

Chapter 39 – Building Codes

INTERNATIONAL BUILDING CODE

39.001

A certain document, one (1) copy of which was on file in the office of the City Clerk of the City of Moscow Mills, Missouri, for at least ninety (90) days before adoption of this Section, and shall remain on file in the office of the City Clerk of the City of Moscow Mills, Missouri, after adoption of this Section, being marked and designated as the 2015 International Building Code, including Appendices C, E, F, G, I, J, and K, as published by the International Code Council, Inc., is adopted by reference as the City of Moscow Mills Building Code (“Building Code”) and made a part of this Chapter as if fully set forth herein, with the additions, changes, and deletions, as set forth below.

39.002

Throughout the Building Code adopted in Section 39.001, wherever the term “Name of Jurisdiction” or “Local Jurisdiction” appears, it shall be deemed to mean the City of Moscow Mills, Missouri.

39.003

Throughout the Building Code adopted in Section 39.001, whenever the term “code official” or “building official” appears, it shall be deemed to mean the officer, employee, or agent designated by the Board of Aldermen of the City of Moscow Mills, Missouri.

39.004

The 2015 International Building Code, First Printing, (May 2014), adopted in Section 39.001, is amended by the following provisions. Each Section, Subsection or Clause of the Code that numerically corresponds to one of the following numbered provisions is hereby amended to read as set forth below, or deleted where so noted. Each following numbered provision without a numerically corresponding Section, Subsection or Clause of the Code is hereby enacted and added thereto.

(SECTION 101)

101.1 Title: Insert in the space provided: “the City of Moscow Mills, Missouri.”

101.2.1 Appendices: Delete text and add the following: Appendix Sections C, E, F, G, H, I, J and K shall hereby be adopted as referenced in this Section.

(SECTION 105 PERMITS)

Annual Permit: Delete in entirety

Annual Permit Records: Delete in entirety.

Section 105.2 Work exempt from permit, shall have the following sections amended.

105.2 Work exempt from permit. Exemptions from permit requirements of this code 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. Permits shall not be required for the following:

Building:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area is not greater than 120 square feet.
2. Fences not over 24 inches.
3. Oil derricks.
4. Retaining walls that are not over 4 feet in height measured from the adjacent grade to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
5. Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons and the ratio of height to diameter or width is not greater than 2:1.
6. Sidewalks and driveways not more than 30 inches above adjacent grade, and not over any basement or story below and are not part of an accessible route.
7. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
8. Temporary motion picture, television and theater stage sets and scenery.
9. Prefabricated swimming pools accessory to a Group R-3 occupancy that are less than 24 inches deep, are not greater than 5,000 gallons and are installed entirely above ground.
10. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.
11. Swings and other playground equipment accessory to detached one- and two-family dwellings.
12. Window awnings in Group R-3 and U occupancies, supported by an exterior wall that do not project more than 54 inches from the exterior wall and do not require additional support.
13. Nonfixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches in height.
14. Temporary structures that are located in agricultural districts and which use is primarily agricultural in nature, that are not accessible to the general public.
15. Flag poles less 40 feet or less in height.
16. Replacement of doors and windows where the opening size is not increased or

decreased.

Electrical:

Repairs and maintenance: Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

Radio and television transmitting stations: The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for a power supply and the installations of towers and antennas.

Temporary testing systems: A permit shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

Gas:

1. Portable heating appliance.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

Mechanical:

1. Portable heating appliance.
2. Portable ventilation equipment.
3. Portable cooling unit.
4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part that does not alter its approval or make it unsafe.
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds or less of refrigerant and actuated by motors of 1 horsepower or less.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste or vent pipe, provided, however, that 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, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures and the removal and reinstallation of bathrooms, provided such repairs do not involve or

require the replacement or rearrangement of valves, pipes, or lines.

3. Fixture replacement with similar fixtures where plumbing connections are not relocated.

105.5 Expiration. Every permit issued shall become invalid and expired unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site 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 shall be granted only upon a showing of justifiable cause and substantial progress. If a permit expires pursuant to this provision, the building official may issue a new permit upon advance payment of an administrative penalty of the original permit fee or one hundred dollars (\$100.00), whichever is less. The reissued permit must be picked-up within seven (7) days of the issued date.

(SECTION 107 SUBMITTAL DOCUMENTS)

107.1 General. Submittal documents consisting of construction documents, statement of special inspections, geotechnical report and other data shall be submitted as required by the building official with each permit application. The construction documents shall be prepared by a registered design professional only where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

107.90 Electronic submission. Where design documents including, but not limited to, plot plans, site plans, design drawings, specifications, etc. are created electronically, the building official is authorized to require electronic submittal of documents in a portable document format (PDF) or similar format for review.

(SECTION 110 INSPECTIONS)

110.90 Workmanship. All work shall be executed in a workmanlike and skilled manner so that, for example, floors are level, walls are plumb and square, windows and doors are plumb, square and easily operable, exterior building envelopes are weather-tight and exclude the elements, building materials are undamaged, and surfaces are unmarred. All work performed shall be in compliance with this code, per industry standards, and in accordance with the manufacturer's installation instructions.

(SECTION 111 CERTIFICATE OF OCCUPANCY)-is deleted in its entirety.

(SECTION 113 BOARD OF APPEALS)

113 Board of Appeals. Delete in entirety and amend by adding the following:

B113.1 General Appeals. There shall be and is hereby created a Board of Appeals to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of the Building Code. Any person directly impacted by an action or decision of the City such that the person would have standing in a court of law to challenge the action may petition to the Board of Appeals for a review of any final decision of the building official under the Building Code. To the fullest extent permitted by law, the review procedures herein shall be exhausted before any action may be led in any court against the City or its agents. Any such application for appeal shall only 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 apply, or an equally good or better form of construction is proposed. The Board shall have no authority to waive requirements of this Code. Prior to the City's acceptance of an appeal to the Board of Appeals, all such questions of intent shall be verified through the International Code Council. Such reports shall be made public and forwarded to all parties for consideration of the appeal. An application for appeal shall be filed on a form provided by the building official within twenty (20) days after the date of the decision appealed from.

B113.2 Membership of Board. The Board of Appeals shall consist of five members appointed by the Mayor and approved by the Board of Aldermen as follows:

- A. Current members of the Board of Appeals shall continue to serve until their current term of office expires.
- B. Thereafter, each new or reappointed member shall serve for three (3) years or until a successor has been appointed.

B113.2.1 Alternate Members. The Mayor, upon approval by the Board of Aldermen, shall appoint two alternate members who shall be called by the Board of Appeals Chairperson to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for Board membership and shall be appointed for five years, or until a successor has been appointed.

B113.2.2 Qualifications. The Board of Appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction. Members of the Board of Appeals do not have to be residents of the City but shall be residents of Lincoln County or an adjoining county. To the fullest extent possible, the Board of Appeals shall be comprised of:

- A. Four members and one alternate from one of the following professions and disciplines:
 - 1. Registered design professional who is a registered architect;
 - 2. Registered design professional with structural engineering or architectural experience;
 - 3. Registered design professional with mechanical or plumbing engineering experience;

4. Registered design professional with electrical engineering experience;
 5. Registered design professional with fire protection engineering experience; or
 6. Public works, city engineer, code enforcement, building inspection, or other regulatory experience.
- B. One member and one alternate with experience in one of the following fields:
1. A builder or superintendent of building construction;
 2. Mechanical or plumbing contractor or licensed master plumber;
 3. An electrical contractor or licensed electrician; or
 4. Fire protection contractor.

No person may be appointed to or sit on the Board of Appeals if that person:

1. Has a substantial interest in a sole proprietorship or entity that develops real property within the City of Moscow Mills, or
2. Has a substantial interest in a contractor employed by any sole proprietorship or entity that develops real property within the City of Moscow Mills. For purposes of this Section “develops” shall mean improves, constructs, reconstructs, rehabilitates, finances, or sells real property or improvements thereon for profit.

B113.2.3 Rules and Procedures. The Board of Appeals is authorized to establish policies and procedures necessary to carry out its duties.

B113.2.4 Chairperson. The Board of Appeals shall annually select one of its members to serve as Chairperson.

B113.2.5 Disqualification of Member. A member shall not hear an appeal in which that member has a personal, professional or financial interest.

B113.2.6 Secretary. The chief administrative officer shall designate a qualified clerk to serve as secretary to the Board. The secretary shall file a detailed record of all proceedings with the City Clerk.

B113.2.7 Compensation of Members. Board members shall serve without compensation.

B113.3 Notice of Hearing. The Board of Appeals shall endeavor to meet, upon notice from the Chairperson, within twenty (20) days of the filing of an appeal or at stated periodic meetings.

B113.3.1 Open Hearing. All hearings before the Board of Appeals shall be open to the public. The appellant, the appellant’s representative, the building official and any person whose interests are affected shall be given an opportunity to be heard.

B113.3.2 Procedure. The Board of Appeals shall adopt and make available to the public, through the Secretary, procedures under which a hearing will be conducted. Reasonable opportunity shall be given for the preparation and presentation of evidence bearing on any issue raised or decided or relief sought or granted. Where issues are tried without objection or by consent, such issues shall be deemed to have been properly before the Board of Appeals. Any formality of procedure may be waived by mutual consent. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be received.

B113.3.3 Postponed Hearing. When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing.

B113.4 Board Decision. The Board shall modify or reverse the decision of the building official by a concurring vote of four of its members hearing the appeal.

B113.4.1 Copy of Decision. The decision of the Board of Appeals shall be in writing. Copies signed by the Chairman and Secretary shall be furnished to the appellant, the building official, and the City Clerk.

B113.4.2 Administration. The building official shall take immediate action in accordance with the decision of the Board of Appeals.

B113.4.3 Court Review. A decision of the Board of Appeals may be reviewed by the Circuit Court pursuant to the procedures for contested cases in Chapter 536, RSMo and shall be filed in the Circuit Court within thirty (30) days from the date of the Board of Appeal's decision.

(SECTION 114 VIOLATIONS)

114.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a ordinance violation and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars (\$500.00) or by imprisonment for a term not exceeding ninety (90) days, or by both such fine and imprisonment, and each day's continuance of a violation shall be deemed a separate offense. Under no circumstances shall any person's sentence be greater than any limit established by Missouri statutes for the same offense.

(SECTION 115 STOP WORK ORDER)

115.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, the owner's authorized agent, or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

(SECTION 116 UNSAFE STRUCTURES AND EQUIPMENT)

Conditions. Structures or existing equipment that are or hereafter become unsafe, insanitary or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or that constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the building official deems necessary and as provided for in the ordinances of the City. A vacant structure that is not secured against entry shall be deemed unsafe.

116.1 Record. The building official shall cause a report to be filed on an unsafe condition as provided in the ordinances of the City. The report shall state the occupancy of the structure and the nature of the unsafe condition.

310.5 Residential Group R-3. Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Buildings that do not contain more than two dwelling units

Boarding houses (nontransient) with 16 or fewer occupants

Boarding houses (transient) with 10 or fewer occupants

Care facilities that provide accommodations for five or fewer persons receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Congregate living facilities (transient) with 10 or fewer occupants

Owner-occupied lodging houses (transient) with 5 or fewer guestrooms and 10 or fewer occupants.

310.5.1 Care facilities within a dwelling. Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the International Residential Code provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or with Section P2904 of the International Residential Code.

310.5.2 Owner occupied lodging houses. Owner-occupied lodging houses with five or fewer guestrooms and 10 or fewer occupants shall be permitted to be constructed in accordance with the International Residential Code for One- and Two-family Dwellings where equipped with an automatic sprinkler system in accordance with Section P2904 of the International Residential Code for One- and Two-family Dwellings.

Exception:

1. Child day care facilities in existing buildings complying with the International Residential Code shall not be required to be equipped with an automatic sprinkler system.

2. Child day care facilities shall comply with the requirements set forth in the ordinances of the City of Moscow Mills, Missouri.

(CHAPTER 12 INTERIOR ENVIRONMENT)

(SECTION 1203 VENTILATION)

1203.90 Roof vents. The roof system of one story buildings of unlimited area when of types 2, 3 or 4 construction shall be provided with smoke and heat vents.

Exception: Vents are not required for buildings subdivided into spaces not greater than ten thousand (10,000) square feet with fire separation assemblies of not less than one-hour fire-resistance rating.

1203.91 Vent size and spacing. Smoke and heat vents shall be spaced at a maximum spacing of one hundred fifty (150) feet between centers. One square foot of open vent area is required per three hundred (300) square feet of floor area.

(CHAPTER 16 STRUCTURAL DESIGN)

(SECTION 1612 FLOOD LOADS)

1612.3 Establishment of flood hazard areas. For flood hazard areas, see Chapter 47 of the Code of the City of Moscow Mills, Missouri.

(CHAPTER 31 SPECIAL CONSTRUCTION)

(SECTION 3107 SIGNS)

3107.1 General. Signs shall be designed, constructed and maintained in accordance with Chapter 46 of the Code of the City of Moscow Mills, Missouri.

(SECTION 3109 SWIMMING POOL ENCLOSURES AND SAFETY DEVICES)

3109.1 General. Aquatic recreation facilities shall comply with the 2015 International Swimming Pool and Spa Code.

RESIDENTIAL CODE

39.100

A certain document, one (1) copy of which was on file in the office of the City Clerk of the City of Moscow Mills, Missouri, for at least ninety (90) days before adoption of this Section, and shall remain on file in the office of the City Clerk of the City of Moscow Mills, Missouri, after adoption of this Section, being marked and designated as the 2015 International Residential Code for One and Two-Family Dwellings, including Appendices A, B, C, E, F, G, H, J, M, N, and P, as published by the International Code Council, Inc., is adopted by reference as the

City of Moscow Mills Residential Code (“Residential Code”) and made a part of this Chapter as if fully set forth herein, with the additions, changes, and deletions, as set forth below.

39.104

The 2015 International Residential Code for One and Two-Family Dwellings, adopted in Section 39.100, is amended by the following provisions. Each Section, Subsection or Clause of the Code that numerically corresponds to one of the following numbered provisions is hereby amended to read as set forth below, or deleted where so noted. Each following numbered provision without a numerically corresponding Section, Subsection or Clause of the Code is hereby enacted and added thereto.

R101.1 Insert: City of Moscow Mills.

R105.2 Work exempt from permit. Permits shall not be required for the following:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 200 square feet.
2. Fences 24 inches or less in height and fences taller than 24 inches in height located in the agricultural district, excluding platted subdivisions in said district.
3. Retaining walls that are not over 4 feet (1219 mm) in height measured from the adjacent grade, unless supporting a surcharge.
4. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons and the ratio of height to diameter or width does not exceed 2 to 1.
5. Sidewalks and driveways.
6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
7. Prefabricated swimming pools that are less than 24 inches deep.
8. Swings and other playground equipment.
9. Window awnings supported by an exterior wall that do not project more than 54 inches from the exterior wall and do not require additional support.
10. Decks not exceeding 200 square feet in area, that are not more than 30 inches above grade at any point, are not attached to a dwelling, and do not serve the exit door required by Section R311.4.
11. Flag poles 40 feet or less in height.
12. Replacement of doors and windows where the opening size is not increased or decreased.

Electrical:

1. Listed cord-and-plug connected temporary decorative lighting.

2. Reinstallation of attachment plug receptacles but not the outlets therefor.
3. Replacement of branch circuit overcurrent devices of the required capacity in the same location.
4. Electrical wiring, devices, appliances, apparatus or equipment operating at less than 25 volts and not capable of supplying more than 50 watts of energy.
5. Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

Gas:

1. Portable heating, cooking or clothes drying appliances.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
3. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

Mechanical:

1. Portable heating appliances.
2. Portable ventilation appliances.
3. Portable cooling units.
4. Steam, hot- or chilled-water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems containing 10 pounds or less of refrigerant or that are actuated by motors of 1 horsepower (746 W) or less.
8. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.

2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the removal and reinstallation of bathrooms, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes, or lines.
3. Fixture replacement with similar fixtures, not including water heaters, where plumbing connections are not relocated.

R105.5 Expiration. Every permit issued shall become invalid and expired unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site 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 shall be granted only upon a showing of justifiable cause and substantial progress. If a permit expires pursuant to this provision, the building official may issue a new permit upon advance payment of an administrative penalty of the original permit fee or one hundred dollars (\$100.00), whichever is less. The reissued permit must be picked-up within seven (7) days of the issued date.

(SECTION R106 CONSTRUCTION DOCUMENTS)

R106.1 Submittal documents. Submittal documents consisting of construction documents, statement of special inspections, geotechnical report and other data shall be submitted as required by the building official with each permit application. The construction documents shall be prepared by a registered design professional only where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code.

R106.3.1 Approval of construction documents. Where the building official issues a permit, the construction documents shall be approved in writing or by a stamp that states "REVIEWED FOR CODE COMPLIANCE." One set of construction documents so reviewed shall be retained by the building official. The other set shall be returned to the applicant, and must be kept at the site of work or made available at time of inspection by the building official.

R106.90 Electronic submission. Where design documents including, but not limited to, plot plans, site plans, design drawings, specifications, etc. are created electronically, the building official is authorized to require electronic submittal of documents in a portable document format (PDF) or similar format for review.

(SECTION R108 FEES)

R108.6 Work commencing before permit issuance. Any person who commences work requiring a permit before obtaining the necessary permits shall be subject to a fee established by the City that shall be in addition to the required permit fees.

Exceptions:

1. Rough grading less than 5,000 square feet, not to include excavating for basements.
2. Staking and other similar preparatory actions.

(SECTION R109 INSPECTIONS)

R109.90 Workmanship. All work shall be executed in a workmanlike and skilled manner so that, for example, floors are level, walls are plumb and square, windows and doors are plumb, square and easily operable, exterior building envelopes are weather-tight and exclude the elements, building materials are undamaged, and surfaces are unmarred. All work performed shall be in compliance with this code, per industry standards, and in accordance with the manufacturer's installation instructions.

(SECTION R112 BOARD OF APPEALS)

R112 Board of Appeals. Delete in entirety and add: Appeals under the Residential Code shall be governed by the provisions pertaining to appeals Section 113, of 39.004 above.

Sections 112.2, 112.3, & 112.4 are deleted in their entirety.

(SECTION R113 VIOLATIONS)

R113.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars (\$500.00) or by imprisonment for a term not exceeding ninety (90) days, or by both such fine and imprisonment, and each day's continuance of a violation shall be deemed a separate offense. Under no circumstances shall any person's sentence be greater than any limit established by Missouri statutes for the same offense.

(SECTION R114 STOP WORK ORDER)

R114.1 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, the owner's authorized agent, or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

(Section 114.2 is deleted in its entirety.)

(CHAPTER 3 BUILDING PLANNING)

(SECTION R301 DESIGN CRITERIA)

TABLE R301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	20 PSF
WIND DESIGN	
- Speed	115 MPH
- Topographic effects	No
- Special wind region	No
- Wind-borne debris zone	No
SEISMIC DESIGN CATEGORY	SDC C
SUBJECT TO DAMAGE FROM	
- Weathering	Severe
- Frost line depth	30 inches
- Termite	Moderate to Heavy
WINTER DESIGN TEMP	6° F
ICE BARRIER UNDERLAYMENT REQUIRED	No
FLOOD HAZARDS	(See Floodplain Ordinance)
AIR FREEZING INDEX	963
MEAN ANNUAL TEMP	55° F

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

- a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index, “negligible,” “moderate” or “severe” for concrete as determined from Figure R301.2(3). The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
- b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map Figure R301.2(4)A. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The outdoor design dry-bulb temperature shall be selected from the columns of 97 1/2-percent values for winter from Appendix D of the International Plumbing Code.

Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.

- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
- h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
- i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."
- j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32°F)."
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- l. In accordance with Figure R301.2(4)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- m. In accordance with Section R301.2.1.2.1, the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

(SECTION R302 FIRE-RESISTANT CONSTRUCTION)

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1(1); or dwellings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904 shall comply with Table R302.1(2).

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance.
2. Walls of dwellings and accessory structures located on the same lot.
3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.
4. Detached garages accessory to a dwelling located within 5 feet of a lot line are permitted to have roof eave projections not exceeding 4 inches.
5. Foundation vents installed in compliance with this code are permitted.
6. Cantilevered manufactured fireplaces protected with 5/8 Type X gypsum.
7. Uncovered decks.

R302.2 Townhouses. Common walls separating townhouses shall be assigned a fire-resistance rating in accordance with Section R302.2, Item 1 or 2. The common wall shared by two townhouses shall be constructed without plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be in accordance with Chapters 34 through 43. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section R302.4.

1. Where a fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263.
2. Where a fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263, or the common wall shall be two independent one-hour fire-resistance-rated wall assemblies.

R302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1-3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches (35 mm) thick, or 20-minute fire-rated doors.

R302.13 Fire protection of floors. Floor assemblies that are not required elsewhere in this code to be fire resistance rated, shall be provided with a 1/2-inch (12.7 mm) gypsum wallboard membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or

penetrations shall be permitted. Fire blocking, draft stopping, fire taping, and/or additional framing is not required.

Exceptions:

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Section P2904, NFPA 13D, or other approved equivalent sprinkler system.
2. Floor assemblies located directly over a crawl space not intended for storage or fuel-fired appliances.
3. Portions of floor assemblies shall be permitted to be unprotected where complying with the following:
 - 3.1 The aggregate area of the unprotected portions does not exceed 100 square feet (9.3 m²) per story.
 - 3.2 Areas of the floor assembly covered by metal plenum, trunk lines and steel structural beams shall be considered protected. The gypsum wallboard membrane shall be within 2 inches of all previously listed items.
4. Wood floor assemblies using dimension lumber or structural composite lumber equal to or greater than 2-inch by 10-inch (50.8 mm by 254 mm) nominal dimension, or other approved floor assemblies demonstrating equivalent fire performance.

(SECTION R303 LIGHT, VENTILATION AND HEATING)

R303.1.90 Basements and cellars. The glazing area in basements and cellars shall not be less than one percent (1%) of the floor area served and shall be openable for natural ventilation.

R303.4 Mechanical ventilation. Where the air infiltration rate of a dwelling unit is less than 5 air changes per hour where tested with a blower door at a pressure of 0.2 inch w.c (50 Pa) in accordance with Section N1102.4.1.2, the dwelling unit shall be provided with whole-house mechanical ventilation in accordance with Section M1507.3.

R303.5.2 Exhaust openings. Exhaust air shall not be directed below 6 feet and 8 inches onto public walkways.

R303.8 Exterior stairway illumination. Exterior stairways shall be provided with an artificial light source. Exterior stairways providing access to a basement from the outdoor grade level shall be provided with an artificial light source located at the bottom landing of the stairway.

(SECTION R306 SANITATION)

R306.90 Hose bibb. Every dwelling shall be equipped with two (2) remote outside frost-proof hose bibbs which shall be protected from backflow in accordance with Section P2902.4.3 of this Code.

R306.91 Floor drain. All basements shall be equipped with a floor drain within twenty (20) feet of heating/cooling system(s) and water heaters and which shall comply with Chapter 27, Section P2719 of this Code.

(SECTION R309 GARAGES AND CARPORTS)

R309.5 Fire sprinklers. Private garages shall be protected by fire sprinklers where the garage wall has been designed based on Table R302.1(2), Footnote a, and the homeowner has opted to purchase a fire sprinkler system for their residence in accordance with RSMo 67.281. Sprinklers in garages shall be connected to an automatic sprinkler system that complies with Section P2904. Garage sprinklers shall be residential sprinklers or quick-response sprinklers, designed to provide a density of 0.05 gpm/ft². Garage doors shall not be considered obstructions with respect to sprinkler placement.

(SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS)

R310.1 Emergency escape and rescue opening required. Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

Exceptions:

1. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58 m²).
2. Emergency escape and rescue openings are not required in basements (other than sleeping rooms) provided the basement was built prior to January 1, 2018.

(SECTION R311 MEANS OF EGRESS)

R311.3 Floors and landings at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a dimension of not less than 36 inches (914 mm) measured in the direction of travel. The slope at exterior landings shall not to exceed 1/4 unit vertical in 12 units horizontal (2 percent).

Exceptions:

1. Exterior balconies less than 60 square feet (5.6 m²) and only accessible from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel.
2. Doors that are not required egress doors and are served by a stairway with no more than 3 risers.
3. Doors protected by a guard in accordance with this code.

4. Doors protected in a manner approved by the building official.

R311.3.2 Floor elevations for other exterior doors. Doors other than the required egress door shall be provided with landings or floors not more than 7 ¾ inches (196 mm) below the top of the threshold.

Exception: A top landing is not required where a stairway of not more than three risers is located on the exterior side of the door, provided that the door does not swing over the stairway.

R311.7.6 Landings for stairways. There shall be a floor or landing at the top and bottom of each stairway. The width perpendicular to the direction of travel shall be not less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided that the depth at the walk line and the total area is not less than that of a quarter circle with a radius equal to the required landing width. Where the stairway has a straight run, the depth in the direction of travel shall be not less than 36 inches (914 mm).

Exception:

1. A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided that a door does not swing over the stairs.
2. Where not required by Section R311.3 and Section R311.3.2.

(SECTION R313 AUTOMATIC FIRE SPRINKLER SYSTEMS)

R313.1 Townhouse automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in townhouses, in accordance with R313.90.

Exception:

An automatic residential fire sprinkler system shall not be required where additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

R313.2 One-and two-family dwellings automatic fire systems. An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings, in accordance with R313.90.

Exception:

An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system.

R313.90 Sprinklers in Residential Structures.

Notwithstanding the provisions of the Building Code and Residential Code, as amended and adopted by Moscow Mills, Missouri, and in accordance with RSMo 67.281, a builder of one or two-family dwellings and townhouses shall offer to any purchaser on or before the time of entering into the purchase contract the option, at the purchaser’s cost, to install or equip fire sprinklers in the dwelling, residence, or unit. Notwithstanding any other provision of law to the contrary, no purchaser of such a one or two-family dwelling and townhouses shall be denied the right to choose or decline to install a fire sprinkler system in such dwelling or residence being purchased.

(CHAPTER 4 FOUNDATIONS)

(SECTION R403 FOOTINGS)

Section R403.1.1 Minimum size. The minimum width, W, and thickness, T, for concrete footings shall be in accordance with Tables R403.1(1), through R403.1(4) and Figure R403.1(1) or R403.1.3, as applicable. The footing width shall be based on the load-bearing value of the soil in accordance with Table R401.4.1. Footing projections, P, shall be not less than 2 inches (51 mm) and shall not exceed the thickness of the footing. Footing thickness and projection for fireplaces shall be in accordance with Section R1001.2. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4.1. Footings for wood foundations shall be in accordance with the details set forth in Section R403.2, and Figures R403.1(2) and R403.1(3).

Table R403.1(4)

**MINIMUM WIDTH OF CONCRETE, PRECAST AND MASONRY FOOTINGS (inches).
6 Inch minimum thickness**

	1,500	2,000	3,000	>=4,000
LOAD BEARING VALUE OF SOIL (PSF)				
Conventional Light-frame construction				
- 1-story	17	16	16	16
- 2-story	20	16	16	1
- 3- story	23	17	16	16
Masonry veneer over light frame				
- 1-story	21	16	16	16
- 2-story	26	20	16	16
- 3- story	32	24	16	16

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

R403.1.4.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extended below the frost line specified in Table R301.2.(1).
2. Constructed in accordance with Section R403.3.
3. Constructed in accordance with ASCE 32.
4. Erected on solid rock.

Exceptions:

1. Protection of freestanding accessory structures with an area of 200 square feet (18.5 m²) or less, of light-frame construction, with an eave height of 10 feet (3048 mm) or less shall not be required.
2. Protection of freestanding accessory structures with an area of 200 square feet (18.5 m²) or less, of other than light-frame construction, with an eave height of 10 feet (3048 mm) or less shall not be required.
3. Decks not supported by a dwelling and not more than 4 feet (1.22 m) above the surrounding grade need not be provided with footings that extend below the frost line.

R403.1.7 Footings on or adjacent to slopes. The placement of buildings and structures on or adjacent to slopes steeper than one-unit vertical in three units horizontal (33.3-percent slope) shall conform to Sections R403.1.7.1 through R403.1.7.4. or designed and sealed by a registered engineer licensed in the State of Missouri with approval from the building official.

(SECTION R404 FOUNDATION AND RETAINING WALLS)

R404.1.3.2 Reinforcement for foundation walls. Concrete foundation walls shall be laterally supported at the top and bottom. Horizontal reinforcement shall be provided in accordance with Table R404.1.2(1). Vertical reinforcement shall be provided in accordance with Table R404.1.2(2), R404.1.2(3), R404.1.2(4), R404.1.2(5), R404.1.2(6), R404.1.2(7) or R404.1.2(8). Vertical reinforcement for flat basement walls retaining 4 feet (1219 mm) or more of unbalanced backfill is permitted to be determined in accordance with Table R404.1.2(9). For basement walls supporting above-grade concrete walls, vertical reinforcement shall be the greater of that required by Tables R404.1.2(2) through R404.1.2(8) or by Section R608.6 for the above-grade wall. In buildings assigned to Seismic Design Category D0, D1 or D2, concrete foundation walls shall also comply with Section R404.1.4.2.

Exception:

Where unstable soil or ground water conditions do not exist, concrete foundation walls may be constructed in accordance with Table R404.1.2(10).

Table R404.1.2(10) Concrete Foundation Walls

Maximum Wall Height	Maximum Depth of Unbalanced Backfill	Minimum Nominal Wall Thickness
8'-0"	7'-6" or less	8" (Note a)
9'-0"	8'-6" or less	10" (Note b)
10'0"	9'-6" or less	12" (Note c)

- a. Concrete foundation walls may be constructed a minimum of nominal 8 inches thick where the wall height from the top of the footing to the top of the wall does not exceed 8 feet. A minimum of two #4 reinforcing bars shall be placed horizontally in the top and bottom of the foundation wall. A minimum of two #5 reinforcing bars shall be provided around all window and door openings in concrete foundation and basement walls; bars shall extend a minimum of 24 inches beyond the corners of the openings.
- b. Concrete foundation walls may be constructed a minimum of nominal 10 inches thick. A minimum of two #5 reinforcing bars shall be placed horizontally in the top, middle, and bottom of the foundation wall. A minimum of two #5 reinforcing bars shall be provided around all window and door openings in concrete foundation and basement walls; bars shall extend a minimum of 24 inches beyond the corners of the openings.
- c. Concrete foundation walls may be constructed a minimum of nominal 12 inches thick. A minimum of three #5 reinforcing bars shall be placed horizontally in the top, middle, and bottom of the foundation wall. A minimum of two #5 reinforcing bars shall be provided around all window and door openings in concrete foundation and basement walls; bars shall extend a minimum of 24 inches beyond the corners of the openings.
- d. The concrete minimum wall thickness shall be 8 inches for foundation walls in soil classes SC, MH, ML-CL and inorganic CL when maximum wall height is 8 feet.
- e. The concrete minimum wall thickness shall be 10 inches for foundation walls in soil classes SC, MH, ML-CL and inorganic CL when the maximum wall height is 9 feet.
- f. The concrete minimum wall thickness shall be 12 inches for foundation walls in soil classes SC, MH, ML-CL and inorganic CL when the maximum wall height is 10 feet.

(SECTION R405 FOUNDATION DRAINAGE)

R405.1 Concrete or masonry foundations. Drains shall be provided around concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone drains shall extend not less than 1 foot (305 mm) beyond the outside edge of

the footing and 6 inches (152 mm) above the top of the footing and be covered with an approved filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper. Except where otherwise recommended by the drain manufacturer, perforated drains shall be surrounded with an approved filter membrane or the filter membrane shall cover the washed gravel or crushed rock covering the drain. Drainage tiles or perforated pipe shall be placed on a minimum of 2 inches (51 mm) of washed gravel or crushed rock not less than one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.

Exception:

1. A drainage system is not required where the foundation is installed on well-drained ground or sand-gravel mixture soils according to the Unified Soil Classification System, Group I soils, as detailed in Table R405.1.
2. Drains provided as detailed in Section R405.1.90 are approved as an alternative method to meet the requirements of this Section.

R405.1.90 Soil evaluations. An evaluation of the soil for the presence or absence of ground water is required. The evaluation report shall be based on either a subsurface soil investigation or satisfactory data from adjacent areas together with an inspection of the excavation prior to pouring concrete.

R405.1.90.1 Ground water present. Provide drain tile, perforated pipe or other approved foundation drainage systems around perimeter of the outside of the foundation and inside the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump.

R405.1.90.2 No ground water present. Provide drain tile, perforated pipe or other approved foundation drainage systems around perimeter of the outside of the foundation or inside the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump.

R405.1.90.3 Filter membranes. An approved filter membrane shall be placed over the top of the joints/pipe perforations. The tile/pipe shall be placed on 2 inches minimum gravel or crushed stone and have 6 inch minimum cover.

R405.1.90.4 Drainage system. Drainage system shall discharge by gravity to daylight or be connected to an approved sump (18 inches in diameter x 24 inches deep with fitted cover) with pump. A sump pit shall be provided in each basement with pump discharge by an approved method, exception may be granted by a code official.

R507.2.4 Deck lateral load connection. The lateral load connection required by Section R507.1 shall be one of the following methods:

1. In accordance with Figure R507.2.3(1) with hold-down tension devices installed in not less than two locations per deck, within 24 inches of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1,500 pounds

(6672 N).

2. In accordance with Figure R507.2.3(2) with hold-down tension devices installed in not less than four locations per deck, and each device shall have an allowable stress design capacity of not less than 750 pounds (3336 N).
3. Using knee braces extending from the floor system to the posts.
4. Using a diagonal brace across the floor system installed below the floor system and attached using (2) 10d nails through the brace into each joist, or by a metal diagonal brace “cut-in” and attached to the top chords of the joist.

(CHAPTER 6 WALL CONSTRUCTION)

(SECTION R602 WOOD WALL FRAMING)

R602.7.5: Delete in its entirety and replace with the following table:

Table R602.7.5

MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS (a)

ULTIMATE DESIGN WIND SPEED AND EXPOSURE CATEGORY		
MAXIMUM HEADER SPAN (feet)	<140 mph, Exposure B or < 130 mph, Exposure C	<115 mph, Exposure B (b)
4	1	1
6	2	1
8	2	1
10	3	2
12	3	2
14	3	2
16	4	2
18	4	2

- a. For header spans between those given above, use the minimum number of full-height studs associated with the larger header span.
- b. The tabulated minimum number of full-height studs is applicable where jack studs are provided to support the header at each end in accordance with Table R602.7(1). Where framing anchors are used to support the header in lieu of a jack stud in accordance with footnote “d” of Table R602.7(1), the minimum number of full-height studs at each end of a header shall be in accordance with requirements for wind speed <140 mph, Exposure B. R602.10.5.90 Tall wall areas. Provided the required number and size of brace wall panels is provided for each story in accordance with this code, and the requirements for walls in R602 are followed, additional engineered design for tall wall areas such as

atriums, foyers, stairs, great rooms, etc. shall not be required.

(CHAPTER 9 ROOF ASSEMBLIES)

(SECTION R905 REQUIREMENTS FOR ROOF COVERINGS)

R905.2.8.2 Valleys. Valley linings shall be installed in accordance with the manufacturer's instructions before applying shingles. Valley linings of the following types shall be permitted:

1. For open valleys (valley lining exposed) lined with metal, the valley lining shall be not less than 24 inches (610 mm) wide and of any of the corrosion resistant metals in Table R905.2.8.2.
2. For open valleys, valley lining of two plies of mineral-surfaced roll roofing, complying with ASTM D 3909 or ASTM D 6380 Class M, shall be permitted. The bottom layer shall be 18 inches (457 mm) and the top layer not less than 36 inches (914 mm) wide.
3. For closed valleys (valley covered with shingles), valley lining of [one ply of smooth roll roofing] two-ply of 15 pound felt [or] complying with ASTM D 226 Type I, ASTM D 4869 Type I, or ASTM D 6757 or valley lining as described in Item 1 or 2 shall be permitted. Self-adhering polymer modified bitumen underlayment complying with ASTM D 1970 shall be permitted in lieu of the lining material.

R905.2.8.5 Drip edge. A drip edge shall be provided at eaves and rake edges of shingle roofs. Adjacent segments of drip edge shall be overlapped not less than 2 inches (51 mm). Drip edges shall extend not less than 1/4 inch (6.4 mm) below the roof sheathing and extend up back onto the roof deck not less than 2 inches (51 mm). Drip edges shall be mechanically fastened to the roof deck at not more than 12 inches (305 mm) o.c. with fasteners as specified in Section R905.2.5. Underlayment shall be installed over the drip edge along eaves and under the underlayment along rake edges.

Exception: Unless drip edge specifically is required by the Manufacturer's Installation Instructions of the roofing, metal wrapped fascia extending 1 inch under the roof covering with the underlayment installed over it shall be deemed to meet the requirements of this section.

(CHAPTER 10 CHIMNEYS AND FIREPLACES)

(SECTION R1004 FACTORY-BUILT FIREPLACES)

R1004.90 Required fire separation enclosure. All prefabricated metal chimneys shall be enclosed in a fire-resistant shaft with one (1) layer of five-eighths (5/8) inch type "X" gypsum board from the fireplace connector to the underside of the roof sheathing, securely attached with framing material. When the chimney chase is located on an exterior wall of the structure, it need only be separated by lining the wall between the chimney chase and the exterior wall with five-eighths (5/8) type "X" inch gypsum board. All joints are to be tight within one-eighth (1/8) of an inch or tape with joint compound. Required clearances shall be maintained between the chimney and the gypsum board per chimney manufacturer's specifications.

(SECTION R1005 FACTORY-BUILT CHIMNEYS)

R1005.7 Factory-built chimney offsets. Where a factory-built chimney assembly incorporates offsets, no part of the chimney shall be at an angle of more than 30 degrees (0.52 rad) from vertical at any point in the assembly and the chimney assembly shall not include more than four elbows.

Exception: When allowed by the manufacturer's installation instructions.

(CHAPTER 11 ENERGY EFFICIENCY)

(SECTION N1101 GENERAL)

N1101.6 (R202) Defined terms.

PROJECTION FACTOR: The ratio of the horizontal depth of an overhang, eave, or permanently attached shading device, divided by the distance measured vertically from the bottom of the fenestration glazing to the underside of the overhang, eave, or permanently attached shading device.

N1101.13 (R401.2) Compliance. Projects shall comply with one of the following:

1. Sections N1101.14 through N1104 as amended.
2. Section N1105 and the provisions of Sections N1101.14 through N1104 labeled "Mandatory."
3. An energy rating index (ERI) approach in Section N1106.

N1101.14 (R401.3) Certificate (Mandatory). Unless otherwise presented to the homeowner and building official in writing, a permanent certificate shall be completed by the builder or registered design professional and posted on a wall in the space where the furnace is located, a utility room or an approved location inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawl space wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.

(SECTION N1102 BUILDING THERMAL ENVELOPE)

Table N1102.1.2 (R402.1.2) Delete in its entirety and insert the following table:

**TABLE N1102.1.2 (R402.1.2)
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT (a)**

CLIMATE ZONE	4	
FENESTRATION U-FACTOR	0.35	
SKYLIGHT U-FACTOR	0.60	See Note B
GLAZED FENESTRATION SHGC	NR	
CEILING R-VALUE 38	38	
WOOD FRAME WALL R-VALUE	13	
MASS WALL R-VALUE	8 / 13	See Note I
FLOOR R-VALUE	19	
BASEMENT WALL R-VALUE	0	See Note J
SLAB R-VALUE AND DEPTH	10, 2 ft	See Note D
CRAWL SPACE WALL R-VALUE	10 / 13	See Note C

- a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.
- b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- c. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R- 13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
- d. d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs. e. – f. – g. – h. –
- i. The second R-value applies when more than half the insulation is on the interior of the mass wall.
- j. Band boards and cripple walls shall be insulated to R-13.

Section N1102.1.5 (R402.1.5) Total UA alternative. If the total building thermal envelope UA (sum of U-factor times assembly area) is less than or equal to the total UA resulting from using the U-factors in Table N1102.1.4 (multiplied by the same assembly area as in the proposed building), the building shall be considered in compliance with Table N1102.1.2. The UA calculation shall be done using a method consistent with the ASHRAE Handbook of Fundamentals and shall include the thermal bridging effects of framing materials. The SHGC requirements shall be met in addition to UA compliance.

Exception: In Climate Zone 4, permanently shaded vertical fenestration shall be permitted to satisfy SHGC requirements. The projection factor of an overhang, eave, or permanently attached shading device shall be greater than or equal to the value listed in Table N1102.2.2.1 for the appropriate orientation. The minimum projection shall extend beyond each side of the glazing a minimum of 12 inches. Each orientation shall be rounded to the nearest cardinal orientation (+/- 45 degrees or 0.79 rad) for purposes of calculations and demonstrating compliance.

**TABLE N1102.1.5
MINIMUM PROJECTION FACTOR REQUIRED BY ORIENTATION FOR SHGC**

ORIENTATION	PROJECTION FACTOR
North	≥0.40 (a)
South	≥0.20
East	≥0.50
West	≥0.50

- a. For the north orientation, a vertical projection located on the west-edge of the fenestration with the equivalent of PF>0.15 shall also satisfy the minimum projection factor requirements.

N1102.2.4.90 Doors (except overhead garage doors). All metal doors shall be insulated.

**Table N1102.4.1.1.1 (402.4.1.1)
Air Barrier and Insulation Installation**

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA
General requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material.

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Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within comers and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed	
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.
Floors (including above garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing; and extends from the bottom
		to the top of all perimeter floor framing members
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped	Where provided instead of floor insulation, insulation shall be permanently attached to the crawl-space walls

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Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.	
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the drywall	Recessed light fixtures installed in the building thermal envelope shall be sealed to the drywall by means such as, but not limited to, a gasketed fixture
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs	Exterior walls adjacent to showers and tubs shall be insulated.
Electrical/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.	

HVAC register boots	HVAC register boots that penetrate building thermal envelope shall be sealed to the subfloor or drywall.	
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings	

N1102.4.1.2 (R402.4.1.2) Testing Option. If testing is elected, the building or dwelling unit shall be tested and verified as having an air leakage rate of less than five air changes per hour. Testing shall be conducted in accordance with ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inches w.g. (50 pascals).

Where required by the building official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather stripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

N1102.4.1.90 Inspection option. The items listed in Table N1102.4.1.1 (402.4.1.1), applicable to the method of construction, may be field verified.

N1102.4.4 (R402.4.4) Rooms containing fuel-burning appliances. In Climate Zones 3 through 8, where open combustion air ducts provide combustion air to open combustion fuel-burning appliances, the appliances and combustion air opening shall be located outside the building thermal envelope or enclosed in a room, isolated from inside the thermal envelope.

Such rooms shall be sealed and insulated in accordance with the envelope requirements of Table N1102.1.2, where the walls, floors and ceilings shall meet a minimum of the basement wall R-value requirement. The door into the room shall be fully gasketed and any water lines and ducts in the room insulated in accordance with Section N1103. The combustion air duct shall be insulated where it passes through conditioned space to a minimum of R-8.

Exceptions:

1. Direct vent appliances with both intake and exhaust pipes installed continuous to the outside.
2. Fireplaces and stoves complying with Sections N1102.4.2 and R1006.
3. Mechanical equipment in an unfinished space. (SECTION N1103 SYSTEMS)

N1103.1.1 (R403.1.1) Programmable thermostat. Delete in its entirety.

N1103.3.2 (R403.3.2) Sealing (Mandatory). Ducts, air handlers and filter boxes shall be sealed. Joints and seams shall comply with either the International Mechanical Code or Section M1601.4.1 of this code, as applicable.

Exceptions:

1. Air-impermeable spray foam products shall be permitted to be applied without additional joint seals.
2. For ducts having a static pressure classification of less than 2 inches of water column (500 Pa), additional closure systems shall not be required for continuously welded joints and seams, and locking-type joints and seams of other than the snap-lock and button- lock types.
3. Sealing Duct sealing and tightness test is not required where the air handler and ducts are located within conditioned space as determined by the building official.

N1103.3.3 (R403.3.3) Duct testing (Optional). Ducts may be pressure tested to determine air leakage by one of the following methods: N1103.3.5 (R403.3.5)

Building cavities (Mandatory). Delete in its entirety.

N1103.4.1 (R403.4.1) Protection of piping insulation. Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesive tape shall not be permitted.

Exception: Line sets between the structure and the condensing unit.

N1103.5.3 (R403.5.3) Hot water pipe insulation (Prescriptive). Insulation for hot water pipe with a minimum thermal resistance (R-value) of R-3 shall be applied to the following:

1. Piping larger than 3/4 inch (19 mm) in nominal diameter.

2. Piping serving more than one dwelling unit.
3. Piping located outside the conditioned space.
4. Piping from the water heater to a distribution manifold.
5. Piping located under a floor slab.
6. Buried in piping.
7. Supply and return piping in recirculation systems other than demand recirculation systems.

N1103.6 (R403.6) Mechanical ventilation. Mandatory where required by N1102.4.1.2. If, in accordance with N1102.4.1.2, the resulting air changes per hour (ACH) at 50 Pascals is less than 5 air changes per hour, the building shall be provided with ventilation that meets the requirements of Section M1507 of this code or the International Mechanical Code, as applicable, or with other approved means of ventilation. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.

(SECTION N1104 ELECTRICAL POWER AND LIGHTING SYSTEMS)

N1104.1 (R404.1) Lighting equipment (Optional). Not less than 75 percent of the lamps in permanently installed lighting fixtures shall be high efficacy lamps or not less than 75 percent of the permanently installed lighting fixtures shall contain only high-efficacy lamps.

Exception: Low-voltage lighting.

(SECTION N1105 SIMULATED PERFORMANCE ALTERNATIVE)

**TABLE N1105.5.2(1)
SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS**

BUILDING COMPONENT	STANDARD REFERENCED DESIGN	PROPOSED DESIGN
Above-grade Walls	Type: mass wall if proposed wall is mass; otherwise wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
	Solar absorptance = 0.75	As proposed
	Remittance = 0.90	As proposed

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Basement and crawl space walls	Type: same as proposed	As proposed
	Gross area: same as proposed	As proposed
	U-factor: from Table N1102.1.4, with insulation layer on interior side of walls	As proposed
Above-grade floors	Type: wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
Ceilings	Type: wood frame	As proposed
	Gross area: same as proposed	As proposed
	U-factor: as specified in Table N1102.1.4	As proposed
Roofs	Type: composition shingle on wood sheathing	As proposed
	Gross area: same as proposed	As proposed
	Solar absorptance= 0.75 As proposed Emittance = 0.90	As proposed
Attics	Type: vented with aperture = 1 ft ² per 300 ft ² ceiling area	As proposed
Foundations	Type: same as proposed	As proposed
	Foundation wall area above and below grade and soil characteristics: same as proposed	As proposed
Opaque doors	Area: 40 ft ²	As proposed
	Orientation: North	As proposed
	U-factor: same as fenestration from Table N1102.1.4	As proposed
Vertical fenestration other than opaque doors	Total area b = 15 percent of the conditioned floor area	As proposed
	Orientation: equally distributed to 4 cardinal compass orientations (N, E, S and W)	As proposed

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	U-factor: as specified in Table N1102.1.4 SHGC: as specified in Table N1102.1.2, except that for climates with no requirement	As proposed
	(NR) SHGC = 0.40 shall be used	
	Interior shade fraction: 0.92 - (0.21 x SHGC for the standard reference design)	0.92 - (0.21 x SHGC as proposed)
	External shading: none	As proposed
Skylights	None	As proposed
Thermally isolated sunrooms	None	As proposed
Air exchange rate	Air leakage rate of 5 air changes per hour at a pressure of 0.2 inches w.g. (50 Pa). The mechanical ventilation rate shall be in addition to the air leakage rate and the same as in the proposed design, but no greater than $0.01 \times \text{CFA} + 7.5 \times (\text{Nbr} + 1)$ where: CFA = conditioned floor area Nbr = number of bedrooms Energy recovery shall not be assumed for the mechanical	For residences that are not tested, the same air leakage rate as the standard reference design. For tested residences, the measured air exchange rate mechanical ventilation rate shall be in addition to the air leakage rate and shall be proposed
Mechanical ventilation	None, except where mechanical ventilation is specified by the proposed design, in which case: Annual vent fan energy use: $\text{kWh/yr} = 0.03942 \times \text{CFA} + 29.565 \times (\text{Nbr} + 1)$ Where: CFA = conditioned floor area Nbr = number of bedrooms	As proposed

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Internal gains	$I_{Gain} = 17,900 + 23.8 \times CFA + 4104 \times Nbr$ (Btu/day per dwelling unit)	Same as standard reference design
Internal mass	An internal mass for furniture and contents of 8 pounds per square foot of floor area	Same as standard reference design, plus any additional mass specifically designed as a thermal storage element but not integral to the building envelope or structure.
Structural mass	For masonry floor slabs, 80% of floor area covered by R-2 carpet and pad, and 20% of floor directly exposed to room air	As proposed
	For masonry basement walls, as proposed, but with insulation required by Table R402.1.4 located on the interior side of the walls	As proposed
	For other walls, for ceilings, floors, and interior walls, wood frame construction	As proposed
Heating systems d, e	Fuel type: same as the proposed design Efficiencies: Electric: air-source heat pump with prevailing federal minimum standards. Non-electric furnaces: natural gas furnace with prevailing federal minimum standards. Non-electric boilers: natural gas boiler with prevailing federal minimum standards.	As proposed
	Capacity: sized in accordance with Section N1103.7	

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Cooling systems d, f	Fuel type: electric Efficiency: in accordance with prevailing federal minimum standards Capacity: sized in accordance with Section N1103.7	As proposed
Service water heating d, e, f	Fuel type: same as proposed design Efficiency: in accordance with prevailing federal minimum standards Use: gal/day = 30 + 10 x Nbr Tank temperature: 120° F. Where: Nbr = number of bedrooms	As proposed Same as standard reference
Thermal distribution systems	Duct insulation: from Section N1103.2.1 A thermal distribution system efficiency (DSE) of 0.88 shall be applied to both the heating and cooling system efficiencies for all systems other than tested duct systems. For tested duct systems, the leakage rate shall be 4 cfm (113.3 L/min) per 100 ft ² (9.29 m ²) of conditioned floor area at a pressure of differential of 0.1 inches w.g. (25 Pa.)	As tested or specified in Table R405.5.2(2) if not tested Duct insulation shall be as proposed
Thermostat	Type: Manual, cooling temperature setpoint = 75° F. Heating temperature setpoint = 72° F	Same as standard reference

For SI: 1 square foot = 0.93 m²; 1 British thermal unit = 1055J; 1 pound per square foot = 4.88 kg/m²; 1 gallon (US) = 3.785 L; °C = (°F-32)/1.8; 1 degree = 0.79 rad

- a. Where required by the code official, testing shall be conducted by an approved party. Hourly calculations as specified in the ASHRAE Handbook of Fundamentals, or the equivalent, shall be used to determine the energy loads resulting from infiltration.
- b. The combined air exchange rate for infiltration and mechanical ventilation shall be determined in accordance with Equation 43 of 2001 ASHRAE and book of Fundamentals, page 26.24, and the "Whole-house Ventilation" provisions of 2001 ASHRAE Handbook of Fundamentals, page 26.19, for intermittent mechanical ventilation.
- c. Thermal storage element shall mean a component not part of the floors, walls or ceilings that is part of a passive solar system, and that provides thermal storage such as enclosed water columns, rock beds, or phase change containers. A thermal storage element must be in the same room as fenestration that faces within 15 degrees (0.26 rad) of true south, or must be connected to such a room with pipes or ducts that allow the element to be actively charged.
- d. For a proposed design with multiple heating, cooling or water heating systems using different fuel types, the applicable standard reference design system capacities and fuel types shall be weighted in accordance with their respective loads as calculated by accepted engineering practice for each equipment and fuel type present.
- e. For a proposed design without a proposed heating system, a heating system with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and proposed design.
- f. For a proposed design home without a proposed cooling system, an electric air conditioner with the prevailing federal minimum efficiency shall be assumed for both the standard reference design and the proposed design.
- g. For a proposed design with a non-storage-type water heater, a forty-gallon storage-type water heater with the prevailing federal minimum energy factor for the same fuel as the predominant heating fuel type shall be assumed. For the case of a proposed design without a proposed water heater, a forty-gallon storage-type water heater with the prevailing federal minimum efficiency for the same fuel as the predominant heating fuel type shall be assumed for both the proposed design and standard reference design.

(CHAPTER 13 GENERAL MECHANICAL SYSTEM REQUIREMENTS)

(SECTION M1301 GENERAL)

M1301.2 Identification. Each length of pipe and tubing as produced by the manufacturer and prior to use in the field, and each pipe fitting utilized in a mechanical system shall bear the identification of the manufacturer.

Exception: Line sets and similar materials, provided the installer can provide documentation related to the material used such as, but not limited to, a receipt, invoice, or container.

(SECTION M1305 APPLIANCE ACCESS)

M1305.1.4.1 Ground clearance. Equipment and appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than 2 inches (50.8 mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions. Appliances suspended from the floor shall have a clearance of not less than 6 inches (152 mm) from the ground.

M1305.1.4.3 Electrical requirements. A luminaire controlled by a switch located at the required passageway opening and a receptacle outlet shall be installed at or near the appliance location in accordance with Chapter 39. Exposed lamps shall be protected from damage by location or lamp guards.

Exception: Basements

(SECTION M1307 APPLIANCE INSTALLATION)

M1307.2 Anchorage of appliances. Appliances designed to be fixed in position shall be fastened or anchored in an approved manner. In Seismic Design Categories D0, D1 and D2, water heaters and thermal storage units shall be anchored or strapped to resist horizontal displacement caused by earthquake motion in accordance with one of the following:

1. Anchorage and strapping shall be designed to resist a horizontal force equal to one-third of the operating weight of the water heater storage tank, acting in any horizontal direction. Strapping shall be at points within the upper one-third and lower one-third of the appliance's vertical dimensions. At the lower point, the strapping shall maintain a minimum distance of 4 inches (102 mm) above the controls.
2. The anchorage strapping shall be in accordance with the appliance manufacturer's recommendations.

(CHAPTER 14 HEATING AND COOLING EQUIPMENT AND APPLIANCES)

(SECTION M1411 HEATING AND COOLING EQUIPMENT)

M1411.3.1 Auxiliary and secondary drain systems. In addition to the requirements of Section M1411.3, a secondary drain or auxiliary drain pan shall be required for each cooling or evaporator coil where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Drain

pipng shall be not less than 3/4-inch (19 mm) nominal pipe size. One of the following methods shall be used:

1. An auxiliary drain pan with a separate drain shall be installed under the coils on which condensation will occur. The auxiliary pan drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The pan shall have a minimum depth of 1.5 inches (38 mm), shall be not less than 3 inches (76 mm) larger than the unit or the coil dimensions in width and length and shall be constructed of corrosion-resistant material. Galvanized sheet steel pans shall have a minimum thickness of not less than No. 26 Gage. Nonmetallic pans shall have a minimum thickness of not less than 0.0625 inch (1.6 mm).
2. A separate overflow drain line shall be connected to the drain pan installed with the equipment. This overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection.
3. An auxiliary drain pan without a separate drain line shall be installed under the coils on which condensation will occur. This pan shall be equipped with a water level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan. The pan shall be equipped with a fitting to allow for drainage. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section.
4. A water level detection device conforming to UL 508 shall be installed that will shut off the equipment served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line or the equipment supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.

M1411.8 Locking access port caps. Delete in its entirety.

(CHAPTER 15 EXHAUST SYSTEMS)

(SECTION M1502 CLOTHES DRYER EXHAUST)

M1502.4.1 Material and size. Exhaust ducts shall have a smooth interior finish and be constructed of metal having a minimum thickness of 0.0157 inches (0.3950 mm). The duct shall be 4 inches (102 mm) nominal in diameter.

M1502.4.2 Duct installation. Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with Section M1601.4.1 and shall be mechanically fastened. Ducts shall not be joined with fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct.

(SECTION M1503 RANGE HOODS)

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.285m³/s) shall be mechanically or naturally provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with not less than one damper. Each damper shall be a gravity damper or an electrically operated damper that automatically opens when the exhaust system operates. Dampers shall be accessible for inspection, service, repair and replacement without removing permanent construction or any other ducts not connected to the damper being inspected, serviced, repaired or replaced.

(SECTION M1601 DUCT SYSTEMS)

M1601.1.1 Above-ground duct systems. Above-ground duct systems shall conform to the following:

1. Equipment connected to duct systems shall be designed to limit discharge air temperature to not greater than 250°F (121°C).
2. Factory-made ducts shall be listed and labeled, as produced by the manufacturer and prior to use in the field, in accordance with UL 181 and installed in accordance with the manufacturer's instructions.
3. Fibrous glass duct construction shall conform to the SMACNA Fibrous Glass Duct Construction Standards or NAIMA Fibrous Glass Duct Construction Standards.
4. Field-fabricated and shop-fabricated metal and flexible duct constructions shall conform to the SMACNA HVAC Duct Construction Standards—Metal and Flexible or by Table M1601.1.1. Galvanized steel shall conform to ASTM A 653.
5. The use of gypsum products to construct return air ducts or plenums is permitted, provided that the air temperature does not exceed 125°F (52°C) and exposed surfaces are not subject to condensation.
6. Duct systems shall be constructed of materials having a flame spread index of not greater than 200.
7. Stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following conditions:
 - 7.1. These cavities or spaces shall not be used as a plenum for supply air.
 - 7.2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly.
 - 7.3. Stud wall cavities shall not convey air from more than one floor level. Stud wall cavities shall be sealed at the floor to not draft air from the living space between the flooring and drywall.
 - 7.4. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight-fitting fireblocking in accordance with Section R602.8.

7.5 Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums.

M1601.4.1 Joints, seams and connections.

Longitudinal and transverse joints, seams and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC Duct Construction Standards - Metal and Flexible and NAIMA Fibrous Glass Duct Construction Standards.

Joints of duct systems shall be made substantially airtight in an unconditioned area by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked 181A-P for pressure-sensitive tape, 181A-M for mastic or 181A-H for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked 181B-FX for pressure sensitive tape or 181B-M for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1 inch and shall be mechanically fastened with at least three sheet metal screws or rivets equally spaced around the joint. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer's installation instructions.

Exceptions:

1. Spray polyurethane foam shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressure less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems.

M1602.2 Return air openings. Return air openings for heating, ventilation and air conditioning systems shall comply with all of the following:

1. Openings shall not be located less than 10 feet (3048 mm) measured in any direction from an open combustion chamber or draft hood of another appliance located in the same room or space.
2. The amount of return air taken from any room or space shall be not greater than the flow rate of supply air delivered to such room or space.
3. Return and transfer openings shall be sized in accordance with the appliance or equipment manufacturers' installation instructions, Manual D or the design of the registered design professional.
4. Return air shall not be taken from a closet, bathroom, toilet room, kitchen,

garage, mechanical room, boiler room, furnace room or unconditioned attic.

Exceptions:

1. Taking return air from a kitchen is not prohibited where such return air openings serve the kitchen only, and are located not less than 10 feet (3048 mm) from the cooking appliances. Dedicated forced-air systems serving only the garage shall not be prohibited from obtaining return air from the garage.
2. Taking return air from an unconditioned crawl space shall not be accomplished through a direct connection to the return side of a forced-air furnace. Transfer openings in the crawl space enclosure shall not be prohibited.
3. Return air from one dwelling unit shall not be discharged into another dwelling unit.
4. Return air may be taken from a bedroom closet over 64 square feet in area.

(CHAPTER 21 HYDRONIC PIPING)

(SECTION G2105 GROUND-SOURCE HEAT-PUMP SYSTEM LOOP PIPING)

M2105.19 Pipe penetrations. Openings for pipe penetrations in walls, floors and ceilings shall be larger than the penetrating pipe. Openings through concrete or masonry building elements shall be sleeved, except where a drilled hole provides a natural and sufficient relieving arch as determined by the building official. The annular space surrounding pipe penetrations shall be protected in accordance with Section VP2606.1.

(CHAPTER 24 FUEL GAS)

(SECTION G2408 INSTALLATION)

G2408.4 (305.7) Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 2 inches (50.8 mm) above adjoining grade or shall be suspended not less than 6 inches (152 mm) above adjoining grade. Such supports shall be installed in accordance with the manufacturer's instructions.

G2409.1 (308.1) Scope. This section shall govern the reduction in required clearances to combustible materials, including gypsum board, and combustible assemblies for chimneys, vents, appliances, devices and equipment. Clearance requirements for air-conditioning equipment and central heating boilers and furnaces shall comply with Sections G2409.3 and G2409.4.

Exception:

Where allowed by the Manufacturer's Installation Instructions and approved by the building official.

(SECTION G2412 GENERAL)

G2412.9 (401.9) Identification. Each length of pipe and tubing, as produced by the manufacturer and prior to use in the field, and each pipe fitting, utilized in a fuel gas system, shall bear the identification of the manufacturer.

(SECTION G2439 CLOTHES DRYER EXHAUST)

G2439.7.4.1 (614.8.4.1) Specified length. The maximum length of the exhaust duct shall be 35 feet (10 668 mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.4.5.1

G2439.7.4.1. The maximum length of the exhaust duct does not include the transition duct.

(SECTION G2442 FORCED-AIR WARM-AIR FURNACES)

G2442.4 (618.4) Prohibited sources. Outdoor or return air for forced-air heating and cooling systems shall not be taken from the following locations:

1. Closer than 10 feet (3048 mm) from an appliance vent outlet, a vent opening from a plumbing drainage system or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside air inlet.
2. Where there is the presence of objectionable odors, fumes or flammable vapors; or where located less than 10 feet (3048 mm) above the surface of any abutting public way or driveway; or where located at grade level by a sidewalk, street, alley or driveway.
3. A hazardous or insanitary location or a refrigeration machinery room as defined in the International Mechanical Code.
4. A room or space, the volume of which is less than 25 percent of the entire volume served by such system. Where connected by a permanent opening having an area sized in accordance with Section 2442.2, adjoining rooms or spaces shall be considered as a single room or space for the purpose of determining the volume of such rooms or spaces.

Exception: The minimum volume requirement shall not apply where the amount of return air taken from a room or space is less than or equal to the amount of supply air delivered to such room or space.

5. A room or space containing an appliance where such a room or space serves as the sole source of return air.

Exception: This shall not apply where:

1. The appliance is a direct-vent appliance or an appliance not requiring a vent in accordance with Section G2425.8.

2. The room or space complies with the following requirements:
 - a. The return air shall be taken from a room or space having a volume exceeding 1 cubic foot for each 10 Btu/h (9.6L/W) of combined input rating of all fuel burning appliances therein.
 - b. The volume of supply air discharged back into the same space shall be approximately equal to the volume of return air taken from the space.
 - c. Return-air inlets shall not be located within 10 feet (3048 mm) of a draft hood in the same room or space or the combustion chamber of any atmospheric burner appliance in the same room or space.
3. Rooms or spaces containing solid fuel-burning appliances, provided that return-air inlets are located not less than 10 feet (3048 mm) from the firebox of such appliances.
6. A closet, bathroom, toilet room, kitchen, garage, boiler room, furnace room or unconditioned attic.

Exceptions:

1. Where return air intakes are located not less than 10 feet (3048 mm) from cooking appliances and serve only the kitchen area, taking return air from a kitchen area shall not be prohibited.
2. Dedicated forced air systems serving only a garage shall not be prohibited from obtaining return air from the garage.
3. Return air may be taken from a bedroom closet over 64 square feet in area.
4. A crawl space by means of direct connection to the return side of a forced-air system. Transfer openings in the crawl space enclosure shall not be prohibited.

(CHAPTER 25 PLUMBING ADMINISTRATION)

(SECTION P2503 INSPECTION AND TESTS)

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by water or by air, without evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough-in piping has been installed, as follows:

1. Water test. Each section shall be filled with water to a point not less than 5 feet (1524 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

P2503.6 Shower liner test. Delete in its entirety.

(CHAPTER 26 GENERAL PLUMBING REQUIREMENTS)

(SECTION P2602 INDIVIDUAL WATER SUPPLY AND SEWAGE DISPOSAL)

P2602.1 General. The water-distribution and drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public water supply or sewer system, respectively, when these public utilities are within 200 feet of the nearest property line. Where either a public water-supply or sewer system, or both, are not available within 200 feet, or connection to them is not feasible as determined by the building official, an individual water supply or individual (private) sewage-disposal system, or both, shall be provided.

(SECTION P2603 STRUCTURAL AND PIPING PROTECTION)

P2603.5 Freezing. Water, soil and waste pipes shall not be installed in exterior walls, crawl spaces or attics, unless approved by the building official upon a showing that such pipes installed in such locations are not at risk of freezing. Water service pipes shall be installed not less than 36 inches (915 mm) below grade.

P2603.5.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a not less than 18 inches (453 mm) below finished grade at the point of septic tank connection. Building sewers shall be not less than 30 inches (762 mm) below grade.

(SECTION P2609 MATERIALS EVALUATION AND LISTING)

P2609.1 Identification. Each length of pipe and tubing, as produced by the manufacturer and prior to use in the field, and each pipe fitting, trap, fixture, material and device utilized in a plumbing system shall bear the identification of the manufacturer and any markings required by the applicable referenced standards. Nipples created from the cutting and threading of approved pipe shall not be required to be identified.

Exception: Where the manufacturer identification cannot be marked on pipe fittings and pipe nipples because of the small size of such fittings, the identification shall be printed on the item packaging or on documentation provided with the item.

(CHAPTER 28 WATER HEATERS)

(SECTION P2801 GENERAL)

P2801.8 Water heater seismic bracing. In Seismic Design Categories D0, D1 and D2, water heaters shall be anchored or strapped in the upper one-third and in the lower one-third of the appliance to resist a horizontal force equal to one-third of the operating weight of the water heater, acting in any horizontal direction, or in accordance with the appliance manufacturer's recommendations.

(CHAPTER 29 WATER SUPPLY AND DISTRIBUTION)

(SECTION P2903 WATER SUPPLY SYSTEM)

P2903.5 Water hammer. The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. Water-hammer arrestors shall be installed in accordance with the manufacturer's instructions. Water-hammer arrestors shall conform to ASSE 1010. A water-hammer arrestor shall be installed where quick-closing valves are utilized.

(SECTION P2904 DWELLING UNIT FIRE SPRINKLER SYSTEMS)

P2904.1 General. These regulations are subject to Section R313 of this Code as amended by Moscow Mills. The design and installation of residential fire sprinkler systems shall be in accordance with NFPA 13D or Section P2904, which shall be considered equivalent to NFPA 13D. Partial residential sprinkler systems shall be permitted to be installed only in buildings not required to be equipped with a residential sprinkler system. Section P2904 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall provide domestic water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the water distribution system. A backflow preventer shall not be required to separate a stand-alone sprinkler system from the water distribution system.

P2904.1.1 Required sprinkler locations. If installed as allowed by Section R313 of this Code as amended by Moscow Mills, sprinklers shall be installed to protect all areas of a dwelling unit.

(CHAPTER 31 VENTS)

(SECTION P3103 VENT TERMINALS)

P3103.1 Roof extension. Open vent pipes that extend through a roof shall be terminated not less than 12 inches (304 mm) above the roof or 4 inches (102 mm) above the anticipated snow accumulation, whichever is greater. Where a roof is to be used for assembly, as a promenade, observation deck or sunbathing deck or for similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.

(CHAPTER 32 TRAPS)

(SECTION P3201 FIXTURE TRAPS)

P3201.2.1 Trap seal protection. Traps seals of emergency floor drain traps and traps subject to evaporation shall be protected by one of the methods in Sections P3201.2.1.1 through P3201.2.1.4.

Exception: Basement floor drains with a deep trap seal used as a condensate drain.

(CHAPTER 39 POWER AND LIGHT DISTRIBUTION)

(SECTION E902 GROUND-FAULT AND ARC-FAULT CIRCUIT-INTERRUPTER PROTECTION)

E3902.2 Garage and accessory building receptacles. 125-volt, single-phase, 15- or 20-ampere receptacles installed in garages and grade-level portions of unfinished accessory buildings used for storage or work areas shall have ground-fault circuit-interrupter protection for personnel.

Exception: Fastened in place garage door openers.

E3902.5 Unfinished basement receptacles. 125-volt, single-phase, 15- and 20-ampere receptacles installed in unfinished basements shall have ground-fault circuit interrupter protection for personnel. For purposes of this section, unfinished basements are defined as portions or areas of the basement not intended as habitable rooms and limited to storage areas, work areas, and similar areas.

Exceptions:

1. A receptacle supplying only a permanently installed fire alarm or burglar alarm system. Receptacles installed in accordance with this exception shall not be considered as meeting the requirement of Section E3901.9.
2. Where a simplex receptacle is installed to serve an installed sump pump.

Section E3902.16 Arc-Fault Circuit-Interrupter Protection. Branch circuits that supply 120-volt, single phase, 15- and 20-ampere outlets installed in bedrooms and sleeping areas shall be protected by any of following:

Section E3902.17 Arc-fault circuit interrupter protection for branch circuit extensions or modifications. Where branch-circuit wiring is modified, replaced, or extended in any of the areas specified in Section E3902.16, the branch circuit shall be protected by one of the following:

1. A combination-type AFCI located at the origin of the branch circuit.
2. An outlet branch-circuit type AFCI located at the first receptacle outlet of the existing branch circuit.

Exception: AFCI protection shall not be required where the extension of the existing conductors is not more than 30 feet (9 m) in length and does not include any additional outlets or devices.

CHAPTER 40 DEVICES AND LUMINAIRES

SECTION E4002 RECEPTACLES

APPENDIX E MANUFACTURED HOUSING USED AS DWELLINGS

(SECTION AE101 SCOPE)

AE101.1 General. These provisions shall be applicable only to a manufactured home used as a single dwelling unit installed on any lot and shall apply to the following:

1. Construction, alteration and repair of any foundation system that is necessary to provide for the installation of a manufactured home unit.
2. Construction, installation, addition, alteration, repair or maintenance of the building service equipment that is necessary for connecting manufactured homes to water, fuel, or power supplies and sewage systems.
3. Alterations, additions or repairs to existing manufactured homes. The construction, alteration, moving, demolition, repair and use of accessory buildings and structures, and their building service equipment, shall comply with the requirements of the codes adopted by this jurisdiction.

These provisions shall not be applicable to the design and construction of manufactured homes and shall not be deemed to authorize either modifications or additions to manufactured homes where otherwise prohibited.

Exception: In addition to these provisions, new and replacement manufactured homes to be located in flood hazard areas as established in Table R301.2(1) of the International Residential Code shall meet the applicable requirements of Section R322 of the International Residential Code.

SECTION AE304 FEES

AE304.1 Permit fees. Fees shall be as established by the City of Moscow Mills, Missouri.

AE304.2 Plan review fees. Delete in its entirety.

AE304.3 Other provisions. Delete in its entirety.

AE304.3.1 Expiration of plan review. Delete in its entirety.

AE304.3.2 Investigation fees-work without a permit. Delete in its entirety.

AE304.3.2.1 Investigation. Delete in its entirety.

AE304.3.2.2 Fee. Delete in its entirety.

AE304.3.3 Fee refunds. Delete in its entirety.

AE304.3.3.1 Permit fee erroneously paid or collected. Delete in its entirety.

AE304.3.3.2 Permit fee paid when no work done. Delete in its entirety.

AE304.3.3.3 Plan review fee. Delete in its entirety.

APPENDIX J EXISTING BUILDINGS AND STRUCTURES

(SECTION AJ102 COMPLIANCE)

AJ102.3 Smoke detectors. Regardless of the category of work, smoke detectors shall be provided where required by Section R314.2.2.

(SECTION AJ501 ALTERATIONS)

AJ501.1 Newly constructed elements. Newly constructed elements, components and systems shall comply with the requirements of this code.

Exceptions:

1. Openable windows may be added without requiring compliance with the light and ventilation requirements of Section R303.
2. Newly installed electrical equipment shall comply with the requirements of Section AJ501.5.
3. An existing stairway being rebuilt shall not be required to comply with the requirements of Section R311.7.5 if the existing space and construction does not allow for a reduction in pitch or slope.

AJ501.8 Stairs.

AJ501.8.1 Stair width. Existing stairs and handrails not otherwise being altered or modified shall be permitted to maintain their current clear width at, above and below existing handrails.

AJ501.8.2 Stair headroom. Headroom height on existing stairs being altered or modified shall not be reduced below the existing stairway finished headroom. Existing stairs not otherwise being altered shall be permitted to maintain the current finished headroom.

AJ501.8.3 Stair landing. Landings serving existing stairs being altered or modified shall not be reduced below the existing stairway landing depth and width. Existing stairs not otherwise being altered shall be permitted to maintain the current landing depth and width.

(APPENDIX M HOME DAY CARE - R-3 OCCUPANCY)

(SECTION AM101 GENERAL)

AM101.90 Sprinklers in Existing Buildings. Existing buildings used as a day care in accordance with this Appendix shall not be required to provide sprinkler systems.

EXISTING BUILDING CODE

39.200

Moscow Mills City Code

A certain document, one (1) copy of which was on file in the office of the City Clerk of the City of Moscow Mills, Missouri, for at least ninety (90) days before adoption of this Section, and shall remain on file in the office of the City Clerk of the City of Moscow Mills, Missouri, after adoption of this Section, being marked and designated as the 2015 International Existing Building Code is adopted by reference as the City of Moscow Mills Existing Building Code (“Existing Building Code”) and made a part of this Chapter as if fully set forth herein, with the additions, changes, and deletions, as set forth below.

(CHAPTER 1 SCOPE AND ADMINISTRATION)

(SECTION 101 GENERAL)

101.1 Title. These regulations shall be known as the Existing Building Code of Moscow Mills, Missouri.

101.2 Scope. The provisions of the Existing Building Code shall apply to the repair, alteration, change of occupancy, addition to, and relocation of existing buildings.

Exception:

Residential buildings and their accessory structures within the scope of the International Residential Code shall utilize the existing building provisions provided in appendix J of that code.

(SECTION 103 ENFORCEMENT)

103.1 The building official shall be responsible for enforcement of the Existing Building Code.

103.2 Appointment. The building official shall be designated by the Board of Aldermen of the City.

(SECTION 105 PERMITS)

105.1 Required. Required permits shall comply with §39.004, Section 105.1 of the Building Code of Moscow Mills, Missouri.

105.2 Work exempt from permits. Work exempt from permits shall comply with §39.004, Section 105.2 of the Building Code of Moscow Mills, Missouri.

105.5 Expiration. Every permit issued shall become invalid and expired unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site 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 shall be granted only upon a showing of justifiable cause and substantial progress. If a permit expires pursuant to this provision, the building official may issue a new permit upon advance payment of an administrative penalty of the original permit fee or one hundred

dollars (\$100.00), whichever is less. The reissued permit must be picked-up within seven (7) days of the issued date.

(SECTION 106 CONSTRUCTION DOCUMENTS)

107.1 General. Submittal documents consisting of construction documents, statement of special inspections, geotechnical report and other data shall be submitted as required by the building official with each permit application. The construction documents shall be prepared by a registered design professional only where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

107.90 Electronic submission. Where design documents including, but not limited to, plot plans, site plans, design drawings, specifications, etc. are created electronically, the building official is authorized to require electronic submittal of documents in a portable document format (PDF) or similar format for review.

(SECTION 109 INSPECTIONS)

110.90 Workmanship. All work shall be executed in a workmanlike and skilled manner so that, for example, floors are level, walls are plumb and square, windows and doors are plumb, square and easily operable, exterior building envelopes are weather-tight and exclude the elements, building materials are undamaged, and surfaces are unmarred. All work performed shall be in compliance with this code, per industry standards, and in accordance with the manufacturer's installation instructions.

(SECTION 112 MEANS OF APPEAL)

Appeals under the Existing Building Code shall be governed by the provisions pertaining to appeals under Section 113, of §39.004 above.

112.1 Limitations on authority. Delete in its entirety.

112.2 Qualifications. Delete in its entirety.

(SECTION 113 VIOLATIONS)

113.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars (\$500.00) or by imprisonment for a term not

exceeding ninety (90) days, or by both such fine and imprisonment, and each day's continuance of a violation shall be deemed a separate offense. Under no circumstances shall any person's sentence be greater than any limit established by Missouri statutes for the same offense.

(SECTION 114 STOP WORK ORDER)

114.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, the owner's authorized agent, or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

(CHAPTER 14 PERFORMANCE COMPLIANCE METHODS)

(SECTION 1401 GENERAL)

1401.2 Applicability. Structures existing prior to April 8, 1968, in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of Chapters 5 through 13. The provisions of Sections 1401.2.1 through 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R and S. These provisions shall not apply to buildings with occupancies in Group H or I-1, I-3 or I-4.

MECHANICAL CODE

39.300

A certain document, one (1) copy of which was on file in the office of the City Clerk of the City of Moscow Mills, Missouri, for at least ninety (90) days before adoption of this Section, and shall remain on file in the office of the City Clerk of the City of Moscow Mills, Missouri, after adoption of this Section, being marked and designated as the 2015 International Mechanical Code, First Printing, (May 2014), is adopted by reference as the City of Moscow Mills Mechanical Code ("Mechanical Code") and made a part of this Chapter as if fully set forth herein, with the additions, changes, and deletions, as set forth below.

39.302

Throughout the Mechanical Code adopted in Section 39.300, wherever the term "Name of Jurisdiction" or "Local Jurisdiction" appears, it shall be deemed to mean the City of Moscow Mills, Missouri.

39.303

Throughout the Mechanical Code adopted in Section 39.300, whenever the term "building official" and "code official" appears, it shall be deemed to mean the officer, employee, or agent designated by the Board of Aldermen of the City of Moscow Mills, Missouri.

39.304

Moscow Mills City Code

The 2015 International Mechanical Code, adopted in Section 39.300, is amended by the following provisions. Each Section, Subsection or Clause of the Code that numerically corresponds to one of the following numbered provisions is hereby amended to read as set forth below, or deleted where so noted. Each following numbered provision without a numerically corresponding Section, Subsection or Clause of the Code is hereby enacted and added thereto.

101.1 Title: Insert in the space provided: “the City of Moscow Mills, Missouri.”

(SECTION 114 VIOLATIONS)

114.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars (\$500.00) or by imprisonment for a term not exceeding ninety (90) days, or by both such fine and imprisonment, and each day’s continuance of a violation shall be deemed a separate offense. Under no circumstances shall any person’s sentence be greater than any limit established by Missouri statutes for the same offense.

FUEL GAS CODE

39.400

A certain document, one (1) copy of which was on file in the office of the City Clerk of the City of Moscow Mills, Missouri, for at least ninety (90) days before adoption of this Section, and shall remain on file in the office of the City Clerk of the City of Moscow Mills, Missouri, after adoption of this Section, being marked and designated as the 2015 International Fuel Gas Code, is adopted by reference as the City of Moscow Mills Fuel Gas Code (“Fuel Gas Code”) and made a part of this Chapter as if fully set forth herein, with the additions, changes, and deletions, as set forth below.

39.402

Throughout the Fuel Gas Code adopted in Section 39.400, wherever the term “Name of Jurisdiction” or “Local Jurisdiction” appears, it shall be deemed to mean the City of Moscow Mills, Missouri.

39.403

Throughout the Fuel Gas Code adopted in Section 39.400, whenever the term “building official” and “code official” appears, it shall be deemed to mean the officer, employee, or agent designated by the Board of Aldermen of the City of Moscow Mills, Missouri.

39.404

The 2015 International Fuel Gas Code, adopted in Section 39.400, is amended by the following provisions. Each Section, Subsection or Clause of the Code that numerically corresponds to one of the following numbered provisions is hereby amended to read as set forth below, or deleted where so noted. Each following numbered provision without a numerically corresponding Section, Subsection or Clause of the Code is hereby enacted and added thereto.

101.1 Title: Insert in the space provided: “the City of Moscow Mills, Missouri.”

(SECTION 114 VIOLATIONS)

114.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars (\$500.00) or by imprisonment for a term not exceeding ninety (90) days, or by both such fine and imprisonment, and each day’s continuance of a violation shall be deemed a separate offense. Under no circumstances shall any person’s sentence be greater than any limit established by Missouri statutes for the same offense.

(SECTION 903 FACTORY-BUILT FIREPLACES)

903.9 Required fire separation enclosure. All prefabricated metal chimneys shall be enclosed in a fire-resistant shaft with one (1) layer of five-eighths (5/8) inch gypsum board from the fireplace connection to the underside of the roof sheathing, securely attached with framing material. When the chimney chase is located on an exterior wall of the structure, it need only be separated by lining the wall between the chimney chase and the exterior wall with five-eighths (5/8) inch gypsum board.

(CHAPTER 11 REFRIGERATION)

(SECTION 1101 GENERAL)

1101.10 Locking access port caps. Delete in its entirety.

ELECTRICAL CODE

39.500

A certain document, one (1) copy of which was on file in the office of the City Clerk of the City of Moscow Mills, Missouri, for at least ninety (90) days before adoption of this Section, and shall remain on file in the office of the City Clerk of the City of Moscow Mills, Missouri, after adoption of this Section, being marked and designated as the National Electrical Code, 2014 Edition, published by the National Fire Protection Association, is adopted by reference as the City of Moscow Mills Electrical Code (“Electrical Code”) and made a part of this Chapter as if fully set forth herein, with the additions, changes, and deletions, as set forth below.

39.502

Throughout the Electrical Code adopted in Section 39.500, wherever the term “Name of Jurisdiction” or “Local Jurisdiction” appears, it shall be deemed to mean the City of Moscow Mills, Missouri.

39.503

Moscow Mills City Code

Throughout the Electrical Code adopted in Section 39.500, whenever the term “building official” and “code official” appears, it shall be deemed to mean the officer, employee, or agent designated by the Board of Aldermen of the City of Moscow Mills, Missouri.

39.504

The National Electrical Code, 2014 Edition, adopted in Section 39.500, is amended by the following provisions. Each Section, Subsection or Clause of the Code that numerically corresponds to one of the following numbered provisions is hereby amended to read as set forth below, or deleted where so noted. Each following numbered provision without a numerically corresponding Section, Subsection or Clause of the Code is hereby enacted and added thereto.

(ARTICLE 90 INTRODUCTION)

90.1 (D) Administration of this code. The administration of this code shall be in accordance with Appendix K “Administrative Provisions” of the Building Code adopted in §39.001.

90.1 (E) Workmanship. Repairs, maintenance work, alterations or installations which are caused directly or indirectly by the enforcement of this code shall be executed and installed in a workmanlike manner in compliance with this code, in accordance with industry standards, and in accordance with the manufacturer’s installation instructions.

Section 210.8 Ground-Fault Circuit Interrupter Protection for Personnel:

In Subsection (A), insert after both numbers (2) and (5):

Exception No. 1: Receptacles that are not readily accessible."

Exception No. 2: A single receptacle or duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is cord-and-plug connected in accordance with 400.7(A)(6), (A)(7) or (A)(8).

In Subsection (A), Exception to (5): Delete "to (5)" and insert "No. 3"

Section 250.94 Bonding for Other Systems. Delete in its entirety.

NEC800.156 Dwelling Unit Communications Outlet. Delete in its entirety.

39.505. Appeals. Appeals under the Electrical Code shall be governed by the provisions pertaining to appeals under Section 113, of §39.004.

39.506 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars (\$500.00) or by imprisonment for a term not exceeding ninety (90) days, or by both such fine and imprisonment, and each day’s

continuance of a violation shall be deemed a separate offense. Under no circumstances shall any person's sentence be greater than any limit established by Missouri statutes for the same offense.

PLUMBING CODE

39.600

A certain document, one (1) copy of which was on file in the office of the City Clerk of the City of Moscow Mills, Missouri, for at least ninety (90) days before adoption of this Section, and shall remain on file in the office of the City Clerk of the City of Moscow Mills, Missouri, after adoption of this Section, being marked and designated as the 2015 International Plumbing Code, is adopted by reference as the City of Moscow Mills Plumbing Code ("Plumbing Code") and made a part of this Chapter as if fully set forth herein, with the additions, changes, and deletions, as set forth below.

39.602

Throughout the Plumbing Code adopted in Section 39.600, wherever the term "Name of Jurisdiction" or "Local Jurisdiction" appears, it shall be deemed to mean the City of Moscow Mills, Missouri.

39.603

Throughout the Plumbing Code adopted in Section 39.600, whenever the term "building official" and "code official" appears, it shall be deemed to mean the officer, employee, or agent designated by the Board of Aldermen of the City of Moscow Mills, Missouri.

39.604

The 2015 International Plumbing Code, adopted in Section 39.600, is amended by the following provisions. Each Section, Subsection or Clause of the Code that numerically corresponds to one of the following numbered provisions is hereby amended to read as set forth below, or deleted where so noted. Each following numbered provision without a numerically corresponding Section, Subsection or Clause of the Code is hereby enacted and added thereto.

101.1 Title, Amend: These regulations shall be known as the Plumbing Code of the City of Moscow Mills, Missouri.

106.6.2 Fee Schedule. Delete in entirety.

106.6.3 Fee Refunds. Delete in entirety.

312. Shower Line Test. Delete

(SECTION 403 MINIMUM PLUMBING FACILITIES)

403.3 Required public toilet facilities. Customers, patrons and visitors shall be provided with public toilet facilities in structures and tenant spaces intended for public utilization. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users. Employees shall be

provided with toilet facilities in all occupancies. Employee toilet facilities shall be either separate or combined employee and public toilet facilities.

Exception:

Public toilet facilities shall not be required in:

1. Open or enclosed parking garages where there are no parking attendants.
2. Structures and tenant spaces intended for quick transactions, including takeout, pickup and drop-off, having a public access area less than or equal to 300 square feet (28 m²).
3. Customer facilities, other than gas or filling stations, with a customer occupancy load of fifteen (15) or less and which do not serve food or beverages.

(CHAPTER 6 WATER SUPPLY AND DISTRIBUTION)

(SECTION 602 WATER REQUIRED)

602.2 Potable water required. Only potable water shall be supplied to plumbing fixtures that provide water for drinking, bathing or culinary purposes, or for the processing of food, medical or pharmaceutical products. Unless otherwise provided in this code, potable water shall be supplied to all plumbing fixtures. The water distribution system of any building in which plumbing fixtures are installed shall connect to a potable public water supply, if available. When a potable public water supply is not available, an individual water supply shall be provided.

(SECTION 604 DESIGN OF BUILDING WATER DISTRIBUTION SYSTEM)

604.9 Water hammer. The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A water-hammer arrestor shall be installed where quick-closing valves are utilized. Water-hammer arrestors shall be required for dishwashers, clothes washers and for each bathroom group, unless otherwise approved. Water hammer arrestors shall be installed in accordance with the manufacturer's instructions. Water-hammer arrestors shall conform to ASSE 1010.

(SECTION 608 PROTECTION OF POTABLE WATER SUPPLY)

608.16.6 Connections subject to backpressure. Where a potable water connection is made to a nonpotable line, fixture, tank, vat, pump or other equipment subject to high hazard backpressure, the potable water connection shall be protected by a reduced pressure principle backflow prevention assembly. All reduced pressure backflow devices and check assemblies shall be registered and tested annually by a certified individual as authorized by the State of Missouri.

(CHAPTER 7 SANITARY DRAINAGE) (SECTION 701 GENERAL)

701.2 Sewer required. The sanitary drainage system of any building in which plumbing fixtures are installed shall connect to a public sewer, if available. A public sewer shall be

considered available when the nearest property line is located within two hundred (200) feet of a public sewer. When a public sewer is not available, the sanitary drainage shall be connected to an approved private sewage disposal system. All private sewage disposal systems shall be maintained and function without any ground surface discharge.

(SECTION 706 CONNECTIONS BETWEEN DRAINAGE PIPING AND FITTINGS)

706.3 Installation of fittings. Fittings shall be installed to guide sewage and waste in the direction of flow. Change in direction shall be made by fittings installed in accordance with Table 706.3. Change in direction by combination fittings, side inlets or increasers shall be installed in accordance with Table 706.3 based on the pattern of flow created by the fitting. Double sanitary tee patterns shall not receive the discharge of back-to-back bathrooms and fixtures or appliances with pumping action discharge.

Exception: Back-to-back bathroom closet connections to double sanitary tees shall be permitted where discharge is received by gravity flow.

(SECTION 708 CLEANOUTS)

708.1.3 Delete in entirety.

(CHAPTER 9 VENTS)

(SECTION 903 VENT TERMINALS)

903.1 Roof extension. Open vent pipes that extend through a roof shall be terminated not less than 12 inches (305 mm) a promenade, observation deck, sunbathing deck or similar purposes, open vent pipes shall terminate not less than 7 feet (2134 mm) above the roof.

(SECTION 905 VENT CONNECTIONS AND GRADES)

905.1 Connection. Individual, branch and circuit vents shall connect to a vent stack, stack vent, air admittance valve or extend to the open air. All vents one and one-half (1½) inches in diameter shall be increased to two (2) inches in diameter, a distance of two (2) feet prior to the roof penetration.

39.605 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars (\$500.00) or by imprisonment for a term not exceeding ninety (90) days, or by both such fine and imprisonment, and each day's continuance of a violation shall be deemed a separate offense. Under no circumstances shall any person's sentence be greater than any limit established by Missouri statutes for the same offense.

Moscow Mills City Code

PRIVATE SEWAGE DISPOSAL CODE

39.700

A certain document, one (1) copy of which was on file in the office of the City Clerk of the City of Moscow Mills, Missouri, for at least ninety (90) days before adoption of this Section, and shall remain on file in the office of the City Clerk of the City of Moscow Mills, Missouri, after adoption of this Section, being marked and designated as the 2015 Private Sewage Disposal Code, is adopted by reference as the City of Moscow Mills Private Sewage Disposal Code ("Private Sewage Disposal Code") and made a part of this Chapter as if fully set forth herein, with the additions, changes, and deletions, as set forth below.

39.702

Throughout the Private Sewage Disposal Code adopted in Section 39.700, wherever the term "Name of Jurisdiction" or "Local Jurisdiction" appears, it shall be deemed to mean the City of Moscow Mills, Missouri.

39.703

Throughout the Private Sewage Disposal Code adopted in Section 39.700, whenever the term "building official" and "code official" appears, it shall be deemed to mean the officer, employee, or agent designated by the Board of Aldermen of the City of Moscow Mills, Missouri.

39.704

The 2015 Private Sewage Disposal Code, adopted in Section 39.700, is amended by the following provisions. Each Section, Subsection or Clause of the Code that numerically corresponds to one of the following numbered provisions is hereby amended to read as set forth below, or deleted where so noted. Each following numbered provision without a numerically corresponding Section, Subsection or Clause of the Code is hereby enacted and added thereto.

(CHAPTER 3 GENERAL REGULATIONS)

(SECTION 302 SPECIFIC LIMITATIONS)

302.6 Water softener and iron filter backwash. Water softener or iron filter discharge shall be diverted away from septic system, provided a nuisance is not created.

(CHAPTER 4 SITE EVALUATION AND REQUIREMENTS)

(SECTION 403 SOIL BORINGS AND EVALUATION)

403.1 Soil borings and profile descriptions. Soil borings shall be conducted on all sites, regardless of the type of private sewage system planned to serve the parcel. Borings shall extend at least 3 feet (914 mm) below the bottom of the proposed system. Borings shall be of sufficient size and extent to determine the soil characteristics important to an on-site liquid waste disposal system. Borehole data shall be used to determine the suitability of soils at the site with respect to zones of seasonal or permanent soil saturation and the depth to bedrock. The use of power augers for soil

borings is prohibited. Soil borings shall be conducted and reported in accordance with Sections 403.1.1 through 403.1.5. Where it is not practical to have borings made with a backhoe, such borings shall be augered or dug by hand.

403.1.1 Number. There shall be not less than two borings per soil absorption site. Where necessary, more soil borings shall be made for an accurate evaluation of a site. Borings shall be constructed to a depth of not less than 3 feet (914 mm) below the proposed depth of the system.

Exception: Three borings are required for repairs of existing private sewage disposal systems, along with one backhoe excavation at a 5-foot depth.

(SECTION 403 SOIL BORINGS AND EVALUATION)

404.1 General. The permeability of the soil in the proposed absorption system shall be determined by permeability evaluation.

404.2 Percolation tests and procedures. Delete in its entirety.

404.2.1 Percolation test hole. Delete in its entirety.

404.2.3 Test procedure, other soils. Delete in its entirety.

404.2.4 Mechanical test equipment. Delete in its entirety.

TABLE 406.1

MINIMUM HORIZONTAL SEPARATION DISTANCES FOR SOIL ABSORPTION SYSTEMS ELEMENT

ELEMENT	DISTANCE (feet)
Cistern	50
Habitable building, below-grade foundation	25
Habitable building, slab-on-grade	15
Lake, high-water mark	50
Lot line (for new construction)	30
Lot line (for repairs)	10
Reservoir	50
Roadway ditches	10
Spring	100
Streams or watercourse (a)	50
Swimming pool	15
Uninhabited building	10
Water main	50
Water service	10
Well Water	100

For SI: 1 foot = 304.8 mm.

a. All natural watercourses depicted on the most current United States Geological Survey (U.S.G.S) 7.5 Minute Series (Topographic) Maps for Moscow Mills City, Missouri, shall be left in their natural state.

406.3 Percolation rate, trench or bed. Delete in its entirety.

406.4 Percolation rate, seepage pit. Delete in its entirety.

(CHAPTER 5 MATERIALS)

(SECTION 501 GENERAL)

501.2 Minimum standards. Materials shall conform to the standards referenced in this code for the construction, installation, alteration or repair of private sewage disposal systems or parts thereof. All new construction requires N.S.F. Class 1 tanks, unless otherwise determined by the code official.

Exception: The extension, addition to or relocation of existing pipes with materials of like-grade or quality in accordance with Sections 102.6 and 105.

(SECTION 504 TANKS)

504.3 Steel tanks. Delete in its entirety.

504.5 Manholes. Manhole collars and extensions shall be of the same material as the tank. Manhole covers shall be of concrete or other approved material.

(CHAPTER 6 SOIL ABSORPTION SYSTEMS)

(SECTION 602 SIZING SOIL ABSORPTION SYSTEMS)

602.1 General. Effluent from septic tanks and other approved treatment tanks shall be disposed of by soil absorption or an approved manner. Sizing shall be in accordance with this chapter for systems with a daily effluent application of 3,000 gallons (11,356 925 L) or less. Two systems of equal size shall be required for systems receiving effluents exceeding 3,000 gallons (11,356 L) per day. Each system shall have a minimum capacity of 75 percent of the area required for a single system. An approved means of alternating waste application shall be provided. A dual system shall be considered as one system.

(SECTION 603 RESIDENTIAL SIZING)

603.1 General. All absorption fields shall be designed based on soil morphology reevaluation reports prepared by a certified professional soil scientist or by a professional engineer licensed by the State of Missouri.

Deleted: TABLE 603.1 MINIMUM ABSORPTION AREA FOR ONE- AND TWO-FAMILY DWELLINGS

(SECTION 604 OTHER BUILDING SIZING)

604.1 General. Calculations to determine the size of absorption field shall be based upon sewage flow rates in Table 2A and soil groups in Tables 13 and 14 in 19 CSR 20-3.060 as currently promulgated or as amended hereafter and as provided in that rule.

Deleted: TABLE 604.1(1) MINIMUM ABSORPTION AREA FOR OTHER THAN ONE- AND TWO-FAMILY DWELLINGS

Deleted: TABLE 604.1(2) CONVERSION FACTOR

604.2 Drain Field Calculations, rounding. Calculation for the length of the drain field shall be rounded up to the next 100 lineal feet.

(CHAPTER 7 PRESSURE DISTRIBUTION SYSTEMS)

(SECTION 706 DOSING)

706.1 General. The dosing frequency shall be not greater than four times daily. A volume per dose shall be established by dividing the daily waste-water flow by the dosing frequency. The dosing volume shall be not less than 10 times the capacity of the distribution pipe volume. Table 706.1 provides the estimated volume for various pipe diameters.

TABLE 706.1 ESTIMATED VOLUME FOR VARIOUS DIAMETER PIPES

DIAMETER (inches)	VOLUME (gallons per foot length)
1	0.041
1 ¼	0.064
1 ½	0.092
2	0.164
3	0.368
4	0.655
5	1.47

For any septic system that requires dosing, the pump tank shall be a 1,000 gallon concrete single compartment tank equipped with effluent pump with float and high water alarm. A timer shall dose over a 24-hour period, instead of on demand.

(CHAPTER 8 TANKS)

(SECTION 802 SEPTIC TANKS AND OTHER TREATMENT TANKS)

802.1 General. Septic tanks shall be fabricated or constructed of monolithic concrete, fiberglass or an approved material. Tanks shall be water tight and fabricated to

constitute an individual structure, and shall be designed and constructed to withstand anticipated loads. The design of prefabricated septic tanks shall be approved. Plans for site constructed concrete tanks shall be approved prior to construction.

802.2 Design of septic tanks. Septic tanks shall conform to the design standards set out in 19 CSR 20-3.060(4), as currently promulgated or as amended hereafter. Sizing of tank. The minimum liquid capacity for one- and two-family dwellings shall be in accordance with Table 802.7.1.

TABLE 802.7.1

SEPTIC TANK CAPACITY FOR ONE- AND TWO-FAMILY DWELLINGS

NUMBER OF BEDROOMS	SEPTIC TANK (gallons)
1	1,000
2	1,000
3	1,000
4	1,250
5	1,500

For SI: 1 gallon = 3.785 L.

Exception:

Six (6) bedrooms or more requires 1,000 gallon trash tank in front of Class 1.

802.7.1 Other buildings. For buildings, the liquid capacity shall be increased above the 750- gallon (2839 L) minimum as established in Table 802.7.1. In buildings with kitchen or laundry waste, the tank capacity shall be increased to receive the anticipated volume for a 24-hour period from the kitchen or laundry or both. The liquid capacities established in Table 2A "Quantities of Domestic Sewage Flows" in Section B 19 CSR 20-3.060 do not include employees.

Exception: One- or two-family dwellings.

Deleted: Table 802.7.2 Additional Capacity for Other Buildings

802.8 Installation. Septic and other treatment tanks shall be located with a horizontal distance not less than as specified in Table 1 "Minimum Set-Back Distances" in 19 CSR 20-3.060(4), as currently promulgated or as amended hereafter, except that for new construction (a) sewage tanks shall be 100 feet from any private water supply and (b) both sewage tanks and absorption fields (disposal areas) shall be 30 feet from any property line. Tanks installed in ground water shall be securely anchored. A 3- inch-thick (76 mm) compacted bedding shall be provided for all septic and other treatment tank installations. The bedding material shall be sand, gravel, granite, lime-rock or other noncorrosive materials of such size that the material passes through a 0.5-inch (12.7 mm) screen.

Deleted: Table 802.8 Minimum Horizontal Separation Distances for Treatment Tanks.

802.11.1 Capacity sizing. The working capacity of the dosing or pumping chamber shall be sized to permit automatic discharge of the total daily sewage flow with discharge occurring not more than four times per 24 hours. Minimum capacity of a dosing chamber shall be 1,000 gallons (3790 L) and a space shall be provided between the bottom of the pump and floor of the dosing or pumping chamber. A dosing chamber shall have a 1-day holding capacity located above the high-water alarm for one- and two-family dwellings based on 120 gallons (455 L) per day per bedroom, or in the case of other buildings, in accordance with Section 802.7. For one- and two-family dwellings, pump chambers shall at a minimum be 1,000-gallon, single compartment, time-dosed tanks. Where the total developed length of distribution piping exceeds 1,000 feet (305 m), the dosing or pumping chamber shall have two siphons or pumps dosing alternately and serving one-half of the soil absorption system.

Deleted: Table 802.11.1 Pump Chamber Sizes

Deleted: Table 903.1(3) Design criteria for a three-bedroom home for a mound on a 0- to 6- percent slope with loading rates of 450 gallons per day for slowly permeable soil

Deleted: Table 903.1(4) Design criteria for a four-bedroom home for a mound on a 0- to 6- percent slope with loading rates of 600 gallons per day for slowly permeable soil

Deleted: Table 903.1(5) Design criteria for a one-bedroom home for a mound on a 0- to 12- percent slope with loading rates of 150 gallons per day for shallow permeable soil over creviced bedrock.

Deleted: Table 903.1(6) Design criteria for a two-bedroom home for a mound on a 0- to 12- percent slope with loading rates of 300 gallons per day for shallow permeable soil over creviced bedrock

Deleted: Table 903.1(7) Design criteria for a three-bedroom home for a mound on a 0- to 12- percent slope with loading rates of 450 gallons per day for shallow permeable soil over creviced bedrock

Deleted: Table 903.1(8) Design criteria for a four-bedroom home for a mound on a 0- to 12- percent slope with loading rates of 600 gallons per day for shallow permeable soil over creviced bedrock

Deleted. Table 903.1(9) Design criteria for a one-bedroom home for a mound on a 0- to 12- percent slope with loading rates of 150 gallons per day for permeable soil with a high water table

Deleted. Table 903.1(10) Design criteria for a two-bedroom home for a mound on a 0- to 12- percent slope with loading rates of 300 gallons per day for permeable soil with a high water table

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Deleted. Table 903.1(11) Design criteria for a three-bedroom home for a mound on a 0- to 12- percent slope with loading rates of 450 gallons per day for permeable soil with a high water table

Deleted. Table 903.1(12) Design criteria for a four-bedroom home for a mound on a 0- to 12- percent slope with loading rates of 600 gallons per day for permeable soil with a high water table

Deleted. Table 903.5.5 Downslope and upslope width corrections for mounds on sloping sites

Deleted. Table 903.6 Infiltrative capacity of natural soil

39.705 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine of not more than five hundred dollars (\$500.00) or by imprisonment for a term not exceeding ninety (90) days, or by both such fine and imprisonment, and each day's continuance of a violation shall be deemed a separate offense. Under no circumstances shall any person's sentence be greater than any limit established by Missouri statutes for the same offense.

Adopted by Ordinance # 495, 496, 497, 498, 499, 500, 501 on 10/20/08. Amended by: Ordinance #743, 04/12/16. Ordinance #767, 03/13/2017. Ordinance #840, 12/17/18. Ordinance #846, 1/14/19.