

Residential Code

Incorporating the 2003 edition of
the International Residential Code for
One- and Two-Family Dwellings

2003

Michigan Department of Labor & Economic Growth Bureau of Construction Codes & Fire Safety



2003 Michigan Residential Code

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PREFACE

Introduction

Internationally, code officials recognize the need for a modern, up-to-date residential code addressing the design and construction of one- and two-family dwellings and townhouses. The *International Residential Code*®, in this 2003 edition, is designed to meet these needs through model code regulations that safeguard the public health and safety in all communities, large and small.

This comprehensive, stand-alone residential code establishes minimum regulations for one- and two-family dwellings and townhouses using prescriptive provisions. It is founded on broad-based principles that make possible the use of new materials and new building designs. This 2003 edition is fully compatible with all the *International Codes* (“I-Codes”) published by the International Code Council® (ICC®), including the *International Building Code*®, *ICC Electrical Code*, *International Energy Conservation Code*®, *International Existing Building Code*®, *International Fire Code*®, *International Fuel Gas Code*®, *International Mechanical Code*®, *ICC Performance Code*, *International Plumbing Code*®, *International Private Sewage Disposal Code*®, *International Property Maintenance Code*®, *International Urban-Wildland Interface Code* and *International Zoning Code*®.

The *International Residential Code* provisions provide many benefits, among which is the model code development process that offers an international forum for residential construction professionals to discuss prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

Development

The first edition of the *International Residential Code* (2000) was the culmination of an effort initiated in 1996 by a development committee appointed by the ICC and consisting of representatives of the three statutory members of the International Code Council: Building Officials and Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO) and Southern Building Code Congress International (SBCCI) and representatives from the National Association of Home Builders (NAHB). The intent was to draft a comprehensive, stand-alone residential code consistent with and inclusive of the scope of the existing model codes. Technical content of the 1998 *International One- and Two-Family Dwelling Code* and the latest model codes promulgated by BOCA, ICBO, SBCCI and ICC was utilized as the basis for the development, followed by public hearings in 1998 and 1999 to consider proposed changes. This 2003 edition presents the code as originally issued, with changes approved through the ICC Code Development Process through 2002 and residential electrical revisions based on the 2002 *National Electrical Code*® (NFPA-70). A new edition such as this is promulgated every three years.

Fuel gas provisions have been included through an agreement with the American Gas Association (AGA). Electrical provisions have been included through an agreement with the National Fire Protection Association (NFPA).

With the development and publication of the family of *International Codes* in 2000, the continued development and maintenance of the model codes individually promulgated by BOCA (“BOCA National Codes”), ICBO (“Uniform Codes”) and SBCCI (“Standard Codes”) was discontinued. This 2003 *International Residential Code*, as well as its predecessor – the 2000 edition, is intended to be the successor residential code to those codes previously developed by BOCA, ICBO and SBCCI.

The development of a single set of comprehensive and coordinated family of *International Codes* was a significant milestone in the development of regulations for the built environment. The timing of this publication mirrors a milestone in the change in structure of the model codes, namely, the pending consolidation of BOCA, ICBO and SBCCI into the ICC. The activities and services previously provided by the individual model code organizations will be the responsibility of the consolidated ICC.

This code is founded on principles intended to establish provisions consistent with the scope of a residential code that adequately protects public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

Adoption

The *International Residential Code* is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction’s laws. At the time of adoption, jurisdictions should insert the appropriate information in provisions requiring specific local information, such as the name of the adopting jurisdiction. These locations are shown in bracketed words in small capital letters in the code and in the sample ordinance. The sample adoption ordinance on page v addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text.

Maintenance

The *International Residential Code* is kept up to date through the review of proposed changes submitted by code enforcing officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The contents of this work are subject to change both through the Code Development Cycles and the governmental body that enacts the code into law. For more information regarding the code development process, contact the Code and Standard Development Department of the International Code Council.

The maintenance process for the fuel gas provisions is based upon the process used to maintain the *International Fuel Gas Code*, in conjunction with the American Gas Association. The maintenance process for the electrical provisions is undertaken by the National Fire Protection Association.

While the development procedure of the *International Residential Code* assures the highest degree of care, ICC and the founding members of ICC — BOCA, ICBO, SBCCI — their members and those participating in the development of this code do not accept any liability resulting from compliance or noncompliance with the provisions because ICC and its founding members do not have the power or authority to police or enforce compliance with the contents of this code. Only the governmental body that enacts the code into law has such authority.

Letter Designations in Front of Section Numbers

In each code development cycle, proposed changes to this code are considered at the Code Development Hearing by the International Residential Code Development Committee, whose action constitutes a recommendation to the voting membership for final action on the proposed change. Proposed changes to a code section whose number begins with a letter in brackets are considered by a different code development committee. For instance, proposed changes to code sections which have the letter [EB] in front (e.g., [EB] R102.7), are considered by the International Existing Building Code Development Committee at the Code Development Hearing. Where this designation is applicable to the entire content of a main section of the code, the designation appears at the main section number and title and is not repeated at every subsection in that section.

The content of sections in this code which begin with a letter designation are maintained by another code development committee in accordance with the following: [B] = International Building Code Development Committee; [E] = International Energy Conservation Code Development Committee; [EB] = International Existing Building Code Development Committee; [F] = International Fire Code Development Committee; [M] = International Mechanical Code Development Committee; and [P] = International Plumbing Code Development Committee.

Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2000 edition. Deletion indicators (➤) are provided in the margin where a paragraph or item has been deleted. Double vertical lines in the margin denote amendments and additions promulgated by the State of Michigan Department of Consumer and Industry Services, modifying the *2003 International Building Code*. An asterisk in the margin identifies sections of the *2003 International Building Code* not adopted by the State of Michigan.

SAMPLE ORDINANCE STATE CODE

Ordinance number _____

An ordinance to designate an enforcing agency to discharge the responsibility of the _____ (County, City, Village or Township) of _____ (Name of Unit of Government) located in _____ County, under the provisions of the State Construction Code Act, Act No. 230 of the Public Acts of 1972, as amended.

The _____ (County, City, Village, or Township) of _____ (Name of Unit of Government) ordains:

Section 1. AGENCY DESIGNATED. Pursuant to the provisions of the Michigan _____ (Building, Electrical, Mechanical, Plumbing or Residential) Code, in accordance with Section 8b(6) of 1972 PA230, as amended, the _____ (Building, Electrical, Mechanical, or Plumbing) Official of the _____ (County, City, Village or Township) of _____ (Name of Unit of Government) is hereby designated as the enforcing agency to discharge the responsibility of the _____ (County, City, Village, or Township) of _____ (Name of Unit of Government) under 1972 PA230, as amended, State of Michigan. The _____ (County, City, Village, or Township) of _____ (Name of Unit of Government) assumes responsibility for the administration and enforcement of said Act throughout its corporate limits.

Section 2. REPEALS. All ordinances inconsistent with the provisions of this ordinance are hereby repealed.

Section 3. PUBLICATION. This ordinance shall be effective after legal publication and in accordance with provisions of the Act governing same.

Adopted this _____ day of _____, _____ (Year).

This ordinance duly adopted on _____ at a regular meeting of the _____ (adopting body) and will become effective _____.

Date: _____ (Year).

Signed: _____

Clerk of the _____ (County, City, Village, or Township) of _____ (Name of Unit of Government).

Attested: _____ (Chair, Mayor, Supervisor or President)

of the _____ (County, City, Village, or Township) of _____ (Name of Unit of Government).

This is a preview of "ICC MI-IRC-2003". Click [here](#) to purchase the full version from the ANSI store.

Introduction

Amendments to the Construction Code Rules (Michigan Residential Code) take effect February 29, 2004. All units of government who administer and enforce a construction code are required to use the rules promulgated under 1972 PA 230, the Stille-DeRosett-Hale Single State Construction Code Act. The State Construction Code Act was amended by 1999 PA 245, effective December 28, 1999, requiring the use of the State Codes as they are updated by rules promulgated after October 15, 1999.

These rules adopt by reference, in R 408.30401 of the Michigan Administrative Code, the International Residential Code, 2003 edition, as published by the International Code Council, Inc., and includes deletions, additions, and amendments to the International Code. The subsequent rules either add, amend, or delete certain provisions of the International Residential Code. The deletions, additions, and amendments have been incorporated into this publication for ease of use.

Michigan amendments are identified as follows:

Double vertical lines denote amendments and additions promulgated by the State of Michigan, Department of Labor & Economic Growth, modifying the 2003 International Residential Code. An asterisk in the margin identifies sections of the 2003 International Residential Code not adopted by the State of Michigan.

Additional copies of this publication are available from the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety, P.O. Box 30255, Lansing, Michigan 48909 at a cost of \$45.00. Please make checks payable to the State of Michigan. This publication is also available from International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041.

Additional information relating to code administration and enforcement in the State of Michigan is available on the Bureau of Construction Codes and Fire Safety's web site www.michigan.gov/bccfs.

(By authority conferred on the director of the department of labor & economic growth by section 4 of 1972 PA 230 and Executive Reorganization Order No. 1996-2, MCL 125.1504 and 445.2001 and Executive Reorganization Order No. 2003-18, MCL 445.2011.)

R 408.30503, R 408.30505, R 408.30506, R 408.30508, R 408.30510, R 408.30511, R 408.30512, R 408.30513, R 408.30514, R 408.30515, R 408.30517, R 408.30518, R 408.30519, R 408.30520, R 408.30521, R 408.30522, R 408.30523, R 408.30524, R 408.30526, R 408.30531, R 408.30534, R 408.30536, and R 408.30537 of the Michigan Administrative Code are amended and R 408.30539, R 408.30540, R 408.30541, R 408.30542, R 408.30543, R 408.30544, R 408.30545, R 408.30546, and R 408.30547 are added to the Code as follows:

R 408.30401 Applicable code.

Rule 401. The provisions of the international residential code, 2003 edition, including appendices A, B, C, D, E, F, G, J, K, and L, except for sections R104.8, R108.2, R108.3, R108.4, R108.5, R112.3, N1101 to N1104.1, tables N1101.2, N1102.1, N1102.1.1.1(1), N1102.1.1.1(2), N1102.1.1.2, N1102.4, N1103.1, N1103.5, and N1104.1, sections P2503.8, P2709.2.1, AJ102.4, and IBC-2003, ICC EC-2003, IECC-2003, IMC-2003, IPC-2003, NFPA 70-02 listed in chapter 43 govern the construction, alteration, relocation, demolition, use, and occupancy of buildings and structures, and, with exceptions noted, the international residential code as adopted by reference in these rules. All references to the International Building Code, International Residential Code, International Energy Conservation Code, International Electrical Code, International Existing Building Code, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Rehabilitation Code for Existing Buildings, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The codes are available for inspection at the Okemos office of the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety. The codes may be purchased from the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, or from the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these amendatory rules of \$45.00.

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EDITORIAL CHANGES – SECOND PRINTING

Page 15, HURRICANE-PRONE REGIONS: line 3 now reads . . . where the basic wind speed is greater than 90 miles per hour (145 km/h), and Hawaii, Puerto Rico, Guam,...

Page 48, Figure R307.2: Shower tag now reads . . . 21 in. clearance in front of opening

Page 65, Figure R403.1(1): Description changed as shown

Page 86, R408.1: line 7 now reads . . . each 14 m²) of under-floor space area. One such ventilating

Page 197, R611.8.1.1: line 4 now reads . . . walls shall be anchored with ASTM A307, Grade A, ...

Page 197, R611.8.1.1: line 15 now reads . . . be anchored with ASTM A307, Grade A, ³/₈-inch ...

Page 199, R611.8.1.1: 2nd paragraph now reads . . . For townhouses in Seismic Design Category C, each floor joist perpendicular to an ICF wall shall be attached to the sill plate with an 18-gauge angle bracket using 3 - 8d common nails per leg in accordance with Figure R611.8(1). For all buildings in Seismic Design Category D₁, each floor joist shall be attached to the sill plate with an 18-gauge angle bracket using 4 - 8d common nails per leg in accordance with Figure R611.8(1). For all buildings in Seismic Design Category D₂, each floor joist shall be attached to the sill plate with an 18-gauge angle bracket using 6 - 8d common nails per leg in accordance with Figure R611.8(1).

Page 295, M1702.2: line 9 now reads . . . inch per 1,000 Btu/h (2200 mm²/kw) input rating of all appliances installed within the space, but not less than 100 square inches (64 415 mm²).

Page 296, M1703.2.1: line 4 now reads . . . 4,000 Btu/h (550 mm²/kw) of total input rating of all appliances...

Page 360, G2428.2.12: line 1 now reads . . . G2428.2.12 **(504.2.12) Component commingling.**

Page 441, E3602.1: last line now reads . . . at over 1,440 volt-amperes or ¹/₄ horsepower and greater shall be rated at 120 volts or 240 volts, nominal.

Page 499, ASSE: reference number 1002–99 now reads . . . Performance Requirements for Antisiphon Fill Valves (Ball-cocks) for Gravity Water Closet Flush Tanks

Page 499, ASSE: reference number 1016–96 now reads . . . Performance Requirements for Individual Thermostatic, Pressure Balancing and Combination Control Valves for Individual Fixture Fittings

Page 499, ASSE: reference number 1019–97 now reads . . . Performance Requirements for Vacuum Breaker Wall Hydrants, Freeze Resistant, Automatic Draining's Type

Part I — Administrative

CHAPTER 1 ADMINISTRATION

SECTION R101 TITLE, SCOPE AND PURPOSE

R101.1 Title. These provisions shall be known as the *Residential Code for One- and Two-Family Dwellings* of [NAME OF JURISDICTION], and shall be cited as such and will be referred to herein as “this code.”

R101.2 Scope. The provisions of the *International Residential Code for One- and Two-Family Dwellings* shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures.

Exception: Existing buildings undergoing repair, alteration or additions, and change of occupancy shall be permitted to comply with the *International Existing Building Code*.

R101.3 Purpose. The purpose of this code is to provide minimum requirements to safeguard the public safety, health and general welfare, through affordability, structural strength, means of egress facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment.

SECTION R102 APPLICABILITY

R102.1 General. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

R102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

R102.3 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

R102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or ap-

pliance, the conditions of the listing and manufacturer’s instructions shall apply.

R102.5 Appendices. Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance.

R102.6 Partial invalidity. In the event any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

[EB] R102.7 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the *International Property Maintenance Code* or the *International Fire Code*, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.

[EB] R102.7.1 Additions, alterations or repairs. Additions, alterations or repairs to any structure shall conform to that required for a new structure without requiring the existing structure to comply with all of the requirements of this code, unless otherwise stated. Additions, alterations or repairs shall not cause an existing structure to become unsafe or adversely affect the performance of the building.

SECTION R103 DEPARTMENT OF BUILDING SAFETY

R103.1 Creation of enforcement agency. The department of building safety is hereby created and the official in charge thereof shall be known as the building official.

R103.2 “Building official” means the person who is appointed and employed by a governmental subdivision, who is charged with the administration and enforcement of the state codes specified in R 408.30499, and who is registered in compliance with 1986 PA 54, MCL 338.2301 et seq.

R 408.30501

R103.3 “Building inspector” means the person who is appointed and employed by a governmental subdivision, who is charged with the administration and enforcement of the state codes specified in R 408.30499, and who is registered in compliance with 1986 PA 54, MCL 338.2301 et seq.

R 408.30502

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SECTION R104 DUTIES AND POWERS OF THE BUILDING OFFICIAL

R104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code. The building official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in conformance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

R104.2 Applications and permits. The building official shall receive applications, review construction documents and issue permits for the erection and alteration of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

R104.3 Notices and orders. The building official shall issue all necessary notices or orders to ensure compliance with this code.

R104.4 Inspections. The building official is authorized to make all of the required inspections, or the building official shall have the authority to accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The building official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

R104.5 Identification. The building official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

R104.6 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a structure or upon a premises a condition which is contrary to or in violation of this code which makes the structure or premises unsafe, dangerous or hazardous, the building official or designee is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises be unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.

R104.7 Department records. The building official shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for the retention of public records.

R104.9 Approved materials and equipment. Materials, equipment, and devices shall be constructed or installed in accordance with approvals granted under section 21 of 1972 PA 230, MCL 125.1521 or by the building official.

R 408.30503

R104.9.1 Used materials and equipment. Used materials, equipment and devices shall not be reused unless approved by the building official.

R104.10 Modifications. Wherever there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, provided the building official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements or structural. The details of action granting modifications shall be recorded and entered in the files of the department of building safety.

R104.10.1 Areas prone to flooding. The building official shall not grant modifications to any provision related to areas prone to flooding as established by Table R301.2(1) without the granting of a variance to such provisions by the board of appeals.

R104.11 Alternative materials, design, and methods of construction and equipment. The provisions of the code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by the code, if the alternative has been approved. An alternative material, design, or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of the code, and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in the code. Compliance with the specific performance-based provisions of the Michigan building, R 408.30401 to R 408.30499a, electrical, R 408.30801 to R 408.30880, mechanical, R 408.30901a to R 408.30998a and plumbing, R 408.30701 to R 408.30796, codes instead of specific requirements of the code shall also be permitted as an alternate.

R 408.30504

R104.11.1 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

*

SECTION R105 PERMITS

R105.1 Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.

R105.2 Work exempt from permit. Exemption from the permit requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the code or any other laws or ordinances of this jurisdiction. Permits are not required for any of the following:

- a. Building permits shall not be required for any of the following:
 - i. One-story detached accessory structures, if the floor area does not exceed 200 square feet (18.58 m²).
 - ii. A fence that is not more than 6 feet (1829 mm) high.
 - iii. A retaining wall that is not more than 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
 - iv. A water tank supported directly upon grade if the capacity is not more than 5,000 gallons (18 927 L) and the ratio of height to diameter or width is not greater than 2 to 1.
 - v. A sidewalk or driveway that is not more than 30 inches (762 mm) above adjacent grade and is not over any basement or story below.
 - vi. Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.
 - vii. A prefabricated swimming pool that is less than 24 inches (610 mm) deep.
 - viii. Swings and other playground equipment accessory to a 1- or 2-family dwelling.
 - ix. Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
- b. Electrical permits shall not be required for the following:

Repairs and maintenance: A permit is not required for minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

c. Mechanical permits shall not be required for any of the following:

- i. Portable heating, cooking, or clothes drying appliances.
- ii. Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.
- iii. A portable heating appliance.
- iv. A portable ventilation appliance.
- v. A portable cooling unit.
- vi. Steam, hot or chilled water piping within any heating or cooling equipment regulated by the code.
- vii. Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.
- viii. A portable evaporative cooler.
- ix. A self-contained portable refrigeration unit that is not more than 1.5 horsepower (1119 W).
- x. Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.
- xi. Gas piping limited to 10 feet (3048 mm) in length and not more than 6 fittings.

d. Plumbing permits shall not be required for any of the following:

- i. The stopping of leaks in drains, water, soil, waste or vent pipe; if any concealed trap, drain-pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, then the work is considered as new work and a permit shall be obtained and inspection made as provided in the code.
- ii. The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, if the repairs do not involve or require the replacement or re-arrangement of valves, pipes, or fixtures.

R 408.30505

R105.2.1 Emergency repairs. Where equipment replacements and repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the building official.

R105.2.2 Repairs. Application or notice to the building official is not required for ordinary repairs to structures, replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting

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of any structural beam or load bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

R105.2.3 Public service agencies. A permit shall not be required for the installation, alteration or repair of generation, transmission, distribution, metering or other related equipment that is under the ownership and control of public service agencies by established right.

R105.3 Application for permit. To obtain a permit, the applicant shall first file an application therefor in writing on a form furnished by the department of building safety for that purpose. Such application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by construction documents and other information as required in Section R106.1.
5. State the valuation of the proposed work.
6. Be signed by the applicant, or the applicant's authorized agent.
7. Give such other data and information as required by the building official.

R105.3.1 Action on application. The building official shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform to the requirements of pertinent laws, the building official shall reject such application in writing, stating the reasons therefor. If the building official is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the building official shall issue a permit therefor as soon as practicable.

R105.3.1.1 Substantially improved or substantially damaged existing buildings in areas prone to flooding. For applications for reconstruction, rehabilitation, addition, or other improvement of existing buildings or structures located in an area prone to flooding as established by Table R301.2(1), the building official shall examine or cause to be examined the construction documents and shall prepare a finding with regard to the value of the proposed work. For buildings that have sustained damage of any origin, the value of the proposed work shall include the cost to repair the building or structure to its predamage condition. If the building official finds that the value of proposed work equals or exceeds 50 percent of the market value of the building or

structure before the damage has occurred or the improvement is started, the finding shall be provided to the board of appeals for a determination of substantial improvement or substantial damage. Applications determined by the board of appeals to constitute substantial improvement or substantial damage shall meet the requirements of Section R323.

R105.3.2 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

R105.4 Validity of permit. The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the building official from requiring the correction of errors in the construction documents and other data. The building official is also authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of this jurisdiction.

R105.5 Expiration. Every permit issued shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

R105.6 Suspension or revocation. The building official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

R105.7 Placement of permit. The building permit or copy thereof shall be kept on the site of the work until the completion of the project.

R105.8 Responsibility. It shall be the duty of every person who performs work for the installation or repair of building, structure, electrical, gas, mechanical or plumbing systems, for which this code is applicable, to comply with this code.

SECTION R106 CONSTRUCTION DOCUMENTS

R106.1 Submittal documents. Construction documents, special inspection and structural program and other data shall be submitted in 1 or more sets with each application for a permit. The construction documents shall be prepared by or under the direct supervision of a registered design professional when re-

quired by article 20 of 1980 PA 299, MCL 339.101 et seq., and known as the Michigan occupational code. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

R 408.30506

R106.1.1 Information on construction documents. Construction documents shall be drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the building official.

R106.1.2 Manufacturer's installation instructions. Manufacturer's installation instructions, as required by this code, shall be available on the job site at the time of inspection.

R106.1.3 Information for construction in areas prone to flooding. For buildings and structures in flood hazard areas as established by Table R301.2(1), construction documents shall include:

1. Delineation of flood hazard areas, floodway boundaries, and flood zones, and the design flood elevation, as appropriate;
2. The elevation of the proposed lowest floor, including basement; in areas of shallow flooding (AO zones), the height of the proposed lowest floor, including basement, above the highest adjacent grade; and
3. The elevation of the bottom of the lowest horizontal structural member in coastal high hazard areas (V Zone); and
4. If design flood elevations are not included on the community's Flood Insurance Rate Map (FIRM), the building official and the applicant shall obtain and reasonably utilize any design flood elevation and floodway data available from other sources.

R106.1.4 Truss design data. As an alternative to the submission of truss design drawings, the truss design data sheet may be provided to the building official as part of the construction documents at the time of application. Truss design drawings shall be submitted to the building official prior to truss installation as required by section R802.10.1.

R 408.30506

R106.2 Site plan. The construction documents submitted with the application for permit shall be accompanied by a site plan showing the size and location of new construction and existing structures on the site and distances from lot lines. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot.

R106.3 Examination of documents. The building official shall examine or cause to be examined construction documents for code compliance.

R106.3.1 Approval of construction documents. When the building official issues a permit, the construction documents shall be approved in writing or by stamp. One set of construction documents so reviewed shall be retained by the building official. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the building official or his or her authorized representative.

R106.3.2 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

R106.3.3 Phased approval. The building official is authorized to issue a permit for the construction of foundations or any other part of a building or structure before the construction documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure will be granted.

R106.4 Amended construction documents. Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

R106.5 Retention of construction documents. One set of approved construction documents shall be retained by the building official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

SECTION R107 TEMPORARY STRUCTURES AND USES

R107.1 General. The building official is authorized to issue a permit for temporary structures and temporary uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The building official is authorized to grant extensions for demonstrated cause.

R107.2 Conformance. Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

R107.3 Temporary power. The building official is authorized to give permission to temporarily supply and use power in part of an electric installation before the installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat, or power in the Michigan electrical code, R 408.30801 to R 408.30880.

R 408.30507

R107.4 Termination of approval. The building official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

SECTION R108 FEES

R108.1 Fees. The fees prescribed in section 22 of 1972 PA 230, MCL 125.1522 shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee is paid.

R 408.30508

*

SECTION R109 INSPECTIONS

R109.1 Types of inspections. For onsite construction, from time to time the building official, upon notification from the permit holder or his agent, shall make or cause to be made any necessary inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his or her agent wherein the same fails to comply with this code.

R109.1.1 Foundation inspection. Inspection of the foundation shall be made after poles or piers are set or trenches or basement areas are excavated and any required forms erected and any required reinforcing steel is in place and prior to the placing of concrete. The foundation inspection shall include excavations for thickened slabs intended for the support of bearing walls, partitions, structural supports, or equipment and special requirements for wood foundations.

R109.1.2 Plumbing, mechanical, gas and electrical systems inspection. Rough inspection of plumbing, mechanical, gas and electrical systems shall be made prior to covering or concealment, before fixtures or appliances are set or installed, and prior to framing inspection.

Exception: Ground-source heat pump loop systems tested in accordance with Section M2105.1 shall be permitted to be backfilled prior to inspection.

R109.1.3 Floodplain inspections. For construction in areas prone to flooding as established by Table R301.2(1), upon placement of the lowest floor, including basement, and prior to further vertical construction, the building official shall require submission of documentation, prepared and sealed by a registered design professional, of the elevation of the lowest floor, including basement, required in Section R323.

R109.1.4 Frame and masonry inspection. Inspection of framing construction shall be made after the roof, all framing, firestopping, draftstopping, and bracing are in place and after the plumbing, mechanical, and electrical rough inspections are approved. Masonry inspections shall be made before the installation of masonry veneer and after the installation of base course flashing as specified in section

R703.7.5 and weather-resistant sheathing paper as specified in section R703.2, and after the masonry construction is completed.

R 408.30509

R109.1.5 Other inspections. In addition to the called inspections above, the building official may make or require any other inspections to ascertain compliance with this code and other laws enforced by the building official.

R109.1.5.1 Fire-resistance-rated construction inspection. Where fire-resistance-rated construction is required between dwelling units or due to location on property, the building official shall require an inspection of such construction after all lathing and/or wallboard is in place, but before any plaster is applied, or before wallboard joints and fasteners are taped and finished.

R109.1.6 Final inspection. Final inspection shall be made after the permitted work is complete and prior to occupancy.

R109.2 Inspection agencies. The building official is authorized to accept reports of approved agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

R109.3 Inspection requests. It shall be the duty of the permit holder or their agent to notify the building official that such work is ready for inspection. It shall be the duty of the person requesting any inspections required by this code to provide access to and means for inspection of such work.

R109.4 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the building official. The building official upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or shall notify the permit holder or an agent of the permit holder wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the building official.

SECTION R110 CERTIFICATE OF OCCUPANCY

R110.1 Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy classification of a building or structure or portion thereof shall not be made until a certificate of occupancy has been issued in accordance with section 13 of 1972 PA 230, MCL 125.1513.

R110.2 Change in use. A change in the character or use of an existing structure shall not be made, except as specified in the Michigan building code, R 408.30401 to R 408.30499a.

R 408.30510

R110.3 Certificate issued. After the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department of building safety, the building official shall issue a certificate of occupancy which shall contain the following:

1. The building permit number.
2. The address of the structure.

3. The name and address of the owner.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code.
6. The name of the building official.
7. The edition of the code under which the permit was issued.
8. If an automatic sprinkler system is provided.
9. Any special stipulations and conditions of the building permit.

R110.4 Temporary occupancy. The building official is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely. The building official shall set a time period during which the temporary certificate of occupancy is valid.

R110.5 Revocation. The building official shall, in writing, suspend or revoke a certificate of occupancy issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

SECTION R111 SERVICE UTILITIES

R111.1 Connection of service utilities. No person shall make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a permit is required, until approved by the building official.

R111.2 Temporary connection. The building official shall have the authority to authorize and approve the temporary connection of the building or system to the utility source of energy, fuel or power.

R111.3 Authority to disconnect service utilities. The building official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section R102.4 in case of emergency where necessary to eliminate an immediate hazard to life or property or when such utility connection has been made without the approval required by Section R111.1 or R111.2. The building official shall notify the serving utility and whenever possible the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action if not notified prior to disconnection. The owner or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

SECTION R112 BOARD OF APPEALS

R112.1 Means of appeal. A person has the right to appeal a decision of the enforcing agency to the board of appeals. An

application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The application shall be filed in accordance with section 14 of 1972 PA 230, MCL 125.1514.

R 408.30514

R112.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. The board shall have no authority to waive requirements of this code.

R112.2.1 Determination of substantial improvement in areas prone to flooding.

When the building official provides a finding required in Section R105.3.1.1, the board of appeals shall determine whether the value of the proposed work constitutes a substantial improvement. A substantial improvement means any repair, reconstruction, rehabilitation, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the building or structure before the improvement or repair is started. If the building or structure has sustained substantial damage, all repairs are considered substantial improvement regardless of the actual repair work performed. The term does not include:

1. Improvements of a building or structure required to correct existing health, sanitary or safety code violations identified by the building official and which are the minimum necessary to assure safe living conditions; or
2. Any alteration of an historic building or structure provided that the alteration will not preclude the continued designation as an historic building or structure. For the purpose of this exclusion, an historic building is:
 - 2.1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places; or
 - 2.2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
 - 2.3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

R112.2.2 Criteria for issuance of a variance for areas prone to flooding.

A variance shall only be issued upon:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards in Section R323 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.

3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, nor create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

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R112.4 Administration. The building official shall take immediate action in accordance with the decision of the board.

SECTION R113 VIOLATIONS

R113.1 Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

R113.2 Notice of violation. The building official is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a detail statement or a plan approved thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

R113.3 Prosecution of violation. If the notice of violation is not complied with in the time prescribed by such notice, the building official is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

R113.4 Violation penalties. It is unlawful for any person, firm, or corporation to violate a provision of the code or fail to conform with any of the requirements thereof, or erect, construct, alter, extend, repair, move, remove, demolish, or occupy any building, structure, or equipment regulated by the code, or cause work to be performed or done in conflict with or in violation of the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the code. A violator shall be assessed a fine in accordance with section 23 of 1972 PA 230, MCL 125.1523.

R 408.30511

SECTION R114 STOP WORK ORDER

R114.1 Notice to owner. Upon notice from the enforcing agency, work on any building or structure that is being done contrary to the code or in a dangerous or unsafe manner shall immediately cease. The notice shall be in accordance with section 12 of 1972 PA 230, MCL 125.1512. Any person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition is subject to the penalty provisions in section 23 of 1972 PA 230, MCL 125.1523.

R 408.30512

R114.2 Unlawful continuance. Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

Part II — Definitions

CHAPTER 2 DEFINITIONS

SECTION R201 GENERAL

R201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings indicated in this chapter.

R201.2 Interchangeability. Words used in the present tense include the future; words in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

R201.3 Terms defined in other codes. Where terms are not defined in this code such terms shall have meanings ascribed to them as in other code publications of the International Code Council.

R201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION R202 DEFINITIONS

ACCESSIBLE. Signifies access that requires the removal of an access panel or similar removable obstruction.

ACCESSIBLE, READILY. Signifies access without the necessity for removing a panel or similar obstruction.

ACCESSORY STRUCTURE. In one- and two-family dwellings not more than three stories high with separate means of egress, a building, the use of which is incidental to that of the main building and which is located on the same lot.

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

AIR ADMITTANCE VALVE. A one-way valve designed to allow air into the plumbing drainage system when a negative pressure develops in the piping. This device shall close by gravity and seal the terminal under conditions of zero differential pressure (no flow conditions) and under positive internal pressure.

AIR BREAK (DRAINAGE SYSTEM). An arrangement in which a discharge pipe from a fixture, appliance or device drains indirectly into a receptor below the flood-level rim of the receptor, and above the trap seal.

AIR CIRCULATION, FORCED. A means of providing space conditioning utilizing movement of air through ducts or plenums by mechanical means.

AIR-CONDITIONING SYSTEM. A system that consists of heat exchangers, blowers, filters, supply, exhaust and return-air

systems, and shall include any apparatus installed in connection therewith.

AIR GAP, DRAINAGE SYSTEM. The unobstructed vertical distance through free atmosphere between the outlet of a waste pipe and the flood-level rim of the fixture or receptor into which it is discharging.

AIR GAP, WATER-DISTRIBUTION SYSTEM. The unobstructed vertical distance through free atmosphere between the lowest opening from a water supply discharge to the flood-level rim of a plumbing fixture.

[B] ALTERATION. Any construction or renovation to an existing structure other than repair or addition that requires a permit. Also, a change in a mechanical system that involves an extension, addition or change to the arrangement, type or purpose of the original installation that requires a permit.

[B] ANCHORS. See "Supports."

ANTISIPHON. A term applied to valves or mechanical devices that eliminate siphonage.

APPLIANCE. A device or apparatus that is manufactured and designed to utilize energy and for which this code provides specific requirements.

APPROVED. Approved refers to approval by the building official as the result of investigation and tests conducted by him or her, or by reason of accepted principles or tests by nationally recognized organizations.

APPROVED AGENCY. An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved by the building official.

ASPECT RATIO. The ratio of the height to width (h/w) of a shear wall. The shear wall height is the maximum clear height from top of foundation or diaphragm to bottom of diaphragm framing above and the shear wall width is the sheathed dimension in the direction of applied force on the shear wall.

ATTIC. The unfinished space between the ceiling joists of the top story and the roof rafters.

BACKFLOW, DRAINAGE. A reversal of flow in the drainage system.

BACKFLOW PREVENTER. A device or means to prevent backflow.

BACKFLOW PREVENTER, REDUCED-PRESSURE-ZONE TYPE. A backflow-prevention device consisting of two independently acting check valves, internally force loaded to a normally closed position and separated by an intermediate chamber (or zone) in which there is an automatic relief means of venting to atmosphere internally loaded to a normally open