or without compensation.



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Chapter 4 adds and\or revises certain special use sections.

407.1.1 Add subsection as follows:

- **407.1.1 M.G.L. requirements.** Hospitals, nursing homes, and convalescent homes shall be constructed of at least Type IB construction in accordance with M.G.L. c. 111 §§51 and 71.
- **M.G.L. c. 111 §51.** No original license shall be issued to establish a hospital, except a college and school infirmary, unless it complies with the construction standards of the state building code and is of **at least type IB fireproof construction.**



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Chapter 4 adds and\or revises certain special use sections.

- **Sections 427.1 through 430.5.1**
Add sections as follows:
- **SECTION 427 BULK MERCHANDISING RETAIL BUILDINGS**
- **427.1 General.** Bulk merchandising retail buildings have different fire and life safety risks than traditional retail buildings. This section provides standards to adequately deal with these differences, and to reduce the risk of life loss, injury, and excessive property damage from fire.



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TABLE 427.4 FIRE PROTECTION REQUIREMENTS

Commodity Class ¹	Size of High-Piled Display Area ² (sq. ft.)	Fire Protection Requirements				
		Fire Suppression System (427.5)	Fire Alarm/Notification (427.14)	Fire Department Access Doors (427.8)	Hose Connections (427.7)	Manual Smoke and Heat Vents (427.16)
I-IV	0 to 2,500	NR	NR	NR	NR	NR
	2,501 to 12,000	Yes	NR	NR	NR	NR
	Over 12,000	Yes	Yes	Yes	Yes	Yes
High Hazard	0 to 500	NR	NR	NR	NR	NR
	501 to 2,500	Yes	NR	NR	NR	NR
	2,501 to 12,000	Yes	NR	Yes	Yes	NR
	Over 12,000	Yes	Yes	Yes	Yes	Yes

NR = Not required.

1. For commodity classifications definitions, see subsection 427.3.
2. Areas that are separated by 60 ft of display area with such areas not used for high piled storage, or that are separated with a one-hour fire resistance-rated separation barrier, can be considered as separated high piled areas.
3. If the building is required to be sprinklered under this code, then the sprinkler system protecting the high piled storage area and 15 ft beyond shall be designed in accordance with the appropriate NFPA Standard(s).

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Chapter 4 adds and\or revises certain special use sections.

- **427.3.1 Commodity Classification.** Commodities in storage and display shall be classified in accordance with the following NFPA standards:

13 Installation of Sprinkler Systems

30 Flammable and Combustible Liquids Code

30B Aerosol Products, Manufacture and Storage

231 General Storage

400 Hazardous Materials Code



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- **SECTION 428 MOTION PICTURE AND TELEVISION PRODUCTION FACILITIES**
- **428.1 Scope.** This section addresses building code regulations for motion picture and television industry soundstages, production facilities, and approved production locations. All requirements not specified in this section shall conform to this code.
- **428.2 Referenced Standard.** Except as otherwise noted in Section 428.0, the buildings, structures and sites associated with motion picture and television industry soundstages, production facilities, and approved production locations shall be in accordance with NFPA 140 except NFPA-101 does not apply. In addition, these facilities, shall meet 527
- CMR and any other applicable Massachusetts specialized codes, see Section 101.4.



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- **SECTION 429 SUMMER CAMPS FOR CHILDREN**
- **429.1 New and Existing Occupancies.** This section shall apply to existing and new summer camps for children. The use of such accommodations for purposes of inspection and certification shall be considered as being similar to a dormitory in Use Group R-2.
- **429.2 Means of Egress.** All one-story, one-room buildings having 1,000 square feet or less and having 25 occupants or less shall require only one means of egress provided that:
 - 1. the length of travel does not exceed 50 feet from any point in the building to the outside at grade; and
 - 2. the minimum width for aisles and corridors shall be three feet.



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430 NIGHTCLUBS

- **430.1 General.** All buildings containing a *nightclub* with an *occupant load* > 50 shall comply with the provisions of this section and other applicable provisions of this code.
- **430.2 Sprinkler Protection.** An approved automatic sprinkler system shall be provided throughout buildings containing a *nightclub* in accordance with Section 903.3.1.1.
- **430.3 Foam plastics and interior finishes.** **Foam plastics shall not be used in *nightclubs*** as *interior finish* except as provided in Section 803.4 and shall not be used as *interior trim* except as provided in Section 806.5 or 2604.2. This section shall apply both to exposed foam plastics and to foam plastics used in conjunction with a textile or vinyl facing or cover.
- **430.4 Entertainment system response.** **The activation of any *fire protection system* element** (signaling system, detection, sprinklering, etc.) shall automatically cause immediate:
 1. illumination of all areas and components of the required means of egress, and additionally;
 2. full activation of all other house lighting; and
 3. stopping of any and all sounds and visual distractions (public address systems, entertainment and dance lighting, music, etc.) that conflict/compete with the fire protective signaling system.



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- **430.5 Main exit.** The main entrance egress system shall be sized such that the width of all required *means of egress elements is a minimum of 72 inches (nominal) or as determined by Section 1029.2, whichever is greater.* The main entrance/exit door system shall consist of a pair of side-hinged swinging type doors without a center mullion and shall be equipped with panic hardware.
- **430.5.1 Alternative Egress.** The *building official may allow an alternative means of compliance where conditions exist which would preclude the installation of a 72-inch egress system.* This approval is contingent upon the submission of an egress analysis from a *registered design professional* which determines that there is adequate *means of egress.* As a *condition of an alternative egress approach,* low level exit pathway marking shall be provided in accordance with Sections 1024.2 through 1024.5.



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CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS

501.I Add three notes, as follows:

- **Note 1.** Site plans may be required to contain fire lanes per 527 CMR. Any building fire protection system is governed by 780 CMR with the exception of M.G.L. c. 148 §26 series laws.
- **Note 2.** In this chapter, requirements for unsprinklered buildings may be overridden by sprinkler requirements of M.G.L. c. 148.
- **Note 3.** M.G.L c. 111, § 51 requires hospitals and nursing homes of at least Type IB construction.



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- **Section 26G Automatic sprinkler systems required for buildings and structures totaling more than 7,500 gross square feet**
- **Section 26G.** Every building or structure, including any additions or major alterations thereto, which totals, in the aggregate, **more than 7,500 gross square feet in floor area** shall be protected throughout with an adequate system of automatic sprinklers in accordance with the provisions of the state building code. No such sprinkler system shall be required unless sufficient water and water pressure exists. For purposes of this section, the gross square footage of a building or structure shall include the sum total of the combined floor areas for all floor levels, basements, sub-basements and additions, in the aggregate, measured from the outside walls, irrespective of the existence of interior fire resistive walls, floors and ceilings. This section shall not apply to buildings used for agricultural purposes as defined in section 1A of chapter 128.
- The head of the fire department shall enforce the provisions of this section.



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CHAPTER 6: TYPES OF CONSTRUCTION

(*no amendments*)

CHAPTER 7: FIRE AND SMOKE PROTECTION FEATURES

(*no amendments*)

CHAPTER 8: INTERIOR FINISHES

- **806.3 Revise section, as follows:** Combustible decorative materials. In all occupancies, curtains, draperies, fabric hangings and similar combustible decorative materials suspended from walls or ceilings shall comply with 527 CMR.



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The bracketed letter designations for committees responsible for portions of this code are as follows:

- [A] = Administrative Code Development Committee;
- [BE] = IBC – Means of Egress Code Development Committee;
- [BF] = IBC – Fire Safety Code Development Committee;
- [BG] = IBC – General Code Development Committee;
- [BS] = IBC – Structural Code Development Committee;
- [E] = International Energy Conservation Code Development Committee (Commercial Energy Committee or Residential Energy Committee, as applicable);
- [EB] = International Existing Building Code Development Committee;
- [F] = International Fire Code Development Committee;
- [FG] = International Fuel Gas Code Development Committee;
- [M] = International Mechanical Code Development Committee; and
- [P] = International Plumbing Code Development Committee.



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Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2012 edition. Deletion indicators in the form of an arrow (➡) are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted.

A single asterisk [*] placed in the margin indicates that text or a table has been relocated within the code. A double asterisk [**] placed in the margin indicates that the text or table immediately following it has been relocated there from elsewhere in the code. The following table indicates such relocations in the 2015 edition of the *International Building Code*.

2015 LOCATION	2012 LOCATION
712.1.13.2	711.3.2
903.3.8 through 903.3.8.5	903.3.5.1.1
915	908.7
1006	1014.3, 1015, 1021
1007	1015.2, 1021.3
1019.3	1009.3
1504.2	1711.2
2111.2	2101.3.1
Table 2308.5.11	Table 2304.6
2514	1911
2902.3.6	1210.4
3002.9	3004.4
3006	713.14.1 and 713.14.1.1



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901.2 Fire protection systems. *Fire protection systems* shall be installed, repaired, operated and maintained in accordance with this code and the *International Fire Code*.

Any *fire protection system* for which an exception or reduction to the provisions of this code has been granted shall be considered to be a required system.

Exception: Any *fire protection system* or portion thereof not required by this code shall be permitted to be installed for partial or complete protection provided that such system meets the requirements of this code.

901.2.1 Document Submittal Process. **This process includes the three tiers of the minimum document submittal requirements.** This process does not preclude the permit applicant from submitting additional documents; for example shop drawings along with the construction documents at time of permit application.



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- **Tier One, Construction Documents.** Prior to issuance of a permit, **construction documents for the fire protection system must be submitted in accordance with Section 107.1.2** and a permit obtained prior to the installation of fire protection systems or modifications, alterations, additions or deletions to an existing fire protection system. **The construction documents shall contain sufficient information to completely describe each of the fire protection system(s) for which a permit is to be issued.** The construction documents shall include the following **(23 Points)**:
 - a. Each system shall be described in a narrative report, which contains:
 - i. design methodology for the protection of the occupancy and hazards in accordance with this code and applicable NFPA Standards and,
 - ii. sequence of operation of all fire protection systems and operations and,
 - iii. testing criteria to be used for final system acceptance.



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107.1.2 Fire Department Review. *For permits that include fire protection systems under Chapters 4: Special Detailed Requirements Based on Use and Occupancy or 9: Fire Protection Systems, or 34: Existing Structures, construction documents shall be filed with the building official who shall cause them to be filed with the head of the local fire department for review.*

- The fire department shall have ten-working days after receiving the documents to complete its review. Upon the fire department's written request, the *building official may grant one or more extensions up to a total review period maximum of 30-days.*
- If the fire department review is not received within the allowed time frame the *building official may upon review deem the documents in compliance with 780 CMR.*
- If the head of the local fire department believes such construction documents to be noncompliant with this code or reference standards, he or she shall notify the *building official (refer to M.G.L. c. 148, § 28A) in writing citing relevant sections of noncompliance with this code or the section of the referenced standards of Chapter 35: Referenced Standards.*



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- b. Building and site access for fire-fighting and/or rescue vehicle(s) and personnel.
- c. Fire hydrant(s) location and water supply information.
- d. Type/description and design layout of the automatic sprinkler system(s).
- e. Automatic sprinkler system(s) control equipment location.
- f. Type/description and design layout of the automatic standpipe system(s).
- g. Standpipe system hose valve(s) type and location.
- h. Fire department connection type(s) and location.
- i. Type/description and design layout of the fire protective signaling system(s).
- j. Fire protective signaling system(s) control equipment and remote annunciator.



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- k. Type/description and design layout of the smoke control or exhaust system(s).
- l. Smoke control or exhaust system(s) control equipment location.
- m. Building life safety system features (auxiliary functions) required to be integrated as part of the fire protective signaling system(s).
- n. Type/description and design layout of the fire extinguishing system(s).
- o. Fire extinguishing system(s) control equipment location.
- p. Fire protection system(s) equipment room location.
- q. Fire protection system(s) equipment identification and operation signs.
- r. Fire protection system(s) alarm/ supervisory signal transmission method and location.
- s. Fire command center location.
- t. Type/description and location of any emergency alarm system.
- u. Type/description and location of any alternative fire suppression system or protection.
- v. Type/description and location of any carbon monoxide protection.
- w. Emergency responder radio coverage type/location.



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2. Tier Two, Shop Drawings. **Prior to installation of fire protection systems**, shop drawings, where applicable, shall be submitted in accordance with Section 107.1.2 and shall contain, but not be limited to; detailed design layout, equipment specifications, system sequence of operation, and analysis to substantiate the design. Shop drawings shall note the name(s), license number(s) and license expiration date(s) of the contractor(s) installing the fire protection systems.

Exception. For shop drawings of Fire Alarm and Detection Systems see Section 907.1.2 for applicable requirements.



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[F] 907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation, and shall include, but not be limited to, all of the following where applicable to the system being installed:

1. A floor plan that indicates the use of all rooms.
2. Locations of alarm-initiating devices.
3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.
4. Design minimum audibility level for occupant notification.
5. Location of fire alarm control unit, transponders and notification power supplies.
6. Annunciators.
7. Power connection.
8. Battery calculations.
9. Conductor type and sizes.
10. Voltage drop calculations.
11. Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.
12. Details of ceiling height and construction.
13. The interface of fire safety control functions.
14. Classification of the supervising station.



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3. Tier Three, Record Drawings. **As built plans shall be provided to the owner** for all fire protection and life safety systems that are sealed as reviewed and approved by the registered design professional or legally recognized professional performing Construction Control. Where changes to original shop drawings are minor, a list of as-built changes shall be permitted to be submitted where sealed and reviewed and approved by the registered design professional or legally recognized professional performing Construction Control per Chapter I.



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901.5.1 Certificate of Occupancy. Prior to the issuance of a Certificate of Occupancy and prior to witness of acceptance testing the following documents must be submitted to the building and fire officials, or designees.

1. Certification from the *registered design professional, or other legally recognized professional, responsible for the construction documents per Section 107.6, stating that the fire protection systems have been installed in accordance with applicable codes and standards, in accordance with the approved construction documents and that the record drawings indicate any deviations, if any.*
2. Confirmation by the owner that they have received the *as-built record drawings.*
3. Material, Test, Performance, and Completion Certificates, properly executed by the installing contractor in accordance with the applicable NFPA standards.

Note. In lieu of witnessing a satisfactory functional test, the building official and fire official or designees, may accept a final performance test report from a *registered design professional, or other legally recognized professional, as an acceptance test. Said report shall certify that complete and satisfactory functional tests of all fire protection systems, in accordance with the applicable codes and standards, and that the approved testing criteria and operational sequence, have been witnessed.*



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. . . registered design professional services shall be required for activities which are deemed to constitute the practice of architecture or engineering as defined in M.G.L. c. 112, §§ 60A or 81D, except as provided in M.G.L. c. 143, § 54A and any legally required profession or as provided in M.G.L. c. 112, § 81R.

- Where work is performed by licensed trades people pursuant to M.G.L. c. 112, § 81R, shop drawings or plans and specifications prepared to document that work shall not be required to bear the seal or signature of a registered design professional.
- *In lieu of a seal and signature the building official may require that the registered design professional review and approve shop or record drawings for general conformance to the design concept.*



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- Section 8IR. Nothing in said sections shall be construed to prevent or to affect:
 - (a) the practice of any other legally recognized profession including the practice of architecture as defined in this chapter and the practice of any trade, including, in connection with the practice of the electrical, plumbing, heating, ventilating, air conditioning, refrigeration and all other trades, the preparation of plans, specifications or shop drawings by any person, firm, partnership, corporation or association practicing any such trade, for work to be installed or being installed by the same person, firm, partnership, corporation or association preparing such plans, specifications or shop drawings;



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TABLE 903.2 OCCUPANCY AUTOMATIC SPRINKLER REQUIREMENTS

Building having occupancy	Provide automatic fire sprinkler system throughout building if one (1) of the following conditions will exist (see Note a)		
	<i>Fire Area</i>	Building occupant load	Occupancy location
A-1	>0 ft ²	> 0	Any level
A-2 [Nightclub]	>5,000 ft ²	≥ 50	Any floor other than the <i>level of exit discharge</i> for A-2 Use
A-2 [all others]	>5,000 ft ²	≥ 100	Any floor other than the <i>level of exit discharge</i> for A-2 Use
A-3	>5,000 ft ²	≥ 300	Any floor other than the <i>level of exit discharge</i> for A-3 Use
A-4	>7,500 ft ²	≥ 300	Any floor other than the <i>level of exit discharge</i> for A-5 Use



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FIRE AREA. The aggregate area of a building, regardless of subdivisions by fire barriers, fire walls, or horizontal assemblies.

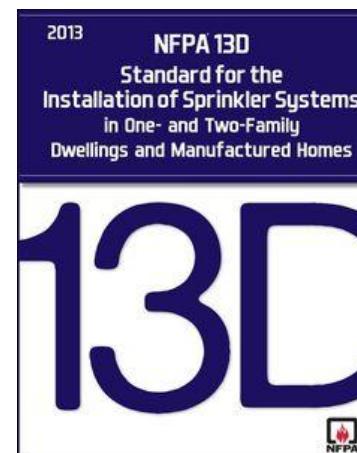
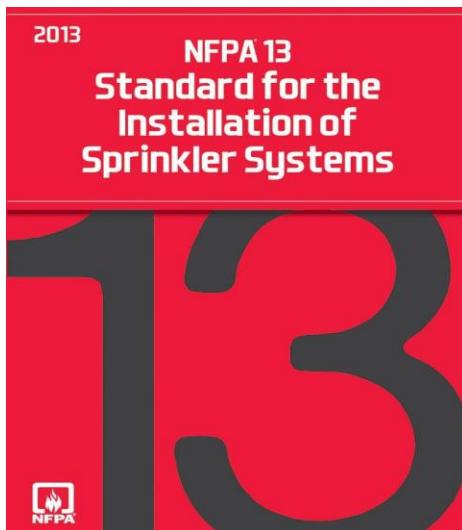
FIRE AREA. The aggregate area of a building, regardless of subdivisions by fire barriers, fire walls, or horizontal assemblies.

flame spread and fire resistance, exterior wall assemblies, Areas of safety provided by surrounding walls shall be included in such areas in horizontal assemblies, roof or roof deck, and exterior walls.



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13—13	Installation of Sprinkler Systems	708.2, 903.3.1.1, 903.3.2, 903.3.8.2, 903.3.8.5 904.11, 905.3.4, 907.6.4, 1019.3
13D—13	Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes	903.3.1.3
13R—13	Standard for the Installation of Sprinkler Systems in	



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SECTION 916 EMERGENCY RESPONDER RADIO COVERAGE

916.1 Revise section as follows:

916.1 General. Emergency responder radio coverage shall be provided in all new buildings in accordance with Sections 916.2 and ~~916.3~~ through 916.6.3 and Section 24.5 of NFPA 72: Two-way, in-building Emergency Communications Systems.

Exception: Existing buildings which contain fire fighter communication systems.

916.2 through 916.6.3 Add sections and subsections as follows:

916.2 Emergency responder radio coverage in new buildings. All new buildings shall have *approved* radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.



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SECTION 916 EMERGENCY RESPONDER RADIO COVERAGE

Exceptions:

- Where *approved* by the building official and the *fire code official*, a wired communication system in accordance with Section 907.2.13.2 shall be permitted to be installed or maintained instead of an *approved* radio coverage system.
- Where it is determined by the *fire code official* that the radio coverage system is not needed.
- In facilities where emergency responder radio coverage is required and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the *fire code official* shall have the authority to accept an automatically activated emergency responder radio coverage system.



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SECTION 916 EMERGENCY RESPONDER RADIO COVERAGE

916.3 Permit required. A construction permit for the installation of or modification to emergency responder radio coverage systems and related equipment is required as specified in Section 105.1. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.



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SECTION 1001 ADMINISTRATION

1001.1 General. Buildings or portions thereof shall be provided with a *means of egress* system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of *means of egress* components required to provide an *approved means of egress* from structures and portions thereof.

1001.2 Minimum requirements. It shall be unlawful to alter a building or structure in a manner that will reduce the number of *exits* or the minimum width or required capacity of the *means of egress* to less than required by this code.

[F] 1001.3 Maintenance. *Means of egress* shall be maintained in accordance with the *International Fire Code*.

[F] 1001.4 Fire safety and evacuation plans. Fire safety and evacuation plans shall be provided for all occupancies and buildings where required by the *International Fire Code*. Such fire safety and evacuation plans shall comply with the applicable provisions of Sections 401.2 and 404 of the *International Fire Code*.



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CHAPTER 10: MEANS OF EGRESS

- **1001.3.1 and 1001.3.2 Add subsections as follows:**
- **1001.3.1 Maintenance of exterior stairs and fire escapes.** Exterior stairways and fire escapes shall be kept free of snow and ice and those constructed of materials requiring the application of weather protecting products, shall have these products applied in an approved manner and shall be applied as often as necessary to maintain the stairways and fire escapes in safe condition. Weather resistant structural fasteners and connections shall tie the stairways and fire escapes directly into the building structural system.
- **1001.3.2 Testing and certification.** All exterior bridges, steel or wooden stairways, fire escapes and egress balconies shall be examined and/or tested, and certified for structural adequacy and safety every five years, by a *registered design professional*, or others qualified and acceptable to the *building official*; said professional or others shall then submit an affidavit to the *building official*.



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[F] 1001.4 Fire safety and evacuation plans. Fire safety and evacuation plans shall be provided for all occupancies and buildings where required by the *International Fire Code*. Such fire safety and evacuation plans shall comply with the applicable provisions of Sections 401.2 and 404 of the *International Fire Code*.

401.2 Approval. Where required by this code, fire safety plans, emergency procedures and employee training programs shall be *approved* by the *fire code official*.



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SECTION 403

EMERGENCY PREPAREDNESS REQUIREMENTS

*

403.1 General. In addition to the requirements of Section 401, occupancies, uses and outdoor locations shall comply with the emergency preparedness requirements set forth in Sections 403.2 through 403.12.3.3. Where a fire safety and evacuation plan is required by Sections 403.2 through 403.11.4, evacuation drills shall be in accordance with Section 405 and employee training shall be in accordance with Section 406.

403.2 Group A occupancies. An *approved* fire safety and evacuation plan in accordance with Section 404 shall be prepared and maintained for Group A *occupancies*, other than those occupancies used exclusively for purposes of religious worship with an occupant load less than 2,000, and for buildings containing both a Group A occupancy and an atrium. Group A occupancies shall comply with Sections 403.2.1 through 403.2.4.



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403.2.2 Announcements. In theaters, motion picture theaters, auditoriums and similar assembly occupancies in Group A used for noncontinuous programs, an audible announcement shall be made not more than 10 minutes prior to the start of each program to notify the occupants of the location of the exits to be used in the event of a fire or other emergency.

403.3 Ambulatory care facilities. Ambulatory care facilities shall comply with the requirements of Sections 403.3.1 through 403.3.3 as well as 401 and 404 through 406.

403.3.1 Fire evacuation plan. The fire safety and evacuation plan required by Section 404 shall include a description of special staff actions. This shall include procedures for stabilizing patients in a defend-in-place response, staged evacuation, or full evacuation in conjunction with the entire building if part of a multitenant facility.



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1010.1.9.12 Add subsection as follows:

- **1010.1.9.12 Exterior doors and locks to apartment houses.** In accordance with M.G.L. c. 143, § 3R, at least one of the doors of the main common entryway into every apartment house having more than three apartments shall be designed or equipped as to close automatically and lock automatically with a lock, including a lock with an electrically-operated striker mechanism, a self-closing door and associated equipment. Such associated equipment shall include an intercom system tied independently to each apartment and where from each apartment the electrically operated striker mechanism can be released; additionally, where the number of apartments in a given building, irrespective of fire/party wall separation, is ten or more apartments, a closed circuit security camera system shall also be incorporated in such manner that from each apartment, apartment occupants can utilize their personal television sets to observe who is seeking entrance to the building. The intercom and closed circuit security camera systems shall be designed and listed for the weather and temperature conditions to which they will be exposed.

Exceptions.

- Buildings exempted as noted in M.G.L. c. 143, § 3R.
- The required intercom and TV connections can be supplanted with other audio and visual technology that serves the same purpose, provided such information is readily available for all dwelling units.
- If all audio and visual information is sent to a constantly attended station occupied by staff trained in what parties are allowed into the building then providing such audio and visual information to each dwelling unit is not required.



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Exceptions.

- Buildings exempted as noted in M.G.L. c. 143, § 3R.

This section shall not apply to lodging houses, as defined in section twenty-two of chapter one hundred and forty, dormitories of charitable, educational or philanthropic institutions, or projects of housing authorities, as defined in chapter one hundred and twenty-one B.



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1013.1.1 Add subsection as follows:

1013.1.1 Transformer Vaults. In addition to having exit signage complying with Section 1013, generally, transformer vaults shall have installed:

1. additional exit signage such that the top of the sign is within 18 inches of the floor and adjacent to the opening side of the door; and
2. a means for illuminating the egress path to the exit door(s) of the *transformer vault*, by means of one (1) of the following:
 - a. emergency lighting, in accordance with Section 1008; or
 - b. luminous egress path markings, in accordance with Sections 1025.2 through 1025.5.



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CHAPTER II:ACCESSIBILITY

II01.1 Revise as follows:

- **II01.1 Scope.** In accordance with M.G.L. c. 22, § 13A all public buildings shall be designed to be accessible to, and functional and safe for the use by, physically disabled persons, and conform to the requirements of 521 CMR. In accordance with M.G.L. c. 143, § 3, 521 CMR shall be enforced by the *building official* or the state inspector, as applicable.
- **II01.2** through **IIII.4.2** Delete these Sections.



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CHAPTER 12: INTERIOR ENVIRONMENT

I203.5.2.1 Revise as follows:

- **I203.5.2.1 Bathrooms.** Rooms containing bathtubs, showers, spas and similar bathing fixtures shall be mechanically ventilated in accordance with the *International Mechanical Code*.
- Natural ventilation methods such as openable windows shall not substitute for mechanical ventilation. Such bathroom exhaust shall vent directly to the outside and no exhaust vent shall terminate in attics or other interior portions of the building. (Also see 248 CMR)

I209.4 Add section as follows:

- **I209.4 Air sealing.** Doors, trap doors, scuttles, and other openings separating conditioned space from unconditioned space shall be fitted with gaskets or weather strips or other and such openings shall close tight to minimize air transfer between these spaces. Also see Chapter 13.



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I300.I Add the following sections as follows:

- **I300.I Adoption.** Buildings shall be designed and constructed in accordance with the *International Energy Conservation Code 2015* (IECC), as amended by Chapter 13 of 780 CMR et seq.

et seq. (et seek) n. abbreviation for the Latin phrase *et sequentes* meaning "**and the following.**" It is commonly used by lawyers to include numbered lists, pages or sections after the first number is stated, as in "the rules of the road are found in Vehicle Code Section 1204, et seq."

Exception. Applications for building permits and related construction and other documents filed through January 1, 2017, may comply either with amended Chapters 11, 51 and Appendix 115.AA of this code effective _____, or with the Eighth Edition versions of those provisions in effect immediately prior to amendment, but not a mix of both. After January 1, 2017, concurrency with the Eighth Edition ends, and all applications for building permits and related construction and other documents must comply with the amended provisions only.



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C402.3 through C402.3.I Delete the section and subsection, and replace with the following Sections C402.3 through C402.3.6:

- **C402.3 Rooftop solar readiness.** New low-rise commercial buildings and additions of less than 4 stories above grade, with not less than 2,400 square feet of roof area that is either flat or oriented between 110 degrees and 270 degrees of true north shall comply with Sections C402.3.1 through C402.3.6.

Exceptions:

- Assembly Group A-2 and A-3, and High Hazard Group H buildings.
- Buildings with a permanently installed on-site renewable energy system.
- Flat roof areas designed for rooftop vehicle parking facilities.
- Buildings with a solar-ready zone that is shaded for more than 50 percent of daylight hours annually.
- **C402.3.1 Construction document requirements for solar ready zone.** Construction documents shall indicate the solar ready zone.
- **C402.3.2 Solar-ready zone area.** The total solar-ready zone area shall be not less than 1,600 square feet, or 50% of the roof area that is either flat or oriented between 110 degrees and 270 degrees of true north, exclusive of mandatory access or set back areas as required by the MA Fire Code.



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APPENDIX AA Stretch Energy Code

- **AA101 Purpose and Adoption.** The purpose of the stretch energy code is to provide a more energy efficient code alternative for new buildings. The stretch energy code may be adopted or rescinded by any municipality in the commonwealth in the manner prescribed by law.
- **AA102 Applicability.** Municipalities that have adopted the stretch energy code shall use the energy efficiency requirements of this appendix as provided below. These requirements replace all previous stretch energy code requirements.
- **Exception.** Applications for building permits and related construction and other documents filed through January 1, 2017, may comply either with amended Chapters 11, 51 and Appendix 115.AA of this code effective _____, or with the Eighth Edition versions of those provisions in effect immediately prior to amendment, but not a mix of both. After January 1, 2017, concurrency with the Eighth Edition ends, and all applications for building permits and related construction and other documents must comply with the amended provisions only.



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AA103 New buildings.

- **AA 103.1 R-use buildings.** In all R-use buildings, of four stories or less above grade plane with one or more dwelling units, each dwelling unit shall comply with Section NI106 of 780 CMR 51 (Residential Code).
- **AA103.2 Large area and high energy use buildings.** All buildings over 100,000 sq ft, and new supermarkets, laboratories and conditioned warehouses over 40,000 sq. ft. shall comply with 780 CMR 13 and shall demonstrate energy use per square foot at least 10% below the energy requirements of ANSI/ASHRAE/IESNA 90.1--2013 APPENDIX G Performance Rating Method on either a site or source energy basis.
- **AA103.3 Other new buildings.** New buildings not covered in AA103.1 and AA103.2 shall comply with 780 CMR 13 or 780 CMR 51-Chapter 11 as applicable based on the use and occupancy of the building.
- **AA104 Existing buildings.** For alterations, renovations, additions or repairs of existing buildings in these municipalities the energy efficiency requirements of 780 CMR 13 or 780 CMR 51-Chapter 11 shall be used as applicable based on the use and occupancy of the building.



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- **C402.3.3 Obstructions.** Solar-ready zones shall be free from obstructions, including but not limited to vents, chimneys, and roof-mounted equipment.
- **C402.3.4 Roof load documentation.** The structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.
- **C402.3.5 Interconnection pathway.** Construction documents shall indicate pathways for routing of conduit or plumbing from the solar-ready zone to the electrical service panel or service hot water system.
- **C402.3.6 Electrical service reserved space.** The main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled “For Future Solar Electric.”
- **C402.6 Add section as follows:**
- **C402.6 Approved calculation software tools.** The following software tools are sufficient to demonstrate compliance with Section C401.2:
 - **COMcheck:** Version 4.0.2, or later. Can be accessed at: <https://www.energycodes.gov/>
 - Any other software tool *approved* by the Board of Building Regulations and Standards.



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- **C405.10 Add section as follows:**
- **C405.10 Electric Vehicle Service Equipment Capable (Mandatory).** In accordance with 527 CMR and this section, Group A-I, B, E, I, M and R buildings with more than 3 dedicated parking spaces shall provide sufficient electrical capacity and physical capacity at the service panel to accommodate future simultaneous vehicle charging at a minimum of 4% of parking spaces and in no case less than one space.
- Calculated spaces shall be rounded up to the nearest whole number.
- A minimum 40-ampere branch circuit shall be installed to terminate in close proximity to each proposed locations of future installation of Society of Automotive Engineers (SAE) standard J1772-approved Level 2 electric vehicle service equipment.
- The circuits shall have no other outlets. A permanent and visible label stating “EV READY” shall be posted in a conspicuous place at both the service panel and the circuit termination point.
- The location and number of “EV READY” parking spaces shall be identified on construction documents.



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CHAPTER 14: EXTERIOR WALLS

- **1403.5 Revise section as follows:**
- **1403.5 Vertical and lateral flame propagation.** **Exterior walls on buildings of Type I, II, III or IV** construction that are greater than 40 feet (12192 mm) in height above grade plane and contain a combustible water-resistive barrier *shall be tested in accordance with and comply with the acceptance criteria of NFPA 285*. For the purposes of this section, fenestration products, and flashing of fenestration products, **and flashing of other openings and penetrations shall not be considered part of the water resistive barrier.**
- **Exceptions:**
- 1. In other than high rise buildings, walls in buildings equipped throughout with an *automatic sprinkler system, with the following conditions: 1) only where a NFPA 13 sprinkler system is provided and 2) where fire flow analysis has been performed without sprinkler decrease allowance that shows adequate water is available.*
- 2. Walls in which the water-resistive barrier *is the only combustible component and the exterior wall has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1405.2.*
- 3. Walls in which the water-resistive barrier *is the only combustible component ...*
- 4. Wall assemblies in noncombustible construction that have concealed spaces fireblocked in such a manner so as to interrupt and cut-off the concealed air spaces (both vertical and horizontal).
 - a. Fireblocking shall be installed within concealed spaces of exterior wall assemblies at every floor level or at maximum vertical intervals not exceeding 20 feet. Fireblocking shall be installed at horizontal intervals not exceeding 40 feet in exterior walls of noncombustible construction
 - b. Materials used for fireblocking in exterior wall assemblies shall comply with Section 7.18.2.1.
- **1407.10.4 add two (2) exceptions**



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CHAPTER 15: ROOF ASSEMBLIES AND ROOFTOP STRUCTURES **(no amendments)**

- **1604.11 and Table 1604.11** Add section and table as follows:
- **1604.11 Snow, Wind and Earthquake Design Factors.** Ground snow load, p_g , ultimate design wind speed (three second gust), V_{ult} , and earthquake response accelerations for the maximum considered earthquake, SS and SI, for each city and town in Massachusetts shall be as given in Table 1604.11.
- The basis for the snow load computation in ASCE 7 is the ground snow load. The value used for the ground snow load should represent the snow load that has a 50 year mean recurrence interval, or, in other words, a 2% probability of being exceeded in any given year.



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TABLE 1604.11 SNOW LOADS, WIND SPEEDS, AND SEISMIC PARAMETERS

City/Town	SNOW LOADS		BASIC WIND SPEED, V_{ult} (mph)			SEISMIC PARAMETERS (g)	
	Ground Snow Load, P_g (psf)	Minimum Flat Roof Snow Load, P_f^1 (psf)	Risk Category I	Risk Category II	Risk Category III or IV	S_s	S_1
Abington	35	30	122	132	143	0.196	0.065
Acton	50	35	114	124	134	0.213	0.070
Acushnet	30	30	129	138	149	0.172	0.059
Adams ²	60	40	105	115	120	0.172	0.069
Agawam	35	35	109	120	128	0.174	0.065
Alford ²	40	40	105	115	120	0.169	0.066
Amesbury	50	30	113	123	134	0.267	0.078
Amherst	40	35	106	118	125	0.172	0.066
Andover	50	30	114	124	135	0.247	0.075
Aquinnah (Gay Head)	25	25	133	140	154	0.141	0.052
Arlington	40	30	117	127	138	0.219	0.070
Ashburnham	60	35	108	118	128	0.200	0.071
Ashby	60	35	108	119	128	0.210	0.072

[BS] RISK CATEGORY. A categorization of buildings and other structures for determination of *flood*, wind, snow, ice and earthquake *loads* based on the risk associated with unacceptable performance.



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[BS] WIND-BORNE DEBRIS REGION. Areas within hurricane-prone regions located:

1. Within 1 mile (1.61 km) of the coastal mean high water line where the ultimate design wind speed, V_{ult} , is 130 mph (58 m/s) or greater; or
2. In areas where the ultimate design wind speed is 140 mph (63.6 m/s) or greater; or Hawaii.

For *Risk Category* II buildings and structures and *Risk Category* III buildings and structures, except health care facilities, the wind-borne debris region shall be based on Figure 1609.3.(1). For *Risk Category* IV buildings and structures and *Risk Category* III health care facilities, the wind-borne debris region shall be based on Figure 1609.3(2).

1604.5 Risk category. Each building and structure shall be assigned a risk category in accordance with Table 1604.5. Where a referenced standard specifies an occupancy category, the risk category shall not be taken as lower than the occupancy category specified therein. Where a referenced standard specifies that the assignment of a risk category be in accordance with ASCE 7, Table 1.5-1, Table 1604.5 shall be used in lieu of ASCE 7, Table 1.5-1.



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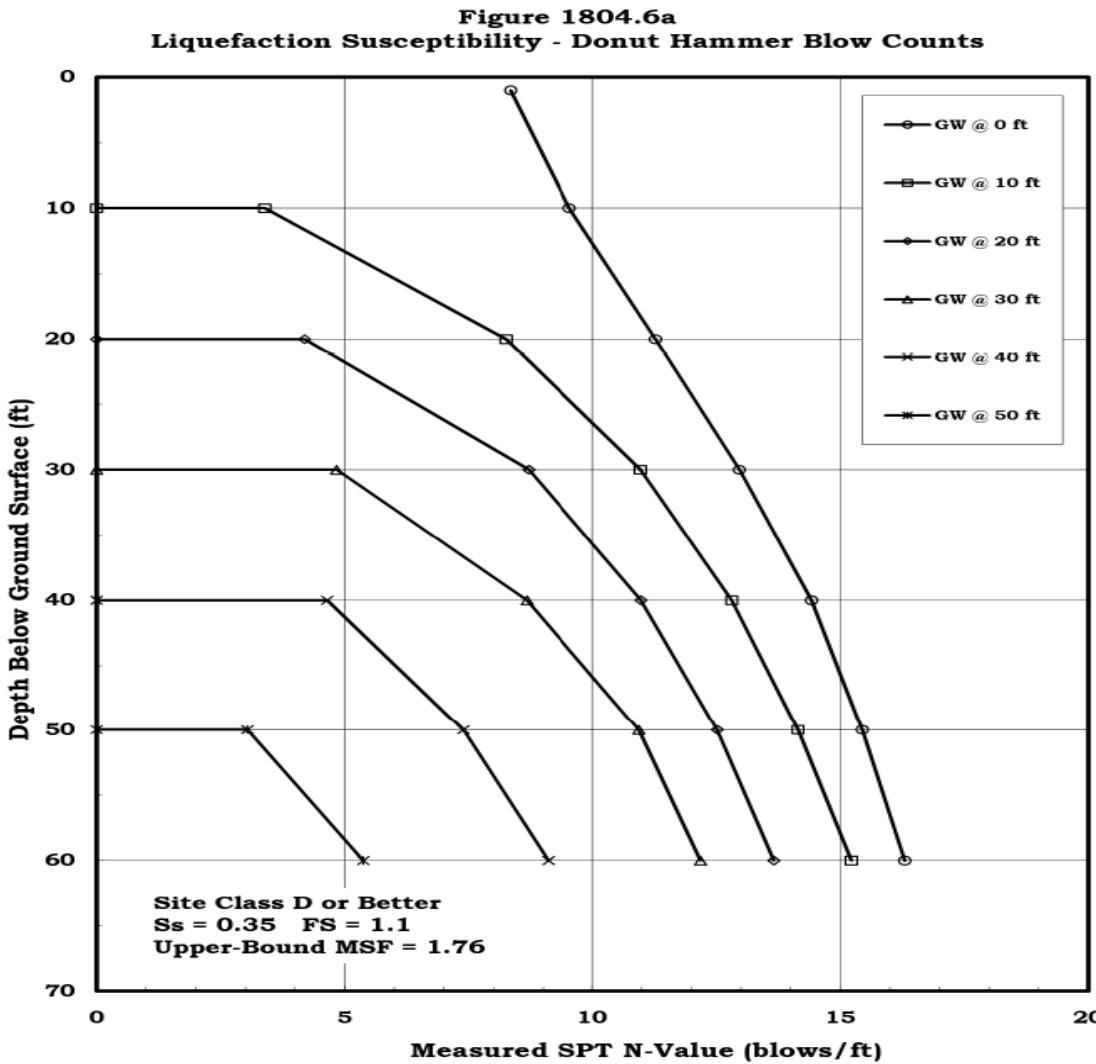
TABLE 1604.5
RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES

RISK CATEGORY	NATURE OF OCCUPANCY
I	<p>Buildings and other structures that represent a low hazard to human life in the event of failure, including but not limited to:</p> <ul style="list-style-type: none"> • Agricultural facilities. • Certain temporary facilities. • Minor storage facilities.
II	Buildings and other structures except those listed in Risk Categories I, III and IV.
III	<p>Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to:</p> <ul style="list-style-type: none"> • Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300. • Buildings and other structures containing Group E occupancies with an occupant load greater than 250. • Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500. • Group I-2 occupancies with an occupant load of 50 or more resident care recipients but not having surgery or emergency treatment facilities. • Group I-3 occupancies. • Any other occupancy with an occupant load greater than 5,000.^a • Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV. • Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that: <p style="margin-left: 20px;">Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i>; and</p> <p style="margin-left: 20px;">Are sufficient to pose a threat to the public if released.^b</p>
IV	<p>Buildings and other structures designated as essential facilities, including but not limited to:</p> <ul style="list-style-type: none"> • Group I-2 occupancies having surgery or emergency treatment facilities. • Fire, rescue, ambulance and police stations and emergency vehicle garages. • Designated earthquake, hurricane or other emergency shelters. • Designated emergency preparedness, communications and operations centers and other facilities required for emergency response. • Power-generating stations and other public utility facilities required as emergency backup facilities for Risk Category IV structures. • Buildings and other structures containing quantities of highly toxic materials that: <p style="margin-left: 20px;">Exceed maximum allowable quantities per control area as given in Table 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i>; and</p> <p style="margin-left: 20px;">Are sufficient to pose a threat to the public if released.^b</p> • Aviation control towers, air traffic control centers and emergency aircraft hangars. • Buildings and other structures having critical national defense functions. • Water storage facilities and pump structures required to maintain water pressure for fire suppression.



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CHAPTER 17: SPECIAL INSPECTIONS AND TESTS (no amendments)



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CHAPTER 19: CONCRETE

- **1905.1.7** Revise items 14.1.4 and 14.1.4.1 by adding *Seismic Design Category B*, in addition to C, D, E, and F.
- **1905.1.7** Add the following items at the end of item 14.1.4.1:
 - (d) *Pedestals. Plain concrete pedestals shall not be used to resist lateral seismic forces.*
 - (e) *Dowels. Reinforcing steel dowels shall extend from the plain concrete footing into the supported pedestals, columns or walls.*

SECTION 1905 MODIFICATIONS TO ACI 318

1905.1 General. The text of ACI 318 shall be modified as indicated in Sections 1905.1.1 through 1905.1.8.

1905.1.7 ACI 318, Section 14.1.4. Delete ACI 318, Section 14.1.4, and replace with the following:

14.1.4 – Plain concrete in structures assigned to Seismic Design Category C, D, E or F.

14.1.4.1 – Structures assigned to Seismic Design Category C, D, E or F shall not have elements of structural plain concrete, except as follows:



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CHAPTER 20: ALUMINUM (no amendments)

CHAPTER 21: MASONRY

SECTION 2106 SEISMIC DESIGN

2106.1 Seismic design requirements for masonry. Masonry structures and components shall comply with the requirements in Chapter 7 of TMS 402/ACI 530/ASCE 5 depending on the structure's *seismic design category*.

- **2106.2 Amendments to Chapter 7 of TMS 402/ACI 530/ASCE 5** (Numbers that follow are section numbers of TMS 402/ACI 530/ASCE 5).
 - **7.3.2.5** At the end of the last sentence, add this text:
 - “or one third the length of the wall, whichever is less”.
 - **7.3.2.5.1** Add subsection:
 - **7.3.2.5.1 Vertical reinforcement at openings.** Two adjacent cells shall be grouted solid at each side of each opening and continuous vertical reinforcement shall be located in either of these two cells. Bars in a grouted cell may be offset horizontally by one cell to mitigate interference due to lintels.



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- **CHAPTER 22: STEEL**
- **2205.1.1** Add subsection as follows:
 - **2205.1.1 Shop Drawings.** Complete shop drawings shall be prepared in a manner consistent with industry practice and in advance of the actual fabrication. Such drawings shall clearly distinguish between shop and field connections for bolts and welds, and shall also clearly identify steel grades, bolt types and sizes, weld types and sizes, locations and dimensions and all information necessary for proper fabrication and installation of the steel members.

SECTION 2205 STRUCTURAL STEEL

2205.1 General. The design, fabrication and erection of *structural steel elements* in buildings, structures and portions thereof shall be in accordance with AISC 360.



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CHAPTER 23:WOOD

- **2303.1.14** Add subsection and table as follows:
 - **2303.1.14 Native Lumber.** Native lumber shall be acceptable for use in one- and two-family dwellings, barns, sheds, and agricultural and accessory structures.
 - Native lumber shall also be acceptable for use in one- or two-story structures as columns when the design loads are 25% greater than required in Chapter 16; as joists, principal beams, and girders in floor constructions when the design loads are 15% greater than required in Chapter 16; and as other elements when the design loads are as required in Chapter 16.
 - When native lumber is used, it shall be subject to the following requirements:
 - **Sizing Criteria:** For lumber, sized in accordance with the DOC PS-20, figures for maximum fiber stress and modulus of elasticity for framing grade No. 2 shall be used in establishing span and spacing characteristics for all structural members.
 - **Stress Criteria:** Lumber which is sized in excess of the dimensions established by the DOC PS-20 for the given nominal size referenced shall be allowed to have a maximum fiber stress increase above that provided in Section 2303.1.14 item I in proportion to the increased bearing capacity of the cross section as provided in Table 2303.1.14.



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- **American Softwood Lumber Standard PS 20**
- One of the main functions of the American Lumber Standard Committee (ALSC) is to maintain the American Softwood Lumber Standard (Voluntary Product Standard PS 20). The current edition is PS 20-15.
- The ALSC serves as the standing committee for this document. It is developed in accordance with the *Procedures for the Development of Voluntary Product Standards* of the U.S. Department of Commerce.
- Developed through a consensus process, PS 20 establishes sizes, green/dry relationships, methods of assigning design values, industry nomenclature, inspection provisions, re-inspection provisions, and grademarking requirements.
- PS 20 provides the basis for policies and procedures developed by the ALSC and enforced through the Board of Review. The American Lumber Standard system is the result of this process.
- PS 20 is published by the National Institute for Standards and Technology (NIST) operating under the U.S. Department of Commerce. PS 20 is available as an Adobe pdf version on the [NIST web site](#) or can be obtained here.
- [American Softwood Lumber Standard PS 20](#)

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TABLE 2303.1.14 NATIVE LUMBER - ALLOWABLE STRESSES

Nominal Size	Actual Lumber Size (closest size which does not exceed the size shown) width (in.) x height (in.)	Multiplier factor based on lumber width	Value to be added to multiplier factor for lumber with larger widths than those shown in column 2 for width increases:	
			> $\frac{1}{4}$ and $\leq \frac{1}{2}$ in.	> $\frac{1}{2}$ and ≤ 1 in.
3 x 8	2 $\frac{1}{2}$ x 7 $\frac{1}{2}$	1.0 x Fs	0.10	0.20
	2 $\frac{1}{2}$ x 7 $\frac{3}{4}$	1.07		
	2 $\frac{1}{2}$ x 8	1.14		
3 x 10	2 $\frac{1}{2}$ x 9 $\frac{1}{2}$	1.0	0.10	0.20
	2 $\frac{1}{2}$ x 9 $\frac{3}{4}$	1.05		
	2 $\frac{1}{2}$ x 10	1.11		
3 x 12	2 $\frac{1}{2}$ x 11 $\frac{1}{2}$	1.0	0.10	0.20
	2 $\frac{1}{2}$ x 11 $\frac{3}{4}$	1.04		
	2 $\frac{1}{2}$ x 12	1.09		
3 x 14	2 $\frac{1}{2}$ x 13 $\frac{1}{2}$	1.0	0.10	0.20
	2 $\frac{1}{2}$ x 13 $\frac{3}{4}$	1.04		
	2 $\frac{1}{2}$ x 14	1.07		
4 x 10	3 $\frac{1}{2}$ x 9 $\frac{1}{2}$	1.0	0.07	0.14
	3 $\frac{1}{2}$ x 9 $\frac{3}{4}$	1.05		
	3 $\frac{1}{2}$ x 10	1.11		
4 x 12	3 $\frac{1}{2}$ x 11 $\frac{1}{2}$	1.0	0.07	0.14
	3 $\frac{1}{2}$ x 11 $\frac{3}{4}$	1.04		
	3 $\frac{1}{2}$ x 12	1.09		



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CHAPTER 24: GLASS AND GLAZING

- **2406.I Revise section as follows:**
- **2406.I Human impact loads.** Individual glazed areas, including glass mirrors, in hazardous locations as defined in Section 2406.4 shall comply with Sections 2406.I.1 through 2406.I.4. Also see M.G.L. c. 143, §§ 3T, 3U, and 3V.

CHAPTER 25: GYPSUM BOARD, GYPSUM PANEL PRODUCTS AND PLASTER

(no amendments)



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CHAPTER 26: PLASTIC

- **2603.5.5 Revise subsection as follows:**

- **2603.5.5 Vertical and lateral fire propagation.**
The exterior wall assembly shall be tested in accordance with and comply with the acceptance criteria of NFPA 285.

Exceptions:

1. One-story buildings complying with Section 2603.4.1.4.
2. Wall assemblies where the foam plastic insulation is covered on each face by not less than 1-inch (25 mm) thickness of masonry, ~~or~~ concrete, terracotta, stucco or $\frac{1}{2}$ inch thick Type X gypsum board and meeting one of the following:
 - 2.1 There is no airspace between the insulation and the ~~concrete~~ or masonry, concrete, terracotta, stucco, or $\frac{1}{2}$ -inch thick type X gypsum board.
 - 2.2 The insulation has a flame spread index of not more than 25 as determined in accordance with ASTM E 84 or UL 723 and the maximum airspace between the insulation and the concrete or masonry is not more than 1 inch (25 mm).
3. In other than high rise buildings, walls in buildings equipped throughout with an *automatic sprinkler system*, with the following conditions: 1) only where a NFPA 13 sprinkler system is provided and 2) where fire flow analysis has been performed without sprinkler decrease allowance that shows adequate water is available.
4. Wall assemblies in noncombustible construction that have concealed spaces fireblocked in such a manner so as to interrupt the foam plastic insulation and cut off the concealed air spaces (both vertical and horizontal).
 - a. Fireblocking shall be installed within concealed spaces of exterior wall assemblies at every floor level or at maximum vertical intervals not exceeding 20 feet. Fireblocking shall be installed at horizontal intervals not exceeding 40 feet in exterior walls of noncombustible construction. Fireblocking shall extend through any concealed air space and through any foam plastic material.
 - b. Materials used for fireblocking in exterior wall assemblies shall comply with Section 7.18.2.1.



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CHAPTER 27: ELECTRICAL

- **2701.1 Revise section as follows:**
- **2701.1 Scope.** This chapter governs the electrical components, equipment and systems used in buildings and structures covered by this code.
- Electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of 527 CMR 12.
- **2701.1 Revise subsection as follows:**
- **[F] 2702.1.1 Stationary generators.** Stationary emergency and standby power generators required by this code shall be listed in accordance with UL 2200. **For air quality control for point source generation see 310 CMR 7:00 Air Pollution Control.**
- **2702.2.2 Revise subsection as follows:**
- **[F] 2702.2.2 Elevators and platform lifts.** Standby power shall be provided for elevators and platform lifts as required by this code and 524 CMR.



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310 CMR 7.00: Air Pollution Control Regulations

- Emission limits, pollution control standards, and permit requirements for a range of facilities and activities.
- Through these regulations, MassDEP prevents and controls air pollution where it originates to ensure abundant clean air for Massachusetts residents, workers and visitors.

<http://www.mass.gov/eea/agencies/massdep/air/regulations/310-cmr-7-00-air-pollution-control-regulation.html>



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CHAPTER 28: MECHANICAL SYSTEMS

- **2801.1** Revise section as follows:
- **[M] 2801.1 Scope.** Mechanical appliances, equipment and systems shall be constructed, installed and maintained in accordance with the *International Mechanical Code* and **248 CMR**. Masonry chimneys, fireplaces and barbecues shall comply with the *International Mechanical Code* and Chapter 21 of this code.



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CHAPTER 29: PLUMBING SYSTEMS

- **290I.I Revise section as follows:**
- **[P] 290I.I Scope.** The provisions of **248 CMR** shall govern the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing equipment and systems. Toilet and bathing rooms shall be constructed in accordance with **248 CMR or if applicable, Section 1210**. Plumbing systems and equipment shall be constructed, installed and maintained in accordance with **248 CMR**. Private sewage disposal systems shall conform to **310 CMR 15.00: The State Environmental Code Regulating Septic Systems (Title 5)**.
- **310 CMR 15.00: The State Environmental Code Regulating Septic Systems ("Title 5")**
- These regulations govern the proper siting, construction, upgrade, and maintenance of septic systems and the transport and disposal of sanitary sewage. Local boards of health implement Title 5 on behalf of the Commonwealth.

<http://www.mass.gov/eea/agencies/massdep/water/regulations/310-cmr-15-00-septic-systems-title-5.html>



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CHAPTER 30: ELEVATORS AND CONVEYING SYSTEMS

- **3001.1 Revise section as follows:**
- **3001.1 Scope.** This chapter governs the design, construction, installation, alteration and repair of elevators and conveying systems and their components.
- **3001.2 Revise section as follows:**
- **3001.2 Referenced standards.** Except as otherwise provided for in this code, the design, construction, installation, alteration, repair and maintenance of elevators and conveying systems and their components shall conform to this code and 524 CMR.
- **3001.3 Revise section as follows:**
- **3001.3 Accessibility.** Passenger elevators required to be accessible or to serve as part of an accessible means of egress shall comply with this code and 521 CMR.
- **3001.4 Revise section as follows:**
- **3001.4 Change in use.** A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall comply with this code and 524 CMR.
- **3001.5 Add section as follows:**
- **3001.5 Applicable requirements.** This code or 524 CMR or the specialized codes may govern requirements associated with elevators and conveying systems. Where there is conflict or duplication of this code with 524 CMR then the requirement in 524 CMR shall apply. Where construction requirements including but not limited to fire rated construction and egress, are found in this chapter and are not found in 524 CMR then the requirements of this chapter shall apply.
- **3008 Revise section as follows:**
- **SECTION 3008 OCCUPANT EVACUATION ELEVATORS (reserved)**



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CHAPTER 31: SPECIAL CONSTRUCTION

- **3104.4 Revise section as follows:**
- **3104.4 Contents.** Only materials and decorations conforming to Chapter 8 and 527 CMR, and approved by the *building official* in consultation with the fire official shall be located in the pedestrian walkway.
- **3109.1 Revise section as follows:**
- **3109.1 General.** Swimming pools shall comply with the requirements of Sections 3109.2 through 3109.5 and other applicable sections of this code.
- See also:
 1. 521 CMR 19.00: Recreational Facilities;
 2. 105 CMR 430.000: Minimum Standards for Recreational Camps for Children (State Sanitary Code: Chapter IV) and 105 CMR 435.00: Minimum Standards for Swimming Pools (State Sanitary Code: Chapter V)
- **3109.3 Revise section as follows:**
- **3109.3 Public Swimming Pools.** See M.G.L. c. 140, § 206 for enclosures to public and semi-public outdoor in-ground swimming pools.



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- **SECTION 3112 TEMPORARY OVERNIGHT SHELTERS**
- **3112.1 through 3112.14 Add sections as follows:**
- **3112.1 Scope and Purpose.** The purpose of Section 3112 is to establish reasonable standards for the use of facilities designed for other purposes to be safely occupied temporarily as places of overnight accommodation.
- In this regard, the State Building Code is not intended to serve as a barrier to those seeking to assist individuals in need, but instead to offer a means to ensure that a reasonable degree of life safety is provided.
- **3112.2 Temporary Overnight Shelters - Defined.** For purposes of Section 3112, a temporary overnight shelter shall be defined as any building, facility, or space therein designed and used primarily as a church or house of worship for religious services or instruction or related activities which is owned or operated by a religious organization and qualified for exemption under 26 U.S.C. Section 501(c)(3) of the Internal Revenue Code.
- The primary use of the building, facility, or space therein is for religious services or instruction but may, on occasion, provide temporary overnight accommodation to a limited number of individuals for a limited period of time as provided for Section 3112.
- Other groups or organizations wishing to offer overnight accommodations in buildings designed and constructed for other purposes shall file an application for change of use in accordance with Section 105.



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SECTION 3113 TEMPORARY EMERGENCY USE

- **3113.1 through 3113.4 Add sections as follows:**
- **3113.1 General.** Except as noted herein, the provisions of Section 3113 shall apply to temporary emergency uses.
- **3113.1.1 Permit Required.** Temporary emergency uses shall not be operated or maintained for any purpose without first obtaining a permit from the municipal official having jurisdiction.
- **3113.2 Construction Documents.** A written request for the Temporary Emergency Use change, identifying the address-specific property is required.
- **3113.3 Certification.** A temporary emergency use shall be so identified by a special certificate of use and occupancy as established for such purpose (see the Department of Public Safety website www.mass.gov/dps for an example of this special certificate of use and occupancy) by the municipal or state building official in consultation with other appropriate municipal and state officials in accordance with procedures established for such purposes.
- **3113.4 Means of Egress.** All temporary emergency uses shall conform to the means of egress requirements of Chapter 10 to the degree practicable.



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CHAPTER 32: ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY

(no amendments)

CHAPTER 33: SAFEGUARDS DURING CONSTRUCTION

(no amendments)



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CHAPTER 34: EXISTING BUILDING CODE

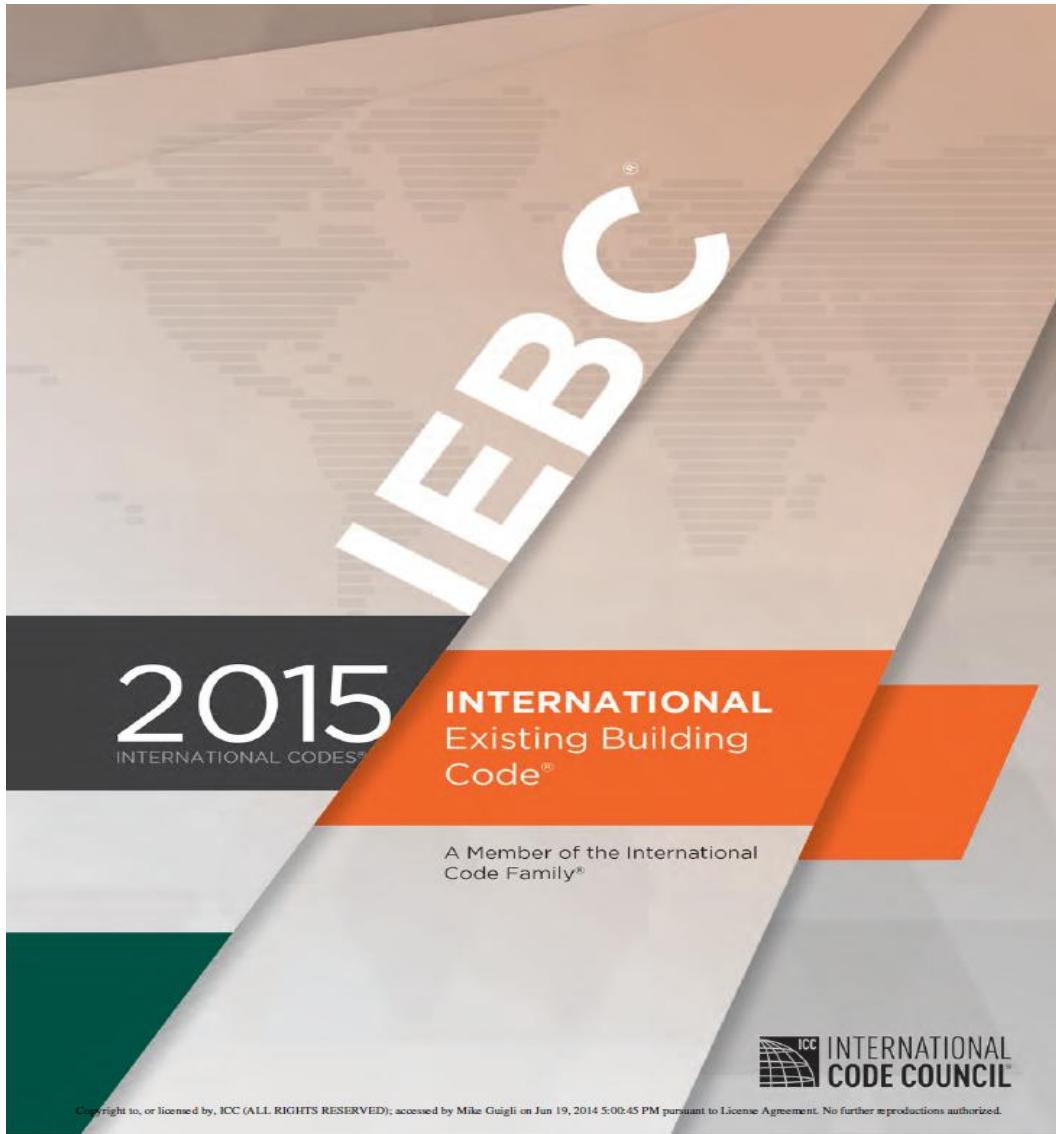
- **780 CMR 34** shall be the *International Existing Building Code 2015* with Sections or text modified or added as follows:
- **101.1 Revise section as follows:**
- **[A] 101.1 Title.** These regulations shall be known as the *Existing Building Code of Massachusetts*, hereinafter referred to as “this code.”
- **101.2 Revise section as follows:**
- **[A] 101.2 Scope.** The provisions of the *International Existing Building Code* shall apply to the *repair, alteration, change of occupancy, addition to and relocation of existing buildings*.

Notes:

1. If requirements in this code conflict with similar requirements in 780 CMR I, then 780 CMR I applies.
2. When this code references requirements in other I-Codes see 780 CMR I for guidance on how to use those I-Codes.
3. Requirements in this code for plumbing, fuel gas, electrical, elevators, fire, or accessibility shall be replaced by the requirements of the Massachusetts specialty codes, as indicated in 780 CMR I.



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- **104.2.2.1 Revise subsection as follows:**
- **104.2.2.1 Building investigation and evaluation.** For any proposed work regulated by this code and subject to 780 CMR, Section 107, as a condition of the issuance of a permit the building owner shall cause the *existing building* (or portion thereof) to be investigated and evaluated in accordance with the provisions of this code. The investigation and evaluation shall be in sufficient detail to ascertain the effects of the proposed work on at least these systems: structural, means of egress, fire protection, energy conservation, lighting, hazardous materials, accessibility, and ventilation for the space under consideration and, where necessary, the entire building or structure and its foundation if impacted by the proposed work. The results of the investigation and evaluation, along with any proposed *compliance alternatives*, shall be submitted to the *building official* in written report form.
- **104.11 Revise section as follows:**
- **104.11 Compliance Alternative** Where compliance with the provisions of the code for new construction, required by this code, is impractical because of construction difficulties or regulatory conflicts, *compliance alternatives* may be accepted by the *building official*. The *building official* may accept these *compliance alternatives*, archaic materials and assemblies in Resource A of this code, or other alternatives proposed. If the *compliance alternative* involves fire protection systems the *building official* shall consult with the fire official. *Compliance alternatives*, if any are proposed, shall be included with the application for a permit and shall identify all items of non- or partial compliance with the requirements of this code, and for approval by the *building official*. The *building official* shall respond to the acceptability of any proposed *compliance alternatives* within 30 days of the filing of the permit application. Where proposed *compliance alternatives* are, in the opinion of the *building official*, unacceptable, or where issues of non-compliance remain, the permit applicant shall have the remedies prescribed by 780 CMR 113.



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1401.3.4 Add subsection as follows:

- **1401.3.4 Peer Review.** At the discretion of the *building official*, the owner shall engage a registered design professional to review the performance compliance evaluation and methodologies proposed to determine compliance with this section. The registered design professional shall prepare a written report to the *building official* summarizing the results of their review. Items identified by the registered design professional as needing modification in order to be in compliance with this section shall be addressed to the satisfaction of the *building official* prior to the issuance of a building permit.

1401.3 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 *code official*.

1401.3.1 Hazards. Where the *code official* determines that an unsafe condition exists as provided for in Section 115, such unsafe condition shall be abated in accordance with Section 115.

1401.3.2 Compliance with other codes. Buildings that are evaluated in accordance with this section shall comply with the *International Fire Code* and *International Property Maintenance Code*.

1401.3.3 Compliance with flood hazard provisions. In *flood hazard areas*, buildings that are evaluated in accordance with this section shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable if the work covered by this section constitutes *substantial improvement*.



CHAPTER 35: REFERENCED STANDARDS

- Replace introductory paragraph with the following paragraph:
- This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standards shall be as specified in Section 102.4.
- Where a section of this code has been amended to cite a different standard (other than the one listed in this chapter), the referenced standard identified in the body of the code shall prevail, and the referenced standard identified in this chapter is no longer applicable or enforceable as a part of that section. Where a section of this code has been deleted or modified to remove a reference to a specific standard, the referenced standard listed in this chapter is no longer applicable or enforceable as part of this code. Buildings, structures, or conditions not addressed in this code must comply with Section 104.10.2.
- **Insert nine referenced standards as follows:**
 - NFPA 15 – 2012 Standard for Water Spray Fixed Systems for Fire Protection
 - NFPA 24 – 2010 Standard for the Installation of Private Fire Service Mains and their Appurtenances
 - NFPA 25 – 2014 Standard for the Inspection, Testing, and Maintenance of Water-based Fire Protection Systems
 - NFPA 92B – 2009 Standard for Smoke Management Systems in Malls, Atria and Large Spaces
 - NFPA 140 – 2013 Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations
 - NFPA 130 – 2014 Standard for Fixed Guideway Transit and Passenger Rail Systems
 - NFPA 241 – 2009 Standard for Safeguarding Construction, Alteration, and Demolition Operations
 - NFPA 400 – 2010 Hazardous Materials Code
 - NFPA 2010 – 2015 Standard for Fixed Aerosol Fire-Extinguishing Systems



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CHAPTER 115:APPENDICES

- **APPENDIX A EMPLOYEEQUALIFICATIONS** (Not adopted)
- **APPENDIX B BOARD OF APPEALS** (Not adopted)
- **APPENDIX C GROUP U—AGRICULTURAL BUILDINGS**
(Adopted with amendments)
- **C101.2 and C101.3** Add two sections as follows:
- **C101.2 Occupancy Thresholds.** Buildings that exceed an occupancy load of 100, that would otherwise be classified as Group U Agricultural, shall be classified per their intended use.
- **Exception.** Riding arenas shall have an occupancy load limit of 100.
- **C101.3 H-Use.** Agricultural buildings used to store commercial fertilizers, herbicides, or pesticides shall comply with 527 CMR, 780 CMR, and M.G.L. c. 132B with its associated regulations, as applicable.
- **C102.3** Delete entire section
- **Table C102.1** revise the term “ALLOWABLE AREA (square feet)^a” by adding “^b” after the “^a”.
- **Table C102.1** Add footnote b. as follows:
- b. Greenhouses that comply with snow-load requirements are exempt from the area requirements set forth in C102.



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- APPENDIX D FIRE DISTRICTS (Not adopted)
- APPENDIX E SUPPLEMENTARY ACCESSIBILITY REQUIREMENTS (Not adopted)
- APPENDIX F RODENTPROOFING (Adopted in full)

APPENDIX F RODENTPROOFING

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

User note: Code change proposals to this chapter will be considered by the IBC – Structural Code Development Committee during the 2016 (Group B) Code Development Cycle. See explanation on page iv.

SECTION F101 GENERAL

F101.1 General. Buildings or structures and the walls enclosing habitable or occupiable rooms and spaces in which persons live, sleep or work, or in which feed, food or food-stuffs are stored, prepared, processed, served or sold, shall be constructed in accordance with the provisions of this section.

F101.2 Foundation wall ventilation openings. Foundation wall ventilation openings shall be covered for their height and width with perforated sheet metal plates no less than 0.070 inch (1.8 mm) thick, expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick, cast-iron grills or grating, extruded aluminum load-bearing vents or with hardware cloth of 0.035 inch (0.89 mm) wire or heavier. The openings therein shall not exceed $\frac{1}{4}$ inch (6.4 mm).

F101.3 Foundation and exterior wall sealing. Annular spaces around pipes, electric cables, conduits or other openings in the walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or noncorrosive metal.

F101.4 Doors. Doors on which metal protection has been applied shall be hinged so as to be free swinging. When closed, the maximum clearance between any door, door jambs and sills shall be not greater than $\frac{3}{8}$ inch (9.5 mm).

F101.5 Windows and other openings. Windows and other openings for the purpose of light or ventilation located in exterior walls within 2 feet (610 mm) above the existing ground level immediately below such opening shall be covered for their entire height and width, including frame, with hardware cloth of at least 0.035-inch (0.89 mm) wire or heavier.

F101.5.1 Rodent-accessible openings. Windows and other openings for the purpose of light and ventilation in the exterior walls not covered in this chapter, accessible to rodents by way of exposed pipes, wires, conduits and other appurtenances, shall be covered with wire cloth of at least 0.035-inch (0.89 mm) wire. In lieu of wire cloth covering, said pipes, wires, conduits and other appurtenances shall be blocked from rodent usage by installing solid sheet metal guards 0.024 inch (0.61 mm) thick or heavier. Guards shall be fitted around pipes, wires, conduits or other appurtenances. In addition, they shall be fastened securely to and shall extend perpendicularly from the exterior wall for a minimum distance of 12 inches (305 mm) beyond and on either side of pipes, wires, conduits or appurtenances.

F101.6 Pier and wood construction.

F101.6.1 Sill less than 12 inches above ground. Buildings not provided with a continuous foundation shall be provided with protection against rodents at grade by providing either an apron in accordance with Section F101.6.1.1 or a floor slab in accordance with Section F101.6.1.2.

F101.6.1.1 Apron. Where an apron is provided, the apron shall be not less than 8 inches (203 mm) above, nor less than 24 inches (610 mm) below, grade. The apron shall not terminate below the lower edge of the siding material. The apron shall be constructed of an approved nondecayable, water-resistant rodentproofing material of required strength and shall be installed around the entire perimeter of the building. Where constructed of masonry or concrete materials, the apron shall be not less than 4 inches (102 mm) in thickness.

F101.6.1.2 Grade floors. Where continuous concrete-grade floor slabs are provided, open spaces shall not be left between the slab and walls, and openings in the slab shall be protected.

F101.6.2 Sill at or above 12 inches above ground. Buildings not provided with a continuous foundation and that have sills 12 inches (305 mm) or more above ground level shall be provided with protection against rodents at grade in accordance with any of the following:

1. Section F101.6.1.1 or F101.6.1.2.
2. By installing solid sheet metal collars at least 0.024 inch (0.6 mm) thick at the top of each pier or pile and around each pipe, cable, conduit, wire or other item that provides a continuous pathway from the ground to the floor.
3. By encasing the pipes, cables, conduits or wires in an enclosure constructed in accordance with Section F101.6.1.1.



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SECTION G101 ADMINISTRATION

G101.1 Purpose. The purpose of this appendix is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific *flood hazard areas* through the establishment of comprehensive regulations for management of *flood hazard areas* designed to:

1. Prevent unnecessary disruption of commerce, access and public service during times of flooding.
2. Manage the alteration of natural flood plains, stream channels and shorelines.
3. Manage filling, grading, dredging and other development that may increase flood damage or erosion potential.
4. Prevent or regulate the construction of flood barriers that will divert floodwaters or that can increase flood hazards.
5. Contribute to improved construction techniques in the flood plain.

G101.2 Objectives. The objectives of this appendix are to protect human life, minimize the expenditure of public money for flood control projects, minimize the need for rescue and relief efforts associated with flooding, minimize prolonged business interruption, minimize damage to public facilities and utilities, help maintain a stable tax base by providing for the sound use and development of flood-prone areas, contribute to improved construction techniques in the flood plain and ensure that potential owners and occupants are notified that property is within *flood hazard areas*.

G101.3 Scope. The provisions of this appendix shall apply to all proposed development in a *flood hazard area* established in Section 1612 of this code, including certain building work exempt from permit under Section 105.2.

G101.4 Violations. Any violation of a provision of this appendix, or failure to comply with a *permit* or variance issued pursuant to this appendix or any requirement of this appendix, shall be handled in accordance with Section 114.



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APPENDIX G FLOOD-RESISTANT CONSTRUCTION IN COASTAL DUNES

- (Adopted but replaced in its entirety with the following)
- **G301.1 General.** Work subject to the requirements of this appendix shall be designed by a registered design professional. Work located in both *flood hazard areas* and *coastal dunes* shall meet the requirements for both areas. Where requirements are duplicative the more stringent requirement shall apply.
- **G301.2 Construction Documents.** Construction documents per Section 1612.5 shall be submitted as applicable for work in *coastal dunes*. Construction documents shall indicate proposed details of floor, wall, foundation support components, loading computations, and other essential technical data used to meet the requirements of this appendix.. In addition and as part of the *permit* application for construction in *coastal dunes* the *building official* shall require submission of one of the *construction documents* specified in (a) through (d) along with a notarized statement by the applicant that the Order, Determination or Notice is in effect and is not the subject of any administrative appeals before the Department of Environmental Protection or the Division of Administrative Law Appeals. No building *permit* shall be issued unless and until a *construction document* that conforms to the requirements of this section is submitted.
- An Order of Conditions establishing the boundaries of all coastal wetland resource areas in a plan referenced in and accompanying the Order. The Order shall determine whether the coastal wetland resource areas are significant to any of the interests identified in the Wetlands Protection Act, M.G.L. c. 131, § 40 including the interests of flood control and storm damage prevention. If the Order indicates that the proposed construction work is located within a coastal dune that is significant to the interests of flood control and/or storm damage prevention, the Order of Conditions must allow the proposed construction.
- An Order of Resource Area Delineation stating that the proposed construction work is outside the boundaries of all coastal wetland resource areas as shown on a plan referenced in and accompanying the Order.
- A Determination of Applicability stating that the proposed construction work is outside the boundaries of all coastal wetland resource areas as shown on a plan referenced in and accompanying the Determination or will not fill, dredge or alter a coastal wetland resource area.
- A Notice of Non-significance evidencing that the proposed construction work is within a coastal wetland resource area as shown on a plan referenced in and accompanying the Notice and stating that the coastal wetland resource area is not significant to any of the interests identified in M.G.L. c. 131, § 40: *Removal, Fill, Dredging or Altering of Land Bordering Waters* (the Wetlands Protection Act).

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- **G301.3 Elevation of Structures in Coastal Dunes.** For new buildings and structures, new foundations, replacement or substantial repair of a foundation, or repair of a substantially damaged structure where damage is the result of a storm or flooding the entire structure shall be elevated so that the bottom of the lowest horizontal structural member of the lowest floor with the exception of pilings or pile caps is located at the elevation required by the Order of Conditions of the local Conservation Commission in accordance with the Wetlands Protection Act, M.G.L. c. 131, § 40 and Wetlands Protection regulations, 310 CMR 10.21 through 10.35. For lateral additions that are not a substantial improvement, only the addition shall be elevated so that the bottom of the lowest horizontal structural member of the lowest floor with the exception of pilings or pile caps is located at the elevation required by the Order of Conditions of the local Conservation Commission in accordance with the Wetlands Protection Act, M.G.L. c. 131, § 40 and the Wetlands Protection regulations at 310 CMR 10.21 through 10.35. Enclosures are not permitted below the lowest horizontal structural member of the lowest floor.
- **G301.4 Foundations.** Foundations shall be designed in accordance with Section 18, ASCE 7 and ASCE 24. Anchorage of buildings and structures shall be designed and connected to resist flotation, collapse or permanent lateral movement due to structural loads and stresses from flooding equal to the base flood. Foundations for work meeting the elevation requirements of Section G301.3 shall consist of open pilings without footings to allow the movement of the dune.
- **Exception.** Where surface or subsurface conditions consist of non-erodible soil that prevents the use of pile foundations, spread footings or mat foundations may be permitted. Such foundations shall be anchored to prevent sliding, uplift or overturning of the footing and the non-erodible soil it is attached to and be designed to withstand any combination of loads.



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- **APPENDIX H SIGNS** (Adopted in full)
- **APPENDIX I PATIO COVER** (Adopted in full)
- **APPENDIX J GRADING** (Adopted in full)
- **APPENDIX K ADMINISTRATIVE PROVISIONS** (Not adopted)
- **APPENDIX L EARTHQUAKE RECORDING INSTRUMENTATION** (Not adopted)
- **APPENDIX M TSUMANI-GENERATED FLOOD HAZARD** (Not adopted)



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APPENDIX H

SIGNS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION H101 GENERAL

H101.1 General. A sign shall not be erected in a manner that would confuse or obstruct the view of or interfere with exit signs required by Chapter 10 or with official traffic signs, signals or devices. Signs and sign support structures, together with their supports, braces, guys and anchors, shall be kept in repair and in proper state of preservation. The display surfaces of signs shall be kept neatly painted or posted at all times.

H101.2 Signs exempt from permits. The following signs are exempt from the requirements to obtain a *permit* before erection:

1. Painted nonilluminated signs.
2. Temporary signs announcing the sale or rent of property.
3. Signs erected by transportation authorities.
4. Projecting signs not exceeding 2.5 square feet (0.23 m²).
5. The changing of moveable parts of an approved sign that is designed for such changes, or the repainting or repositioning of display matter shall not be deemed an alteration.

SECTION H102 DEFINITIONS

H102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

COMBINATION SIGN. A sign incorporating any combination of the features of pole, projecting and roof signs.

DISPLAY SIGN. The area made available by the sign structure for the purpose of displaying the advertising message.

ELECTRIC SIGN. A sign containing electrical wiring, but not including signs illuminated by an exterior light source.

GROUND SIGN. A billboard or similar type of sign that is supported by one or more uprights, poles or braces in or upon the ground other than a combination sign or pole sign, as defined by this code.

POLE SIGN. A sign wholly supported by a sign structure in the ground.

PORTABLE DISPLAY SURFACE. A display surface temporarily fixed to a standardized advertising structure that is

regularly moved from structure to structure at periodic intervals.

PROJECTING SIGN. A sign other than a wall sign that projects from and is supported by a wall of a building or structure.

ROOF SIGN. A sign erected on or above a roof or parapet of a building or structure.

SIGN. Any letter, figure, character, mark, plane, point, marquee sign, design, poster, pictorial, picture, stroke, stripe, line, trademark, reading matter or illuminated service, which shall be constructed, placed, attached, painted, erected, fastened or manufactured in any manner whatsoever, so that the same shall be used for the attraction of the public to any place, subject, person, firm, corporation, public performance, article, machine or merchandise, whatsoever, which is displayed in any manner outdoors. Every sign shall be classified and conform to the requirements of that classification as set forth in this chapter.

SIGN STRUCTURE. Any structure that supports or is capable of supporting a sign as defined in this code. A sign structure is permitted to be a single pole and is not required to be an integral part of the building.

WALL SIGN. Any sign attached to or erected against the wall of a building or structure, with the exposed face of the sign in a plane parallel to the plane of said wall.

SECTION H103 LOCATION

H103.1 Location restrictions. Signs shall not be erected, constructed or maintained so as to obstruct any fire escape or any window or door or opening used as a *means of egress* or so as to prevent free passage from one part of a roof to any other part thereof. A sign shall not be attached in any form, shape or manner to a fire escape, nor be placed in such manner as to interfere with any opening required for ventilation.

SECTION H104 IDENTIFICATION

H104.1 Identification. Every outdoor advertising display sign hereafter erected, constructed or maintained, for which a permit is required, shall be plainly marked with the name of the person, firm or corporation erecting and maintaining such sign and shall have affixed on the front thereof the permit number issued for said sign or other method of identification approved by the *building official*.



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APPENDIX I PATIO COVERS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION I101 GENERAL

I101.1 General. Patio covers shall be permitted to be detached from or attached to *dwelling units*. Patio covers shall be used only for recreational, outdoor living purposes and not as carports, garages, storage rooms or habitable rooms.

SECTION I102 DEFINITION

I102.1 General. The following term shall, for the purposes of this appendix, have the meaning shown herein. Refer to Chapter 2 of this code for general definitions.

PATIO COVER. A structure with open or glazed walls that is used for recreational, outdoor living purposes associated with a *dwelling unit*.

SECTION I103 EXTERIOR WALLS AND OPENINGS

I103.1 Enclosure walls. Enclosure walls shall be permitted to be of any configuration, provided the open or glazed area of the longer wall and one additional wall is equal to at least 65 percent of the area below a minimum of 6 feet 8 inches (2032 mm) of each wall, measured from the floor. Openings shall be permitted to be enclosed with insect screening, approved translucent or transparent plastic not more than 0.125 inch (3.2 mm) in thickness, glass conforming to the provisions of Chapter 24 or any combination of the foregoing.

I103.2 Light, ventilation and emergency egress. Exterior openings of the *dwelling unit* required for light and ventilation shall be permitted to open into a patio structure. However, the patio structure shall be unenclosed if such openings are serving as emergency egress or rescue openings from sleeping rooms. Where such exterior openings serve as an exit from the dwelling unit, the patio structure, unless unenclosed, shall be provided with exits conforming to the provision of Chapter 10.

SECTION I104 HEIGHT

I104.1 Height. Patio covers shall be limited to one-story structures not more than 12 feet (3657 mm) in height.

SECTION I105 STRUCTURAL PROVISIONS

I105.1 Design loads. Patio covers shall be designed and constructed to sustain, within the stress limits of this code, all *dead loads* plus a minimum vertical live load of 10 pounds per square foot (0.48 kN/m²) except that snow loads shall be used where such snow loads exceed this minimum. Such patio covers shall be designed to resist the minimum wind and seismic loads set forth in this code.

I105.2 Footings. In areas with a frost depth of zero, a patio cover shall be permitted to be supported on a concrete slab on grade without footings, provided the slab conforms to the provisions of Chapter 19 of this code, is not less than 3 $\frac{1}{2}$ inches (89 mm) thick and further provided that the columns do not support loads in excess of 750 pounds (3.36 kN) per column.



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APPENDIX J GRADING

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

User note: Code change proposals to this chapter will be considered by the IBC – Structural Code Development Committee during the 2016 (Group B) Code Development Cycle. See explanation on page iv.

SECTION J101 GENERAL

J101.1 Scope. The provisions of this chapter apply to grading, excavation and earthwork construction, including fills and embankments. Where conflicts occur between the technical requirements of this chapter and the geotechnical report, the geotechnical report shall govern.

J101.2 Flood hazard areas. Unless the applicant has submitted an engineering analysis, prepared in accordance with standard engineering practice by a *registered design professional*, that demonstrates the proposed work will not result in any increase in the level of the base flood, grading, excavation and earthwork construction, including fills and embankments, shall not be permitted in *floodways* that are in *flood hazard areas* established in Section 1612.3 or in *flood hazard areas* where design flood elevations are specified but *floodways* have not been designated.

SECTION J102 DEFINITIONS

J102.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

BENCH. A relatively level step excavated into earth material on which fill is to be placed.

COMPACTION. The densification of a fill by mechanical means.

CUT. See “Excavation.”

DOWN DRAIN. A device for collecting water from a swale or ditch located on or above a slope, and safely delivering it to an approved drainage facility.

EROSION. The wearing away of the ground surface as a result of the movement of wind, water or ice.

EXCAVATION. The removal of earth material by artificial means, also referred to as a cut.

FILL. Deposition of earth materials by artificial means.

GRADE. The vertical location of the ground surface.

GRADE, EXISTING. The grade prior to grading.

GRADE, FINISHED. The grade of the site at the conclusion of all grading efforts.

GRADING. An excavation or fill or combination thereof.

KEY. A compacted fill placed in a trench excavated in earth material beneath the toe of a slope.

SLOPE. An inclined surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

TERRACE. A relatively level step constructed in the face of a graded slope for drainage and maintenance purposes.

SECTION J103 PERMITS REQUIRED

J103.1 Permits required. Except as exempted in Section J103.2, no grading shall be performed without first having obtained a *permit* therefor from the *building official*. A grading *permit* does not include the construction of retaining walls or other structures.

J103.2 Exemptions. A grading *permit* shall not be required for the following:

1. Grading in an isolated, self-contained area, provided there is no danger to the public and that such grading will not adversely affect adjoining properties.
2. Excavation for construction of a structure permitted under this code.
3. Cemetery graves.
4. Refuse disposal sites controlled by other regulations.
5. Excavations for wells, or trenches for utilities.
6. Mining, quarrying, excavating, processing or stockpiling rock, sand, gravel, aggregate or clay controlled by other regulations, provided such operations do not affect the lateral support of, or significantly increase stresses in, soil on adjoining properties.
7. Exploratory excavations performed under the direction of a *registered design professional*.

Exemption from the *permit* requirements of this appendix shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

SECTION J104 PERMIT APPLICATION AND SUBMITTALS

J104.1 Submittal requirements. In addition to the provisions of Section 105.3, the applicant shall state the estimated quantities of excavation and fill.



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- **APPENDIX AA Stretch Energy Code**
- **AA101 Purpose and Adoption.** The purpose of the stretch energy code is to provide a more energy efficient code alternative for new buildings. The stretch energy code may be adopted or rescinded by any municipality in the commonwealth in the manner prescribed by law.
- **AA102 Applicability.** Municipalities that have adopted the stretch energy code shall use the energy efficiency requirements of this appendix as provided below. These requirements replace all previous stretch energy code requirements.
- **AA103 New buildings.**
- **AA 103.1 R-use buildings.** In all R-use buildings, of four stories or less above *grade plane* with one or more dwelling units, each *dwelling unit* shall comply with Section N1106 of 780 CMR 51 (Residential Code).
- **AA103.2 Large area and high energy use buildings.** All buildings over 100,000 sq ft, and new supermarkets, laboratories and conditioned warehouses over 40,000 sq. ft. shall comply with 780 CMR 13 and shall demonstrate energy use per square foot at least 10% below the energy requirements of ANSI/ASHRAE/IESNA 90.1 APPENDIX G Performance Rating Method on either a site or source energy basis.
- **AA103.3 Other new buildings.** New buildings not covered in AA103.1 and AA103.2 shall comply with 780 CMR 13 or 780 CMR 51-Chapter 11 as applicable based on the use and occupancy of the building.
- **AA104 Existing buildings.** For alterations, renovations, additions or repairs of existing buildings in these municipalities the energy efficiency requirements of 780 CMR 13 or 780 CMR 51-Chapter 11 shall be used as applicable based on the use and occupancy of the building.



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Department of Public Safety

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THANK YOU!

Robert Anderson

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