

780 CMR: STATE BOARD OF BUILDING REGULATIONS AND STANDARDS

780 CMR 51.00: MASSACHUSETTS RESIDENTIAL CODE

5101.1 Scope. The provisions of 780 CMR 51.00 shall be known as the Massachusetts Residential Code and are comprised of the *International Residential Code 2009* (IRC) with Massachusetts amendments. The Massachusetts amendments to the IRC are:

R101.1 Replace as follows:

R101.1 Title. The Board of Building Regulations and Standards (BBRS) hereby adopts and incorporates by reference herein the *International Residential Code for One- and Two-family Dwellings 2009* (IRC). The IRC together with modifications as set forth herein shall collectively comprise the Eighth Edition Massachusetts Residential Code for One- and Two-family Dwellings hereinafter referred to as "this code."

R101.1.1 Add subsection:

R101.1.1 Appendices and Appended Regulations. In adopting the IRC, BBRS does not adopt Appendices A through E or N through Q, but does adopt IRC Appendices F through M as modified herein. BBRS also incorporates into this code the unique Massachusetts regulations 110.R1 through 110.R7 of the Eighth Edition of the MA State Building Code (780 CMR).

R101.2 Add a first sentence as follows:

This code shall be the building code for all towns, cities, state agencies or authorities in accordance with M.G.L. c. 143, § 94.

R102.2 Replace as follows:

R102.2 Other Laws. Massachusetts General Laws (M.G.L.) and the Code of Massachusetts Regulations (CMR) are often referenced in this code. It is the code user's responsibility to determine all applicable laws and regulations relevant to sections in this code.

R102.2.1 Add subsection:

R102.2.1 DDS Facilities. Additional building features required by the Massachusetts Department of Developmental Services (DDS) do not change the classification of residences operated or licensed by DDS as dwellings subject to this code.

R102.2.2 Add subsection:

R102.2.2 Municipal Bylaws or Ordinances. When provisions of this code conflict with municipal bylaws and ordinances, this code shall govern unless the bylaws or ordinances were promulgated in accordance with M.G.L. c. 143, § 98.

R102.4 After the word "codes" in the first sentence, add the following: ", regulations,"

R102.4.1 Add the following subsections:

R102.4.1 Specialized Codes. Referenced codes include the *specialized codes* of M.G.L. c. 143, § 96 and other codes and regulations listed in R102.4.2 through R102.4.12. The *specialized codes* are hereby incorporated into this code. Other codes and regulations shall be considered part of this code to the prescribed extent of each such reference.

Note 1. Work regulated by the *specialized codes* shall be designed, installed and inspected by individuals authorized to do so in accordance with the *specialized codes*. However, the impact of work regulated by the *specialized codes* and other codes and regulations on work governed by this code shall be subject to inspection by the *building official*.

Note 2. Work regulated by the Architectural Access Board regulations (521 CMR) shall be enforced by the *building official*. See M.G.L. c. 22, § 13A.

Note 3. Work regulated by the Board of Sheet Metal Regulations shall be enforced by the *building official*. See M.G.L. c. 13, § 102.

51.00: continued

R102.4.2 Gas and Fossil Fuel Burning Appliances. Reference to the *International Fuel Gas Code* shall be considered reference to the Massachusetts Fuel Gas and Plumbing Code (248 CMR). Gas fired appliances are governed by the Massachusetts Fuel Gas and Plumbing Code. Oil fired appliances are governed by the Board of Fire Prevention Regulations (527 CMR).

R102.4.3 Mechanical. The provisions of the *International Mechanical Code* shall apply to the installation, alterations, repairs and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or appurtenances, including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators and other energy-related systems.

R102.4.4 Plumbing. Reference to the *International Plumbing Code* shall be considered reference to the Massachusetts Fuel Gas and Plumbing Code (248 CMR). For sewerage disposal or water connections also see 310 CMR 15.00: *The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage* and 314 CMR 3.00: *Surface Water Discharge Permit Program*, 5.00: *Ground Water Discharge Permit Program* and 20.00: *Reclaimed Water Permit Program and Standards*.

R102.4.5 Property Maintenance. Reference to the *International Property Maintenance Code* shall be considered reference to this code, the specialized codes of M.G.L. c. 143, § 96, and 105 CMR 410.000: *Minimum Standards of Fitness for Human Habitation (State Sanitary Code, Chapter II)*.

R102.4.6 Fire Prevention. Reference to the *International Fire Code (IFC)* or *International Mechanical Code (IMC)* for fire prevention issues shall be considered reference to the Board of Fire Prevention Regulations (527 CMR). If 527 CMR does not address an issue covered by the IFC or IMC, then that said reference code shall apply. If a conflict regarding fire prevention requirements exists between 527 CMR and 780 CMR the more stringent standard shall apply.

Note: Building code requirements in the IFC and IMC are made a part of 780 CMR and are enforceable by the *building official*.

R102.4.7 Energy. The provisions of Chapter 11 and/or the *International Energy Conservation Code (IECC)* shall apply to all matters governing the design and construction of buildings for energy efficiency. See Chapter 11 for guidance.

R101.4.8 Architectural Access. See the Architectural Access Board regulations at 521 CMR.

R102.4.9 Environmental Protection. See the Department of Environmental Protection regulations at 310 CMR and the Division of Water Pollution Control regulations at 314 CMR.

R101.4.10 Elevators. See the Massachusetts Board of Elevator Regulations at 524 CMR.

R102.4.11 Electrical. Reference to the *International Electrical Code* shall be considered reference to 527 CMR 12.00: *Massachusetts Electrical Code (Amendments)*.

R102.4.12 Sheet Metal. See the Board of Examiners of Sheet Metal Workers regulations at 271 CMR.

R102.5 Delete subsection.

R102.7 Delete the following phrase:

“the *International Property Maintenance Code* or the *International Fire Code*,”

R102.7.2 Add subsection:

R102.7.2 Laws in Effect. Unless specifically provided otherwise in this code, and narrow to the provisions of this code, any existing building or structure shall meet and shall be presumed to meet the provisions of the applicable laws, codes, rules or regulations, bylaws or ordinances in effect at the time such building or structure was constructed or altered and shall be allowed to continue to be occupied pursuant to its use and occupancy, provided that the building or structure shall be maintained by the owner in accordance with this code.

51.00: continued

Exit terminals of oil-fired mechanical draft and direct-vent venting systems shall conform to the applicable requirements of 527 CMR 4.00: *Oil Burning Equipment* or, in the absence of such guidance, shall conform to the criteria of Figure C-1, or the equipment manufacturer's requirements, whichever are more stringent.

Exit terminals of solid fuel-burning mechanical draft and direct-vent venting systems shall conform to the applicable requirements of Figure C-1, or the equipment manufacturer's requirements, whichever are more stringent.

APPENDIX D - RECOMMENDED PROCEDURE FOR SAFETY INSPECTION OF AN EXISTING APPLIANCE INSTALLATION: Reserved.

APPENDIX E - MANUFACTURED HOUSING USED AS DWELLINGS

AE101.1 Add a note as follows:

Note. Construction, installation, addition, repair or maintenance of building systems that fall under that authority of the *specialized codes* shall be overridden by and shall conform to applicable *specialized code(s)* requirements.

AE102.2 Replace subsections 1., 2., and 3. as follows:

1. Be designed and constructed in conformance with this code and the applicable *specialized codes*.

AE301 to AE304 Replace as follows:

AE301.1 Permits and Fees. For *permit* requirements *see* Chapter 1. Refer to local municipality for *permit fees*.

AE305 Replace as follows:

AE305.1 General. For inspection requirements *see* Chapter 1.

AE507.1 Replace as follows:

AE507.1 General. Alterations made to a manufactured home subsequent to its initial installation shall conform to the occupancy, fire-safety and energy conservation requirements of this code.

APPENDIX F - RADON CONTROL METHODS

AF101.1 Replace as follows:

AF101.1 General This appendix contains minimum passive radon control requirements for all new construction in the high radon potential counties as shown in Zone 1 of Figure AF101 regardless of the radon levels at the site. Alternatively, the passive system requirements of ANSI/AARST Standard Designation #CCAH: "Reducing Radon in New Construction of One & Two Family Dwellings and Townhouses" 2013 may be used for new construction in Zone 1, or approved equal system.

No testing is required:

- for the radon levels at the site prior to construction;
- for the radon control system when completed; or
- in the building after completion of the project.

Therefore, such testing shall not be a condition of issuing a Certificate of Occupancy.

AF103.1 Delete the last sentence. See separate file for amended Figure AF-102.

AF103.2 Add a second sentence to subparagraph 2. as follows:

The geotextile matting shall have a cross sectional area of at least 12- square inches. It shall be designed to facilitate lateral transporting of soil gases to the collection point and shall be placed no closer than 12-inches around the interior of the foundation perimeter.

51.00: continued

Add a second sentence to subparagraph 3. as follows:

A four inch perforated pipe embedded in a 50 square inch bed of gravel as specified in Item 1. above and shall be no closer than 12-inches around the interior of the foundation perimeter.

AF103.3 Add the following at the end of the paragraph:

The sheeting shall be sealed to the perimeter footing or wall with an ASTM C290 class 25 or higher sealant or equal. Under-slab insulation, if used, shall be placed on top of the sheeting.

AF103.4.3 Delete and replace as follows:

AF103.4.3 Foundation and condensate drains. Foundation and condensate drains below the gas retarder area shall be isolated from the gas collection area by plumbing traps or routed through non-perforated pipe.

AF103.5.2 Add at the end of the last sentence:

“, and shall extend upward six inches and be sealed to the wall with an ASTM C290 class 25 or higher sealant or equal.”

AF103.5.3 Replace the first sentence as follows:

The soil gas venting pipe system shall consist of two five-foot long pieces of perforated pipe laid horizontally in a 50 square inch gravel trench and inserted into the opposing horizontal legs of a piping T-fitting with the vertical leg of the fitting penetrating the sheeting. The gravel shall be as specified in AF103.2, paragraph 1. The vertical leg of the t-fitting shall connect to a 3-inch diameter vertical vent pipe.

AF103.6. Add between the second and third sentence the following:

Each horizontal leg of the T-fitting shall be connected to:

- two five-foot long pieces of perforated pipe laid horizontally in the gravel,
- or to the geotextile matting loop,
- or to the perforated pipe trench loop.

The connection shall be constructed to facilitate gas flow from the sub-slab system.

AF103.12 Delete

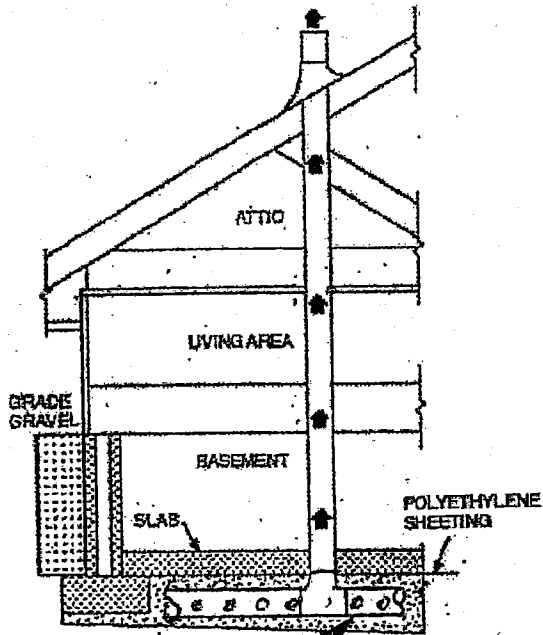
Figure AF 102 Replace Figure AF 102 as follows:

51.00: continued

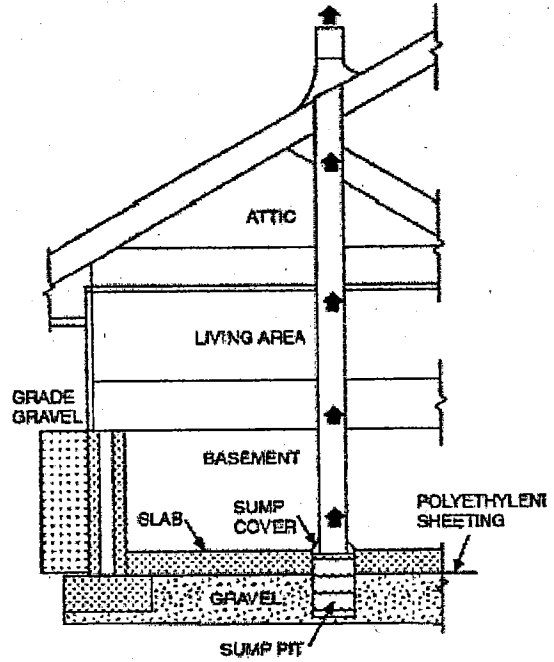
Figure AF102

RADON-RESISTANT CONSTRUCTION DETAILS FOR FOUR FOUNDATION TYPES

TYPICAL SUBSLAB DEPRESSURIZATION
PASSIVE RADON SYSTEM

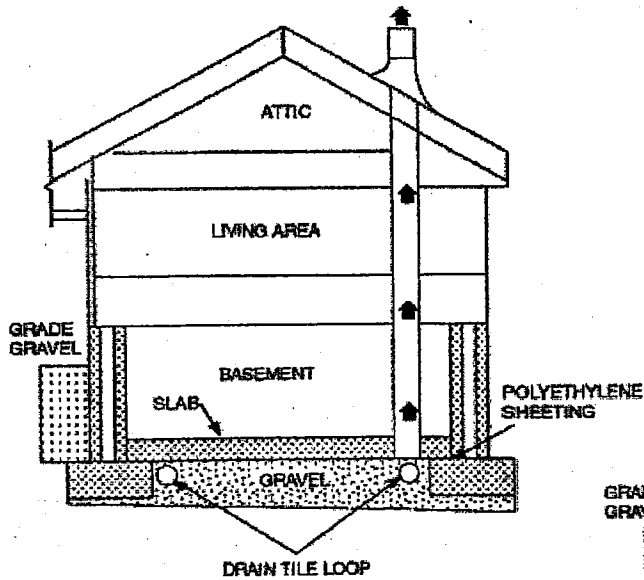


PASSIVE RADON SYSTEM VENTED
THROUGH SUMP

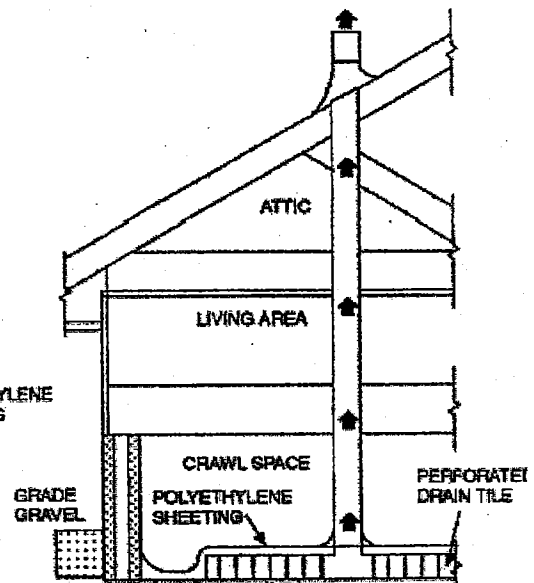


Note: T-connection to perforated piping
(or geotextile matting not shown) See AF 103.6.1

PASSIVE RADON SYSTEM USING
DRAIN TILE LOOP



SUBMEMBRANE DEPRESSURIZATION SYSTEM
FOR CRAWL SPACE



Note: T-connection to
perforated piping not shown) See AF 103.6.1

51.00: continued

APPENDIX G - SWIMMING POOLS, SPAS AND HOT TUBS

AG101.1 Add the following Notes:

Notes:

1. Public and semi-public outdoor in-ground swimming pool enclosures shall conform to the requirements of M.G.L. c. 140, § 206.
2. Also see 521 CMR 19.00: *Recreational Facilities*.
3. Also see 105 CMR 430.00: *Minimum Standards for Recreational Camps for Children (State Sanitary Code, Chapter IV)* and 435.00: *Minimum Standards for Swimming Pools (State Sanitary Code: Chapter V)* as such regulate swimming pool requirements.
4. Installation of electrical wiring and electrical devices shall be in accordance with 527 CMR 12.00: *Massachusetts Electrical Code (Amendments)*.
5. Installation of gas-fired pool heaters shall be in accordance with the Board of State Examiners of Plumber and Gas Fitters regulations at 248 CMR.

APPENDIX H - PATIO COVERS

Massachusetts adopts this Appendix without amendment.

APPENDIX I - PRIVATE SEWAGE DISPOSAL

A1101.1 Replace as follows:

A1101.1 Scope. Private sewage disposal systems shall conform to the requirements of 310 CMR 15.00: *The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage* and any additional legal restrictions imposed by the municipal Health Department

APPENDIX J - EXISTING BUILDINGS AND STRUCTURES

AJ101.1 Add a second paragraph, exception, and two notes as follows:

Features of existing construction which do not meet the requirements of this code for new construction shall be presumed to have met the regulations, codes or laws in effect at the time of construction or alteration and, if so, shall be deemed to be existing nonconforming. Unless stated otherwise, nothing in this chapter shall require the upgrading or replacement of any existing nonconforming features or component of an existing building, provided the feature(s) or components or systems are in a serviceable condition unless the *building official* determines that an unsafe or dangerous condition would exist, in which case he shall order the remediation of such condition. Nor shall this chapter be deemed to require the replacement or upgrading of serviceable components which are not included in the scope of work for which a *permit* is applied unless expressly required by this code, or unless the *building official* determines that an unsafe or dangerous condition would result.

Exception. Existing components or features of an existing building which, in the opinion of the *building official*, are dangerous, unsafe, unserviceable or demonstrate damage or significant deterioration or which otherwise present a threat to the occupants or to the public safety shall be remediated in accordance with the applicable sections of this code.

Note 1. Any new building system or portion thereof shall conform to 780 CMR for new construction to the fullest extent practicable. However, individual components of an existing building system may be repaired or replaced without requiring that system to comply fully with the code for new construction unless specifically required by this appendix.

Note 2. For existing buildings and structures conformance to requirements of the *Specialized Codes* refer to the applicable *Specialized Codes*.

AJ101.1.1 Add subsection:

AJ101.1.1 Buildings Which Qualify. A building erected prior to the date of adoption of the appropriate code, or one for which a legal building *permit* has been issued.

51.00: continued

Note. Existing townhouse buildings regulated by this code shall also conform to the seismic requirements of this code.

AJ102.1 Replace the phrase "mechanical or plumbing system" with "system controlled by this code"

AJ102.3 Replace as follows:

AJ102.3 Smoke, Heat, Carbon Monoxide Detection and Alarm Systems. When one or more sleeping rooms are added or created in existing dwellings, the entire existing dwelling shall be provided with smoke detectors, heat detector and carbon monoxide detectors designed, located and installed in accordance with the provisions for new construction, as applicable. If a garage is created under an existing dwelling or attached to an existing dwelling, a heat detector, conforming to the requirements of the code for new construction shall be installed in the garage; such requirement is not applicable for detached garages (*see* Chapter 3).

If the dwelling undergoes complete reconstruction such that all walls and ceilings are open to framing, then the entire existing building shall be provided with smoke detectors, heat detector and carbon monoxide detectors designed, located and installed in accordance with the provisions for new construction.

NON-TEXT PAGE