

# CERTIFIED COPY OF ORDER

STATE OF MISSOURI }  
County of Boone } ea.

March Session of the January Adjourned

Term. 20 17

In the County Commission of said county, on the 23rd day of March 20 17

the following, among other proceedings, were had, viz:

NOW, ON THIS DAY, the County Commission of the County of Boone takes up the adoption the Boone County Building Code, including: the International Building Code 2015; the International Residential Code 2015; the International Plumbing Code 2015; the International Mechanical Code 2015; the International Fuel Gas Code 2015; the International Existing Building Code 2015; the International Energy Conservation Code 2015 and, the National Electric Code 2014.

WHEREAS, the Boone County Commission conducted three public hearings, after due public notice, into the issue of adoption of the Boone County Building Code, including all the above-mentioned particular codes; and,

WHEREAS, the Boone County Building Code Commission has recommended that the County Commission adopt those codes as amended, including appendices and referenced standards as the County's Building Code; and,

WHEREAS, all required notices have been given and all required public hearings have been held;

NOW, THEREFORE, County Commission of the County of Boone does hereby adopt the Boone County Building Code, including: the International Building Code 2015; the International Residential Code 2015; the International Plumbing Code 2015; the International Mechanical Code 2015; the International Fuel Gas Code 2015; the International Existing Building Code 2015; the International Energy Conservation Code 2015 and, the National Electric Code 2014, all of which are adopted as amended, including appendixes and referenced standards, as recommended by the Boone County Building Code Commission, and including also the following attachments.

All previous versions of the Boone County Building Code are repealed on the effective date of this Commission Order.

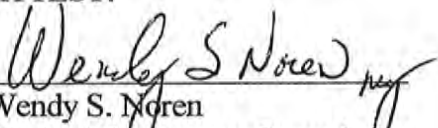
The effective date of this Commission Order is April 1, 2017

Attachments:

1. Notice of County Commission hearings scheduled for 2/23/2017, 3/02/2017 and 3/07/2017; affidavit of publication from Columbia Daily Tribune newspaper.
2. Notice of County Commission hearings, scheduled for 2/23/2017, 3/02/2017 and 3/07/2017; affidavit of publication from Columbia Missourian newspaper.
3. Affidavit of posting employee of posting here in Government Center.
4. Affidavit of posting employee of posting at Centralia City Hall.
5. Affidavit of posting employee of posting at Hallsville City Hall.
6. Affidavit of posting employee of posting at Ashland City Hall.
7. Minutes from 2/23/17 County Commission meeting showing the public hearing was opened for the amendment and adoption of the Boone County Building Code as indicated above.
8. Minutes from 3/02/17 County Commission meeting showing the public hearing was opened for the amendment and adoption of the Boone County Building Code as indicated above.
9. Minutes from 3/07/17 County Commission meeting showing the public hearing was opened for the amendment and adoption of the Boone County Building Code as indicated above.
10. Complete copy of the amendments to the Boone County Building Code, including:
  - a. The International Building Code 2015;
  - b. The International Residential Code 2015;
  - c. The International Plumbing Code 2015;
  - d. The International Mechanical Code 2015;
  - e. The International Fuel Gas Code 2015;
  - f. The International Existing Building Code 2015;
  - g. The International Energy Conservation Code 2015, and
  - h. The National Electrical Code 2014


Done this 23rd day of March, 2017

ATTEST:

  
Wendy S. Noren  
Clerk of the County Commission

  
Daniel K. Atwill  
Presiding Commissioner

  
Fred J. Parry  
District I Commissioner

  
Janet M. Thompson  
District II Commissioner

# BOONE COUNTY RESOURCE MANAGEMENT

## 2015 International Code

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### Addendums

Effective Date:

4/1/2017

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COMMISSION ORDER NUMBER 149-2017

Effective date: 4-1-17

A COMMISSION ORDER ADOPTING AND GOVERNING THE DESIGN, CONSTRUCTION, ALTERATION, ENLARGEMENT, EQUIPMENT REPAIR, DEMOLITION, REMOVAL, CONVERSION, USE OR MAINTENANCE OF ALL BUILDINGS AND STRUCTURES; AND FURTHER PROVIDING FOR THE ISSUE OF SAID PERMITS, COLLECTING OF FEES, MAKING OF INSPECTIONS, AND PROVIDING PENALTIES FOR THE VIOLATION THEREOF.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1. ADOPTION OF THE BUILDING CODE: ADDITIONS, INSERTIONS, DELETIONS AND CHANGES.

Commission Order Number 149-2017, known as the "Building Code of Boone County, Missouri", that a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Resource Management and are being marked and designated as "The International Building Code – 2015 Edition", as published by the International Code Council, be and is hereby adopted as the Building Code of Boone County, Missouri for the control of buildings and structures as provided herein; and each and all of the regulations, provisions, penalties, conditions and terms of "The International Building Code – 2015 Edition", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

SECTION 2. JURISDICTIONAL TITLE.

0.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

0.1.1 Wherever "Department of Building Safety" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

0.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

0.2.1 Farm structure exemption: The provisions of this Code shall not be exercised so as to impose regulations or to require permits with respect to the erection, maintenance, repair, alteration or extension of farm buildings or farm structures further than seventy-five feet ( 75') from a dwelling provided that such buildings or structures are located on tracts of 20 acres or more and such buildings or structures are used exclusively for agricultural purposes. Farm dwellings shall conform to the provisions of this code as herein provided.

0.2.2 Manufactured home exemption: Manufactured homes, recreational vehicles or modular units which carry a seal as provided in Section 700.010 to 700.115 RSMo. shall be exempt from these provisions, provided that no alteration of the unit takes place once it has been placed upon a tract of land.

0.2.3 Portable building exemption: Portable buildings as defined by Section 202.0 shall be exempt from these provisions. Portable buildings must comply with all setback requirements found in the zoning regulations. Portable buildings used to house hazardous materials (paint, gasoline, etc.) must be placed at least 10 feet from any property line and have a door that can be secured by a lock.

### SECTION 3. AMENDMENTS TO THE INTERNATIONAL BUILDING CODE - 2015.

The International Building Code - 2015 is amended by additions, deletions and changes including the changing of Articles, Sections, Sub-section titles and the addition of new sections and new sub-sections as follows:

101.2 Exception 2: Existing buildings undergoing repair, alterations, or additions and change of occupancy shall be permitted to comply with the requirements of the International Existing Building Code.

101.2.2: Appendices C, E, F, and I are hereby adopted as published. Appendix J is hereby adopted as amended.

Appendix J section J106.1 Maximum slope; is hereby amended to read as: The slope of cut and fill surfaces shall be no steeper than is safe for the intended use, and shall be no steeper than 3 horizontal to 1 vertical (33 percent) unless the applicant furnishes a geotechnical report justifying a steeper slope.

Exceptions: Number 1 is deleted in its entirety and exception number 2 will now be listed as exception number 1.

Appendix J section J107.6 Maximum slope; is hereby amended to read as: The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes steeper than 3 horizontal to 1 vertical (33 percent) shall be justified by a geotechnical report or engineering data.

101.4 Referenced codes: Add the following additional sentence to this paragraph: All references to the International Existing Building Code are deleted.

101.4.3 Plumbing. Change last sentence to: The provisions of the Columbia/Boone County Health Department, the Boone County Regional Sewer District or the Missouri Department of Natural Resources shall apply to the disposal and/or treatment of sewage originating from any building constructed according to this code.

101.4.4 Property maintenance. Delete

103 DEPARTMENT OF BUILDING SAFETY. Delete.

Add:

### SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.



104.6 Right of entry: The code official shall have the authority to enter at any reasonable time any structure or premises for which a permit has been issued but has not received a certificate of occupancy in accordance with Section 110 and 111. Permit holders are required to provide means of access to all parts of structures subject to inspection, including the provision of ladders where required.

For all other structures or premises, when the code official has reasonable cause to believe that a code violation exists, the code official is authorized to enter the structure or premises at reasonable times to inspect subject to constitutional restrictions on unreasonable searches and seizures. If entry is refused or not obtained, the code official is authorized to pursue recourse as provided by law.

104.7 Department records: An official record shall be kept of all business and activities of the department specified in the provisions of this code, and all such records shall be open to public inspection at all appropriate times and according to reasonable rules to maintain the integrity and security of such records.

104.10.1 Flood Hazard Areas. Deleted.

Add:

105.8 Compliance with other Regulatory Agency Fire and Life Safety Codes: No permit shall be issued unless the plans and specifications or other required documentation for permit issuance has been approved by other Boone County regulatory agencies having jurisdiction for compliance with applicable fire and life safety codes. These provisions shall not apply to one and two family dwellings or residences.

Add:

105.9 Compliance with other Regulatory Agency Fire and Life Safety Codes: No final inspection or periodic inspection made at the conclusion of a building phase shall be passed or approved unless similar inspections for compliance with applicable fire and life safety codes have been made and approved or passed by other Boone County regulatory agencies having jurisdiction. These provisions shall not apply to one and two family dwellings or residences.

107.1 Submitted documents: Construction documents, special inspection and structural observation programs, and other data shall be submitted in two or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the Chapter 327 RSMo. The construction documents shall be drawn to scale with sufficient clarity and detail dimensions to show the nature and character of the work to be performed including general construction, special inspections, construction observation programs, structural, mechanical and electrical work and calculations. Each sheet of each set of plans, each set of specifications, calculations and other data shall be legally sealed by a registered design professions as required by Chapter 327 RSMo. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Buildings or structures exempt from these requirements are:

(a) One-family dwellings.

(b) Two-family dwellings.



(c) A commercial or industrial building or structure buildings having less than 1200 square feet of floor area which provides for the employment, assembly, housing, sleeping or feeding of less than ten (10) persons.

(d) Any one structure containing less than twenty thousand (20,000) cubic feet, except as provided in (b) and (c) above, and which is not a part or a portion of a project which contains more than one structure.

107.2.5 Site plan: There shall also be a site plan showing to scale the size and location of all new construction and all existing structures on the site; distances from lot lines; the established street grades and the proposed finished grades. It shall be drawn in accordance with an accurate boundary line survey and certifying as to the date the survey was made. In the case of demolition the site plan shall show all construction to be demolished and the location and size of all existing structures and construction that are to remain on the site or plot.

107.2.5.1 Design Flood Elevations. Delete.

109.6 Delete in its entirety. Add: Refunds: In the case of a revocation of a permit or abandonment or discontinuance of a building project, the portion of the work actually completed shall be computed and any excess fee for the incomplete work shall be returned to the permit holder upon written request. All plan examination and permit processing fees and all penalties that have been imposed on the permit holder under the requirements of this code shall first be collected. The code official shall authorize the refunding of fees according to Boone County policies under the following additional circumstances:

1. The full amount of any fee paid hereunder which was erroneously paid or collected.
2. When no work has been done, the permit fee, less a processing fee of \$20.00 may be refunded to the original permittee.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the fee was paid.

113.1 Delete.

Add:

113.1 Board of Appeals. In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall consist of the Building Code Commission as appointed by the Boone County Commission in accordance with Chapter 64.180 RSMo.

113.4 Court review: Any party before the board of appeals who is aggrieved by a decision of the board of appeals may seek redress or relief before the court of competent jurisdiction as permitted by law.

114.4 Delete in its entirety. Insert: Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a building or structure in violation of an approved plan 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, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

115.3 Delete in its entirety. Insert: Unlawful continuance: Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person



is directed to perform to remove a violation or unsafe conditions, shall be guilty of a misdemeanor, punishable as provided by law.

SECTION 116 Delete in its entirety.

SECTION 202.0 Add:

Portable building - a structure constructed off-site and transported to the property by means of a truck or trailer; or one built from a pre-manufactured kit and placed on skids. Portable buildings may enclose no more than 160 sq. ft. of floor space, do not have interior finish, electrical service or plumbing fixtures. Portable buildings must comply with all setback requirements found in the zoning regulations. Portable buildings used to house hazardous materials (paint, gasoline, etc.) must be placed at least 10 feet from any property line and have a door that can be secured by a lock.

305.2.3 Ten or fewer children in a dwelling unit. A facility such as the above within a dwelling unit and having ten or fewer unrelated children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code.

308.6.4 Ten or fewer persons receiving care in a dwelling unit. A facility such as the above within a dwelling unit and having ten or fewer unrelated persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code.

903.2.1.2 Change Item 2. The fire area has an occupant load of 200 or more; or

1013.2 Floor-level exit signs. Where required, illuminated exit signs in 41, A2 over five thousand (5,000) square feet or greater than two hundred (200) occupants, and R-1 use groups shall be placed above exit doors and to the side of exit doors eighteen (18) inches from the floor. The floor level exit signs shall be protected by a guard to prevent physical damage. This amendment shall not be retroactive in nature, and shall not apply to structures prior to January 1, 2007.

1301.1.1 Criteria. Building shall be designed and constructed in accordance with the 2009 International Energy Conservation Code (IECC) with the following amendments to the 2009 IECC:

1. C101.4 Delete this section in its entirety.

1301.1.2: Use group R-1, R-2, R-3 and R-4 shall comply with this section or the requirements of International Energy Conservation Code. All buildings of Use Group R-1, R-2, R-3 and R-4 shall be insulated, at a minimum, in accordance with the following:

- Ceiling or roof -- R-38
- exterior wall-- R-15 for the assembly
- floor above unheated area or crawl space and ducts in ventilated attic or crawl space – R-19
- Walls separating one and two family dwellings from garage areas, walls facing ventilated attic spaces and finished exterior basement walls – R-13.
- Ducts in unheated area not exposed to outside ventilation – R-4.

Joints in the building conditioned envelope that are sources of air leakage, such as around window and door frames, between wall cavities and window or door frames, between wall assemblies or their sill plates and foundations, between utility service penetrations through the building envelope, shall be

properly sealed with compatible and durable caulking, gasketing, weather stripping or other materials in an approved manner. All exterior walls shall have a vapor retarder capable of reducing vapor transmission to less than 1 perm, installed on the inside or the warm surface side of the insulated wall or ceiling. Only those ceilings that are attached directly to the underside of the roof rafters, such as flat roofs or cathedral ceilings are required to install the vapor retarder. All windows shall have a maximum Thermal Transmittance (U) value of 0.55.

1604.1 General: Add the following to this paragraph: the following standard structural design criteria are established:

1. Roof Live Load, Minimum Unreduced = 20psf.
2. Snow Load (Ground Snow Load)  $P_g = 20$  psf.
3. Seismic Loading;
  - a. Site Class D, default site class per 1613.3.2.
  - b. Mapped Spectral response accelerations.
    - (1)  $S_s = 0.167$  or per USGS data
    - (2)  $S_1 = 0.093$  or per USGS data

1801.2 Design Basis: Add the following to this paragraph: The following standard design criteria are established:

1. Foundation Frost Depth, Minimum – 30" (refer to 1809.5).
2. Presumptive net allowable foundation bearing pressure = 1500 psf (refer to 1803.1 and 1806.2). Note that section 1803.5.11 and section 1803.5.12 requires a geotechnical investigation if the structure has a seismic design category of C, D, E or F.

1803.2 Investigations required. Add the following sentence to the end of the first paragraph: A geotechnical investigation is not required for one story buildings 2500 sf or less in risk categories 1 and 2.

1807.2.2 Design lateral and soil loads. Add the following sentence to the end of the paragraph: The geotechnical engineer must state either way if a global analysis is required.

1808.6.2 Slab-on-ground foundations: Add: Exception: Slab-on-ground systems that have performed adequately in soil conditions similar to those encountered at the building site are permitted subject to the approval of the building official.

1809.5 Frost protection Add to 1 . (Frost depth is thirty (30) inches.)

## 1807.2 Retaining Walls

1807.2.1 In addition to the other requirements as stated in this code the following provisions shall apply to retaining walls.

1807.2.2 Retaining Wall – Plan review and construction inspections process. Integral to the building foundation. The building code defines a retaining wall as a wall not laterally supported at the top that resists lateral soils load and other imposed loads. Retaining walls that are integral to the building foundation must be approved by the Resource Management Department prior to the issuance of a building permit.



1807.2.3 Retaining Wall – less than four (4) feet in height measured from the bottom of the footing to the top of the wall. Detailed plans are not required. However, site plans at a minimum should indicate top and bottom of wall elevations, existing and proposed contours, drainage features, buildings and property lines, public easements, parking facilities and streets. Furthermore, the county retains the right to require additional design information regarding tiered retaining walls if there is a concern that the upper wall may impose a surcharge condition on the lower wall. These items will be required prior to the issuance of a building permit.

1807.2.4 Retaining Wall – Greater than four (4) feet in height. Detailed plans and calculations are required to be submitted to Resource Management Department. However, only the items mentioned above must be submitted prior to the issuance of a building permit. The following additional items must be submitted prior to the beginning of wall construction:

1. A typical section showing wall and footing dimensions, backfill slopes, steel / geotextile reinforcement details, weep hole locations and subsurface drainage systems.
2. Engineering calculations for the design of the wall, noting all assumptions such as concrete and steel reinforcement strengths, soil parameters, surcharges, bearing pressures, safety factors for bearing capacity, overturning, sliding external and internal stability and deep – seated shear failure.
3. Construction plans should specify the type of backfill to be used and any soil testing requirements if not granular. A geotechnical investigation and report is recommended but not required.

1807.2.5 Failure to submit the above information prior to the beginning of the way construction may result in the issuance of a stop work order by the Resource Management Department until such time the retaining wall design is reviewed and approved.

1807.2.6 First time submittals for plan review can take up to two (2) weeks for review. Additional submittals have a turn around time of one (1) week. The contractor should plan submittals accordingly to avoid unnecessary delays in construction.

1807.2.7 All plans, profiles, cross-sections and calculations must be prepared and sealed by a registered professional engineer licensed in the State of Missouri. The professional engineer is responsible for all aspects of the retaining wall design. The use of standard drawings from reputable manufacturer is allowable and even encouraged, but the professional engineer who seals the drawings and computations is responsible for the retaining wall design. In the absence of sufficient geotechnical information, the engineer shall be responsible for any design assumptions. Approval of the necessary plans and calculations will not transfer or share responsibility of the retaining wall design to the County of Boone.

1807.2.8 Following construction the engineer must submit a “certificate of conformance” indicating that the backfill and foundation material used met the requirements of the original design. This certificate must be signed and sealed by registered professional engineer license in the State of Missouri and, at a minimum, indicate the wall was inspected at the following specific milestones:

1807.2.9 For Concrete Walls

1. Footings prior to the pouring with reinforcement in place.
2. Walls prior to pouring with reinforcement in place.
3. At the beginning of the backfill operation.
4. Following completion of the wall.



1807.2.10 For Modular Walls

1. Footings or bearing pads.
2. During backfill operation and for the first layer of soil reinforcement.
3. Following completion of the wall.

1807.2.11 The county retains the right to request additional special inspections for items such as: vicinity to public streets or permanent residences, excessive wall heights or potential for groundwater or surface run-off problems.

1807.2.12 Additional information. Retaining walls shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. Retaining walls shall be designed for a safety factor of 1.5 (Note: If the backfill or underlying soil is clay or clayey silt, the safety factor should be increased to 2.0) against lateral sliding and overturning and a bearing capacity of 3.0.

Retaining walls with grade difference in excess of thirty (30) inches are required to have a fence or guardrail protecting the public from injury. The fence or guardrail must be a minimum of thirty-six (36) inches in height in residential applications and forty-two (42) inches in commercial applications. The vertical balusters and bottom rail must be situated so that a four (4) inch sphere cannot pass between any portions of the fence. Horizontal balusters will not be permitted.

1807.2.13 The property owner (or the property owner's representative) must ensure that the retaining wall is properly designed and constructed. The property owner is responsible for maintenance and repairs of all retaining walls on the property. Developers are not allowed to construct retaining walls of any size within the public right-of-way without prior review and approval of the Resource Management Department.

1807.2.14 All retaining walls must be installed, inspected and issued a certificate of conformance prior to the occupancy being issued or approved by the building official. The building official retains the right to waive this requirement under special circumstance.

3109.4 Residential swimming pools: Delete exception.

3109.4 Residential swimming pools. Residential swimming pools shall comply with Sections 3109.4.1 through 3109.5. Residential swimming pools shall be enclosed by a barrier consisting of metal chain link fence, wood, stone or masonry or other material approved by the building official. All swimming pool excavation sites are required to be enclosed by a temporary construction barrier during installation. A permanent barrier shall be installed upon completion of the pool structure.

COMMISSION ORDER NUMBER 149-2017  
Effective date: 4-1-17

A COMMISSION ORDER ADOPTING AND GOVERNING THE FABRICATION, ERECTION, CONSTRUCTION, ENLARGEMENT, ALTERATION, REPAIR, LOCATION AND USE OF ONE AND TWO FAMILY DWELLINGS, THEIR APPURTENANCES AND ACCESSORY STRUCTURES IN THE JURISDICTION OF BOONE COUNTY, MISSOURI: AND PROVIDING FOR THE ISSUANCE OF PERMITS THEREFORE PROVIDING PENALTIES FOR THE VIOLATION THEREOF, AND REPEALING ALL ORDINANCES AND PARTS OF ORDINANCES IN CONFLICT THEREWITH.

Be it ordained by the Boone County Commission of the jurisdiction of Boone County, Missouri as follows:

SECTION 1. ADOPTION OF THE INTERNATIONAL RESIDENTIAL CODE FOR ONE AND TWO FAMILY DWELLINGS: ADDITIONS, INSERTIONS, DELETIONS AND CHANGES.

That a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Resource Management and has been marked and designated as "International Residential Code For One and Two Family Dwellings – 2015", as published by the International Code Council, is hereby adopted as the Residential Building Code of Boone County, Missouri for the control of residential structures as provided herein; and each and all of the regulations, provisions, penalties, conditions and terms of "International Residential Code For One and Two Family Dwellings – 2015", are hereby referred to, adopted and made part hereof, including all listed appendices except Appendix U, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

The following sections of the International Residential Code for One- and Two- Family Dwellings - 2015 are hereby repealed, amended or modified as follows:

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

100.1.1 Wherever "Department of Building Inspection" appears in this code, it shall read "Resource Management Department of Boone County, Missouri".

100.1.2 Wherever "Chief Appointing Authority of the jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

**R101.1 Title:** These provisions shall be known as the "Residential Code for One- and Two-Family Dwellings of The County of Boone" and shall be cited as such and will be referred to herein as "this code."



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

Note: the provisions of this code do not apply to agricultural buildings or structures. Where the construction of agricultural buildings or structures requires a building permit, such structures shall be designed and built in accordance with the provisions of the International Building Code or other standards approved by the Building Official.

SECTION R103 DEPARTMENT OF BUILDING SAFETY. Delete.

SECTION R 103 RESOURCE MANAGEMENT DEPARTMENT

R103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

R103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

R103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

R104.6 Right of Entry (add) Permit holders are required to provide means of access to all parts of structures subject to inspection, including the provision of ladders where required.

R104.10.1 Flood hazard areas. The building official shall not grant modifications to any provisions related to areas prone to flooding as established by Table R301.2 (1) without the granting of a variance to such provisions by the Zoning Board of Adjustment.

R105.2(1) One story detached accessory structures, provided the floor area does not exceed 160 square feet. Such buildings must comply with all setback requirements found in the zoning regulations. Such buildings used to house hazardous materials (paint, gasoline, etc.) must be placed at least 10 feet from any property line and have a door that can be secured by a lock.

R105.2 (2). Fences not over twelve (12) feet high.



R106.1 Submittal documents. Construction documents, special inspection and structural observation programs, and other data may be required to be submitted in one or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional 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.

SECTION 108.5 Delete in its entirety. Add: Refunds: In the case of a revocation of a permit or abandonment or discontinuance of a building project, the portion of the work actually completed shall be computed and any excess fee for the incomplete work shall be returned to the permit holder upon written request. The code official shall authorize the refunding of fees according to Boone County policies under the following additional circumstances:

1. The full amount of any fee paid hereunder which was erroneously paid or collected.
2. When no work has been done, the permit fee, less a processing fee of \$20.00 may be refunded to the original permittee.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the fee was paid.

R112.1: Add last sentence: "The Boone County Building Code Commission shall serve as the Board of Appeals."

R112.3 Qualifications: (Delete)

R113.4 Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a building or structure in violation of an approved plan 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, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

## R202 DEFINITIONS

ACCESSORY STRUCTURE (Delete)

Add: ACCESSORY STRUCTURE. A structure not greater than three thousand (3,000) square feet and not more than three (3) stories or exceeding twenty-four (24) feet in height with separate means of egress, and shall not exceed the height of the main structure, the use of which is incidental to that of the main building and which is located on the same lot.

Attic, Habitable. Add: 4. The occupiable space is provided with an egress door in accordance with Section R311.2 or by a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.

Table R301.2(1) – The following values shall be inserted into Table R301.2(1):

Ground Snow Load – 20 lbs/sq. ft.

Wind Speed – 115

Topographic Effects - No

Seismic Design Category – B

Weathering – Yes; Severe;

Frost Line Depth – Yes; 30 inches

Termite – Moderate to Heavy

Decay - Slight to Moderate

Winter Design Temperature - + 4° Fahrenheit

Ice Barrier Underlayment Required – No

Flood Hazards – 6/2/1983 – date of original adoption of flood regulations

3/17/2011 – date of Flood Insurance Rate Map

Air Freezing Index – 0 to 1000

Mean Annual Temperature – 55° Fahrenheit

Table R301.5: Add note g.4. Must also include a vertical egress component.

R301.9 Sediment control: all sites are subject to providing on-site sediment control structures to minimize to the maximum extent practical the erosion of soil from the building site. Acceptable practices include, but are not limited to use of silt fences, straw bales and rock check dams. Failure to provide and maintain such sediment control devices could result in inspections being withheld, issuance of a stop work order or even revocation of the building permit.

R302.1 Exterior walls: Add exception #6: a detached accessory garage or shed located not less than five (5) feet from any side lot line.

R302.5.1 Delete "equipped with a self-closing device."

R302.6 Dwelling/garage separation: Replace one-half (1/2) inch gypsum board with five-eighth (5/8) inch gypsum board in referenced Table R302.6 Dwelling /garage fire separation. Add last sentence to paragraph of R302.6: The garage shall be completely separated from the residence and its attic area by means of five-eighth (5/8) inch gypsum board or equivalent applied to the garage side.

R303.4 Mechanical ventilation. The dwelling unit shall be provided with whole-house mechanical ventilation in accordance with Section M1507.3. Alternatively an insulated duct from the outside connected to the return air or HVAC unit ahead of the filter with balancing damper may be provided. The duct size shall be based on the conditioned area the HVAC unit serves. The duct size shall be based on the conditioned area the HVAC unit serves. The duct shall be 4" diameter for area 1,500 S.F. or less, 6" diameter for areas over 1,500 S. F and less than or equal to 2,400 S.F. and 8" diameter for areas over 2,400 S. F.



Figure 307.1 Water closet: All water closets shall be spaced at least fifteen (15) inches from the centerline of the fixture to any wall or plumbing fixture, except the centerline of the water closet may be spaced twelve (12) inches if located next to a bathtub.

R311.7.5.1 Risers: Change the first sentence to read: The maximum riser height shall be seven and seven-eighth (7 7/8") inches (200mm). The rest of the paragraph remains as stated.

R311.7.5.1 Risers: Add Exception: Closed risers are not required on exterior stairs where the height is less than 10' above grade.

R312.1.1 Where Required: Add: Grassed or landscaped areas a minimum of three feet wide behind a retaining wall shall not be deemed a walking surface. Delete, "at any point within 36" horizontally to the edge of the open side."

R312.2 Delete in its entirety.

R313.1 Townhouse automatic fire sprinkler systems. Delete in its entirety.

R313.2 One-and two-family dwelling automatic fire sprinkler systems. Delete in its entirety.

R313.3 Automatic Fire Sprinkler Systems: A builder of a single-family dwelling or residences or multi-unit dwellings of four or fewer units 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 an automatic fire sprinkler system in the dwelling, residence, or unit. Notwithstanding any other provision of law to the contrary, no purchaser of such a single-family dwelling, residence, or multi-unit dwelling shall be denied the right to choose or decline to install an automatic fire sprinkler system in such dwelling or residence being purchased by any code, ordinance, rule, regulation, order or resolution by any county or other political subdivision. Any county or other political subdivision shall provide in any such code, ordinance, rule regulation, order or resolution the mandatory option for purchasers to have the right to choose and the requirement that the builders offer to purchasers the option to purchase an automatic fire sprinkler system in connection with the purchase of any single-family dwelling, residence, or multi-unit dwelling of four or fewer units.

R314.4 Add to exception, "In alterations smoke alarms shall not be required to be interconnected if the dwelling is no more than 2 stories."

R314.6 Add exception #3, "Smoke alarms in alterations shall be permitted to be battery operated if the dwelling is no more than 2 stories."

R322 Flood Resistant Construction. Delete in its entirety. All construction must comply with the Boone County Zoning Regulations – Section 22 Floodplain Management.

R401.1 Application: Add exception: 3. Foundation repairs for one- and two-family dwellings shall not require geotechnical evaluation or structural calculations.



Table R401.4.1 PRESUMPTIVE LOAD-BEARING VALUES OF FOUNDATION MATERIALS: Load-Bearing pressure (pounds per square foot) column, change value for clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH) from 1,500 to 2,000 leaving footnote b.

Figure R403.1(1) Concrete and Masonry foundation detail: A slab on ground with turned down footings shall have the following: a #4 reinforcement bar spaced a minimum of forty-eight (48) inches on centers to provide connection of footing to slab. The vertical rods shall extend to within four (4) inches of the bottom of the footing and be turned to provide a horizontal leg that extends a minimum of twelve (12) inches into the slab.

R403.1.6 Add to the end of the section just before the exceptions: The Connection of the foundation walls to floors shall be per the alternatives labeled 1.1, 1.2, 1.3, 1.4, 2.1, 2.1, 3.1, 3.2, or 4.

R403.3 Frost-protected shallow foundations: Delete in its entirety.

R404.1 Concrete and masonry foundation walls: Add additional paragraph: Drawings showing options labeled as drawing 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 3.1 and 3.2 are intended to be alternative methods to comply with lateral support of foundation walls and subsections for connection of foundation to floor; and option labeled as drawing 4 is intended to be in compliance with subsections for reinforcement in walls and connection of foundation walls to floor.

NOTE: Drawings as stated above are on file in the office of the building official.

R404.4 Retaining Walls: Add to the end of the section: As an alternative, retaining walls may be built per alternative number 4 listed in the amendment of Section R403.1.6 with a 6 foot dead man placed for lateral support at each end of the unsupported wall and at the spacing shown. The retaining wall must be drained per figure 405.1 or equivalent.

R405.1 Concrete or masonry foundations. Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, 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 at least one (1) foot (305 mm) beyond the outside edge of the footing and six (6) inches (152 mm) above the top of the footing and be covered with an approved filter membrane material and shall include a drain tile pipe as shown in figure R405.1. The drain pipe can be placed directly on top of the footing. The top of open joints of the drainage tiles or perforated pipe shall be protected with strips of building paper, and the drainage tiles or perforated pipe shall be placed directly on the top of the footing or placed on a minimum of two (2) inches (51mm) of washed gravel or crushed rock at least one size larger than the tile joint opening or perforation and covered with not less than six (6) inches (152 mm) of the same material. Foundation Drainage figure R405.1 as adopted, shall be considered to satisfy the provisions of this subsection.

NOTE: Foundation Figure R405.1 as stated above is on file in the office of the building official.

R502.11.4 Truss design drawings. Truss design drawings, prepared in compliance with Section R502.11.1 shall be available on-site at the time of inspection and shall be provided to the building official at that time. Truss design drawings shall be provided with the shipment of trusses delivered to the job site. Truss design drawings shall include, at a minimum, the information specified below: (remainder of section unchanged).

**R602.3.1 Exception 2 Amend as follows:**

Where snow loads are less than or equal to 25 pounds per square foot, and the ultimate design wind speed is less than or equal to 130 mph, 2-inch by 6-inch studs supporting a roof load with not more than 6 feet of tributary length shall have a maximum height of 18 feet where spaced at 16 inches on center, or 20 feet where spaced at 12 inches on center. Studs shall be a minimum No. 2 grade lumber. Alternatively 2-inch by 6-inch No. 2 grade studs supporting a roof and floor load with not more than 10 foot of tributary length shall have a maximum stud height of 14 feet.

R802.3.1 Ceiling joist and rafter connections. Add last sentence to second paragraph: Rafter ties shall be spaced not more than four (4) feet (1219mm) on center.

Add R802.11.1.3 Where energy bands are used and the sheathing does not extend to the nailer above the energy band an uplift connection strap shall be placed every 4 feet.

Chapter 11 Energy Efficiency: All sections will be followed as per Chapter 11 Energy Efficiency of the International Residential Code . As an allternative compliance can be achieved as shown in Figure 11.1 which is on file with the Building Official.

The building thermal envelope shall meet the requirements listed below:

REPLACE Table N1102.1.2 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT with:

**BUILDING AREA AND REQUIRED INSULATION VALUE**

1. Ceiling or roof – R-49; R-38 may be used in conjunction with an energy band.
2. Exterior wall – R-20 for the wall assembly; a 2" X 4" wall with R-15.5 insulation may be used when a 95% energy efficient furnace is installed.
3. Floor above unheated area or crawl space and ducts in ventilated attic or crawl space – R-19.
4. Walls separating one and two-family dwellings from garage areas, walls facing ventilated attic spaces and finished exterior basement walls- R-20; a 2" X 4" wall with R-15.5 insulation may be used when a 95% energy efficient furnace is installed.
5. All windows shall have a maximum Thermal Transmittance (U) value of 0.35.



6. Skylights shall have a maximum U-0.60.
7. M Wall - R-5, or R-10 when more than half the insulation is on the interior.
8. Concrete foundation walls or crawl space walls – R-10 if continuous insulation, or R-13 if framing cavity insulation.
9. All slab-on-grade with embedded heating systems must have a minimum of R-5 insulation installed beneath the slab (see Section M2103.2). Insulation shall have a sufficient compressive strength to bear the weight of the structure and be of a type approved for underground installation. Insulation shall be required under the full heated area of the slab, except where the slab bears on footings, and within twelve (12) inches of any opening in the slab to the interior space.

N1102.2.10 Slab-on-grade floors. Delete.

N1103.1.1 Programmable thermostat: change last sentence: The thermostat should initially be programmed with a heating temperature set point no higher than 70°F (21°C) and a cooling temperature set point no lower than 78°F (26°C).

N1103.3.2 Sealing. Change to: Ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with Section M1601.4. Exception: Duct tightness is not required if the air handler and all ducts are located within conditioned space.

M1501.1 Outdoor discharge: list first exception as number 1 and add exception number 2: Bathroom fan air may be exhausted into a soffit vent if composed of approved materials as determined by the building official.

M1502.4.2 Delete portion of last sentence from "that protrude more than 1/8 inch (3.2 mm) into the inside of the duct."

M1507.2 Recirculation of air: Add exception: Bathroom fan air may be exhausted into a soffit vent if composed of approved materials as determined by the building official.

G2414.5.2 Copper tubing: Copper tubing shall comply with standard Type K or L of ASTM B 88 or ASTM B 280.

Copper and brass tubing shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters). Natural gas supplied by Ameren UE in Boone County exceeds this level therefore copper or brass shall not be used with natural gas.

G2415.14 Add to last sentence: Any underground gas piping allowed by this section shall only be approved for gas that is less dense than the atmospheric pressure and shall be installed in accordance with G2415.12.1.

G2415.14.2 Delete in its entirety.

G2417.4.1 Test pressure: the test pressure to be used shall be not less than one and one-half (1.5) times the proposed maximum working pressure, but not less than thirty (30) psig, irrespective of design pressure. (Rest of section remains as stated.)

G2419.4 Sediment trap. Change "any length" to "3 1/2" minimum length"

Add: P2602.1.1 Public water supply. A public water supply is considered available when any portion of a lot is within 300 feet of a public water main to which connection is practical and is permitted by the governmental agency or utility responsible for the water main.

Add: P2602.1.2 Public sewer system. A public sewer system is considered to be available when any portion of a lot is within 225 feet of a sanitary sewer system to which connection is practical and is permitted by the governmental agency or utility responsible for the sanitary sewer.

P2603.5 Freezing: a water, soil or waste pipe shall not be installed outside of a building, or concealed in outside walls, or in any place subjected to freezing temperature, unless adequate provision is made to protect such pipe from freezing by insulation, heat or both. Water pipes shall not be installed in an exterior wall cavity in one and two family dwellings. For purposes of this section exterior wall cavities shall mean all walls that rain can fall upon. Water service piping shall be installed below recorded frost penetration but not less than thirty (30) inches below grade.

P2603.5.1 Sewer depth: Building sewers, including the portion of the building drain beyond the exterior wall that connect to private sewage disposal systems shall be a minimum of thirty (30) inches below finished grade at the point of septic tank connection. Building sewers shall be a minimum of thirty (30) inches below grade. Add: the building official may approve a lesser depth of the building drain portion if there are extraordinary circumstances (eg.bedrock).

P2604.3 Backfilling: Add to the end of the second sentence as follows; "Backfill shall be free from rocks , broken concrete and frozen chunks until the pipe is covered by not less than 12 inches of tamped earth or granular material."

P2705.1 #5 Water closets, lavatories and bidets: Amend first sentence to read: all water closets shall be spaced fifteen (15) inches from the centerline of the fixture to any wall or plumbing fixture except the centerline of the water closet may be spaced twelve (12) inches if located next to the bathtub. Rest of the paragraph remains as stated.

P2903.5 Water hammer: Add exception: a water-hammer arrestor is not needed in water distribution systems using PEX piping or systems using a combination of PEX and copper.



P2906.9.1.3 Amend first sentence as follows; Joint surfaces shall be clean and free of moisture, and purple primer shall be applied.

P2906.9.1.4 PVC plastic pipe. A primer that conforms to ASTM F 656 shall be applied to PVC solvent-cemented joints. Purple primer shall be used below grade. Solvent cement for PVC plastic pipe conforming to ASTM D 2564 shall be applied to all joint surfaces. If purple primer is used, Section P2503 Inspections and Tests shall not be required

P3003.9.2 Solvent Cementing. Delete exceptions. Add: If upon inspection the above ground joints do not have purple primer a water test shall be performed and inspected.

P3008.1 Sewage Backflow. Delete last sentence.

P3103.1 Replace first sentence. Open vent pipes that extend through a roof shall terminate not less than 12 inches above the roof.

P3111.1 Type of fixtures: Add exception: Residential food waste grinders shall be allowed to discharge into a combination waste and vent system provided an air admittance valve is installed.

P3113.1 Size of vents: Add sentence to paragraph: At least one (1) vent shall be three (3) inch unreduced in size extending from the main building drain through the roof.

Except as stated in sections E3608.1.1 Exception, E3609.6.1 and E3609.7 of this ordinance, Chapters 34 through 43 of the International Residential Code are superseded by the requirements as stated in the 2014 National Electrical Code (NEC 70-2014).

E3608.1. Exception: When a concrete-encased electrode and/or ground ring are not available for use in a grounding electrode system, a rod or other electrode as specified in E3608.1.4 Rod and pipe electrodes and 3608.1.5 Plate electrodes can be used as a substitute. The second rod electrode shall not be connected in series with the first rod electrode except where there exists a metal water pipe in contact with earth for ten (10) feet or more, for one- and two – family dwellings a single grounding electrode placed at the outside of the building at the nearest point of the service disconnect shall be permitted to fill the requirements of this section.

E3609.6.1 Water heater Bonding jumper: The interior metal water piping bonding shall include a bonding jumper between the hot and cold waterlines at the water heater fixture if the entire system is copper excluding the service.

E3902.17 Arc-fault circuit interrupter protection for branch circuit extensions or modifications. Delete.

Appendix G Swimming Pools, Spas and Hot Tubs per IRC 2012 and Boone County Commission Order 140-2014 are adopted with the following additions:

## SWIMMING POOLS, SPAS AND HOT TUBS

Outdoor swimming pool: An outdoor swimming pool, including an in-ground, above-ground pool, hot tub or spa shall be surrounded by a barrier which shall comply with the following:

1. The top of the barrier shall be at least seventy-two (72) inches (1836 mm) above finished ground level measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between finished ground level and the barrier shall be two (2) inches (51 mm) measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an above ground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be four (4) inches (102mm).

Exception: The top of the barrier shall be at least forty-eight (48) inches (1219mm) above ground level measured on the side of the barrier which faces away from the swimming pool provided the swimming pool is equipped with a rigid safety cover complying with ASTM F 1346.

AG105.2.11 All swimming pool excavation sites are required to be enclosed by a temporary construction barrier during installation. Any temporary construction barrier shall comply with the design standards of AG105.2. A permanent barrier shall be installed upon completion of the pool structure.



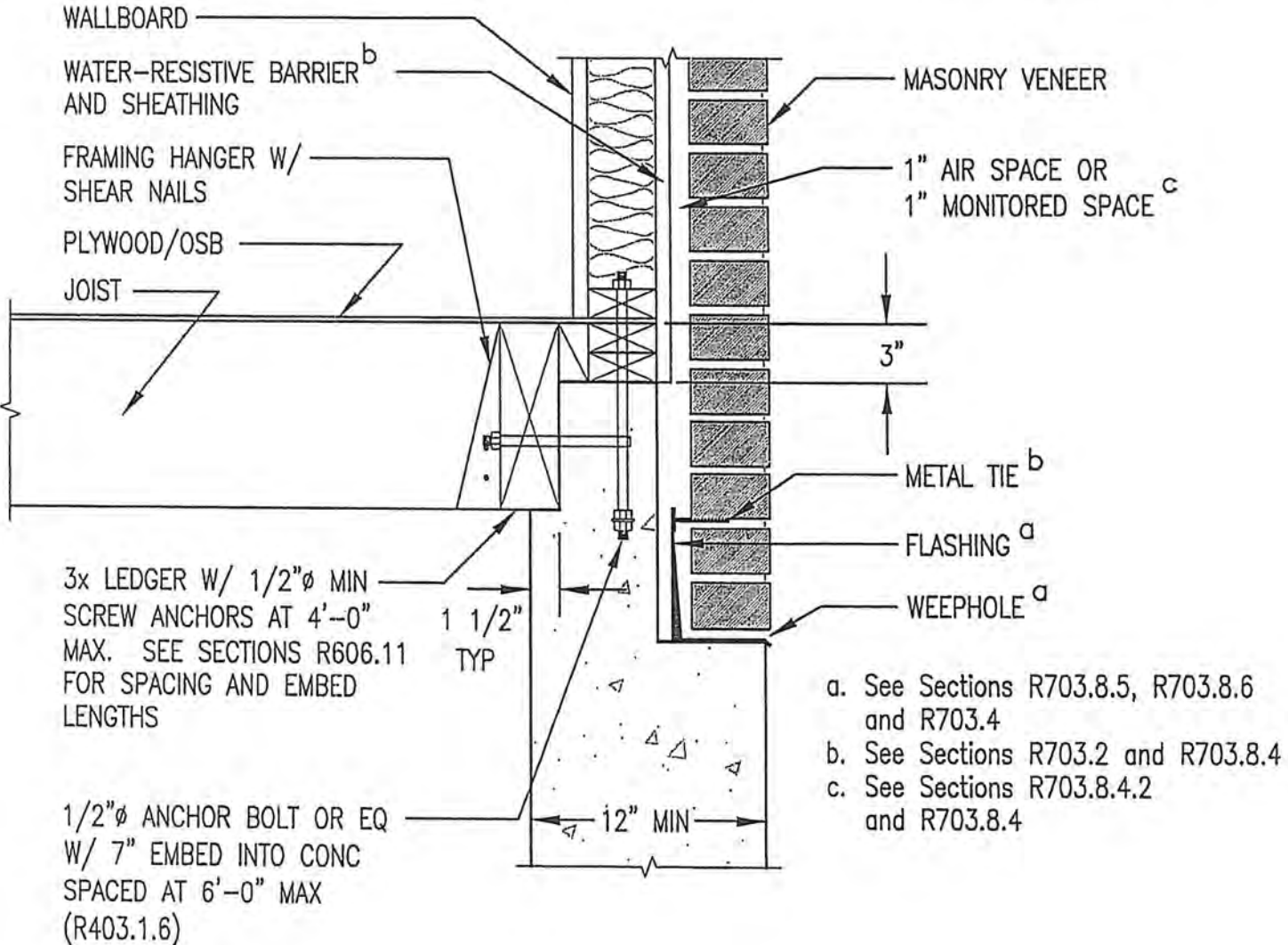
# ALTERNATIVE 1.1

## Joist Perpendicular to Wall W/ Brick

2015 IRC

Section R403.1.6 Foundation Anchorage  
 Section R404 Foundations and Retaining Walls  
 Section R404.1 Concrete and Masonry Foundation Walls

\*This figure is provided as an example. This is not an all inclusive list of code requirements.



# ALTERNATIVE 1.2

## Joist Parallel to Wall W/ Brick

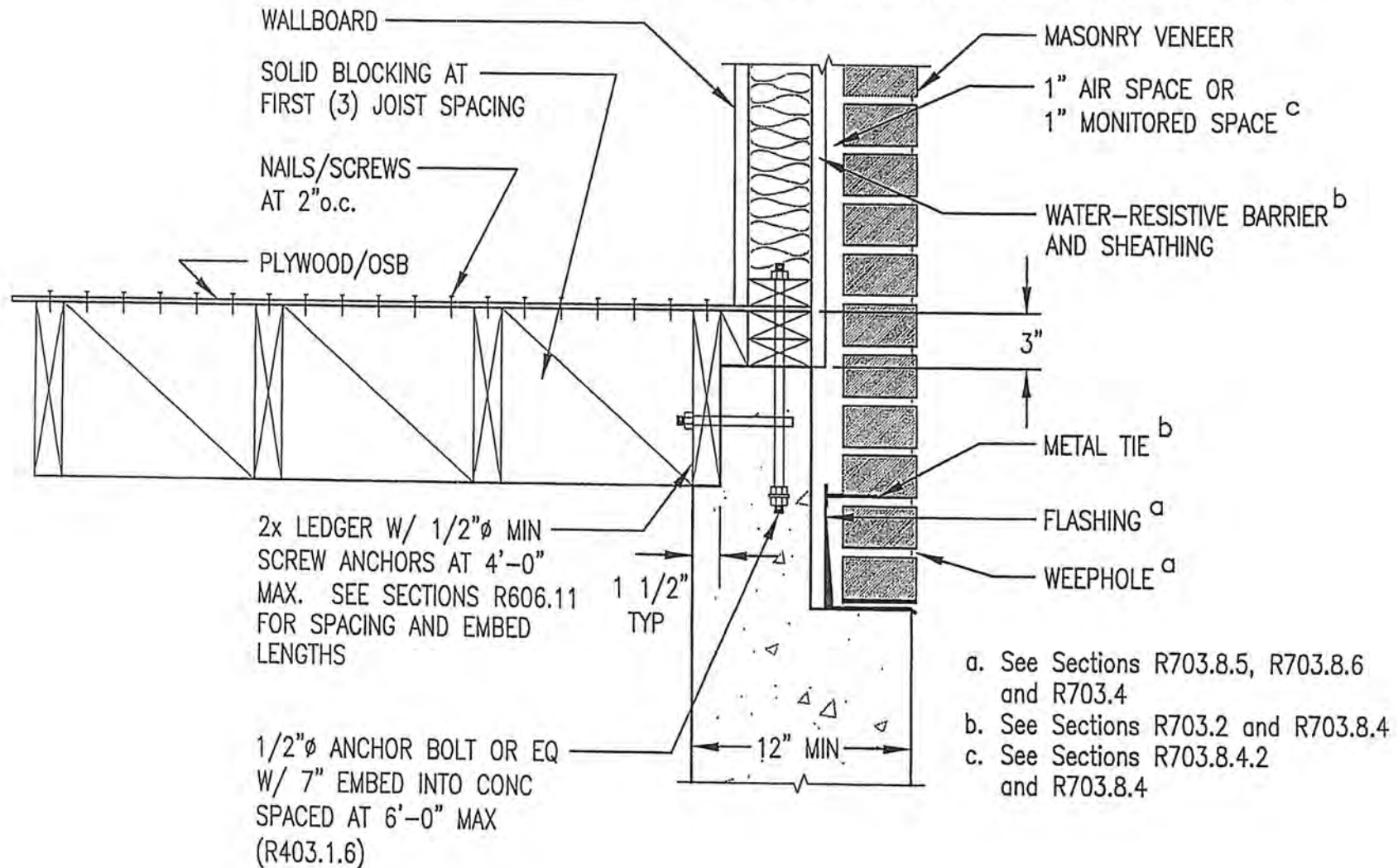
2015 IRC

Section R403.1.6 Foundation Anchorage

Section R404 Foundations and Retaining Walls

Section R404.1 Concrete and Masonry Foundation Walls

\*This figure is provided as an example. This is not an all inclusive list of code requirements.





# ALTERNATIVE 1.3

## Joist Perpendicular to Wall W/O Brick

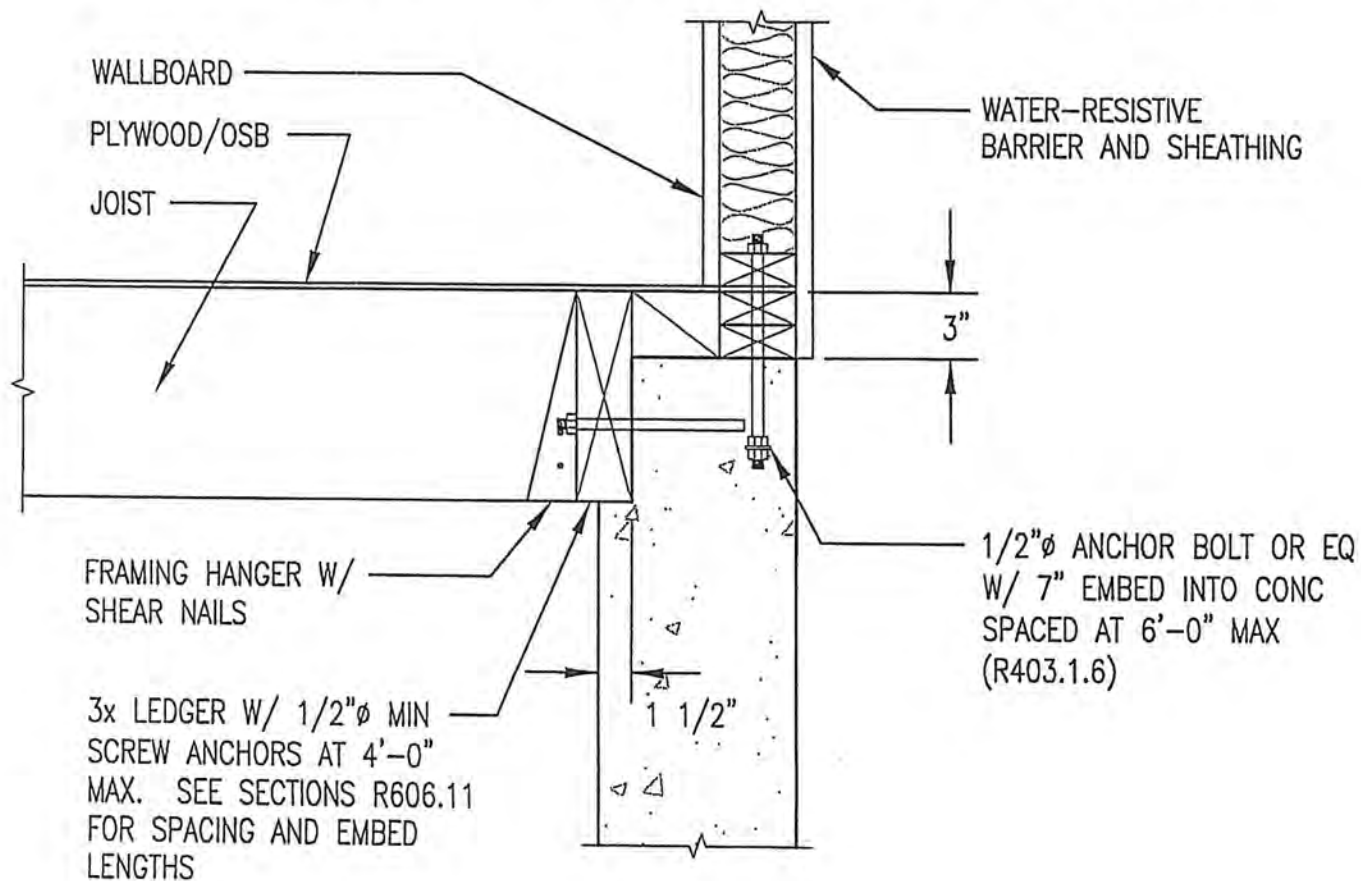
2015 IRC

Section R403.1.6 Foundation Anchorage

Section R404 Foundations and Retaining Walls

Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



# ALTERNATIVE 1.4

## Joist Parallel to Wall W/O Brick

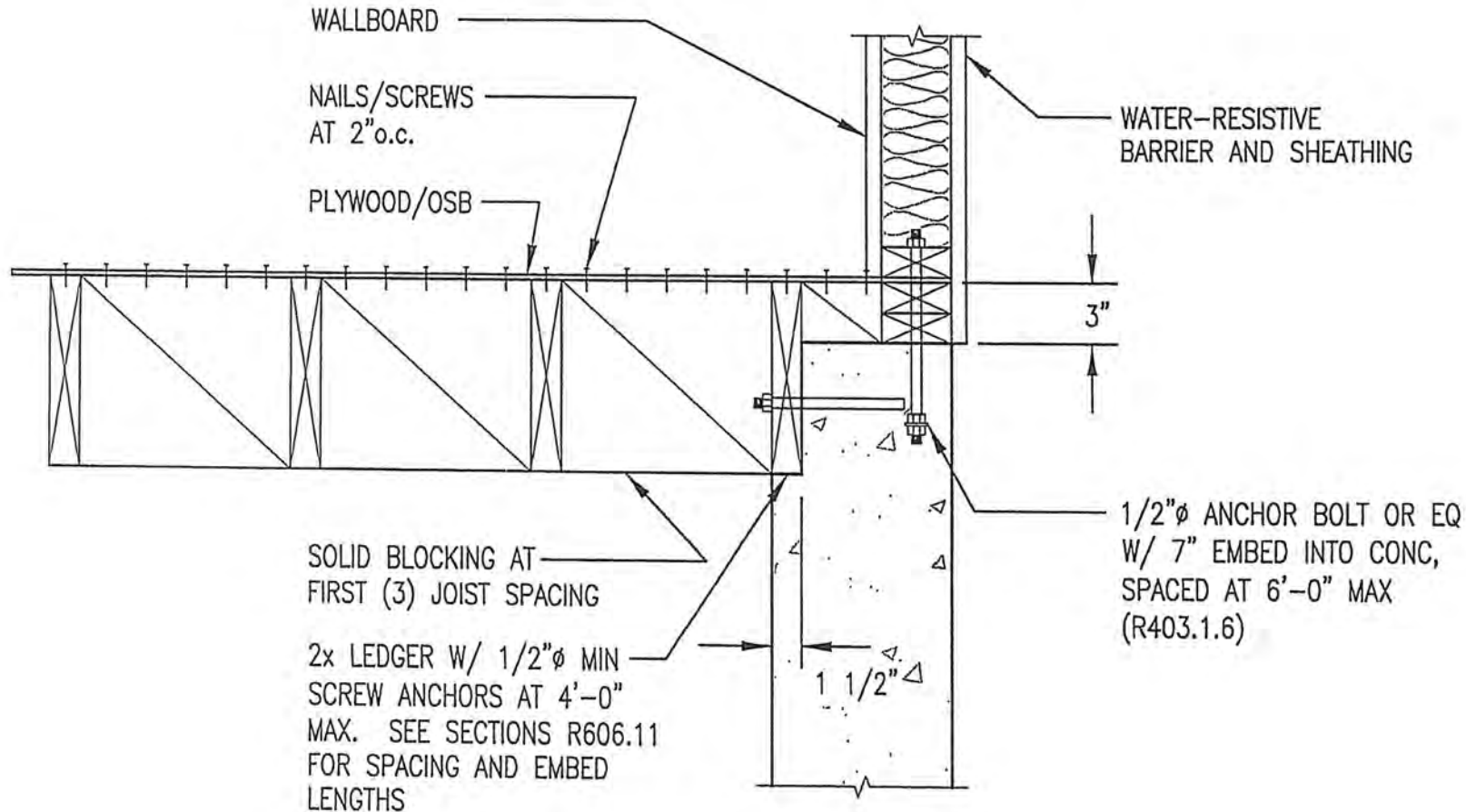
2015 IRC

Section R403.1.6 Foundation Anchorage

Section R404 Foundations and Retaining Walls

Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.





# ALTERNATIVE 2.1

## Joist Perpendicular to Wall

2015 IRC

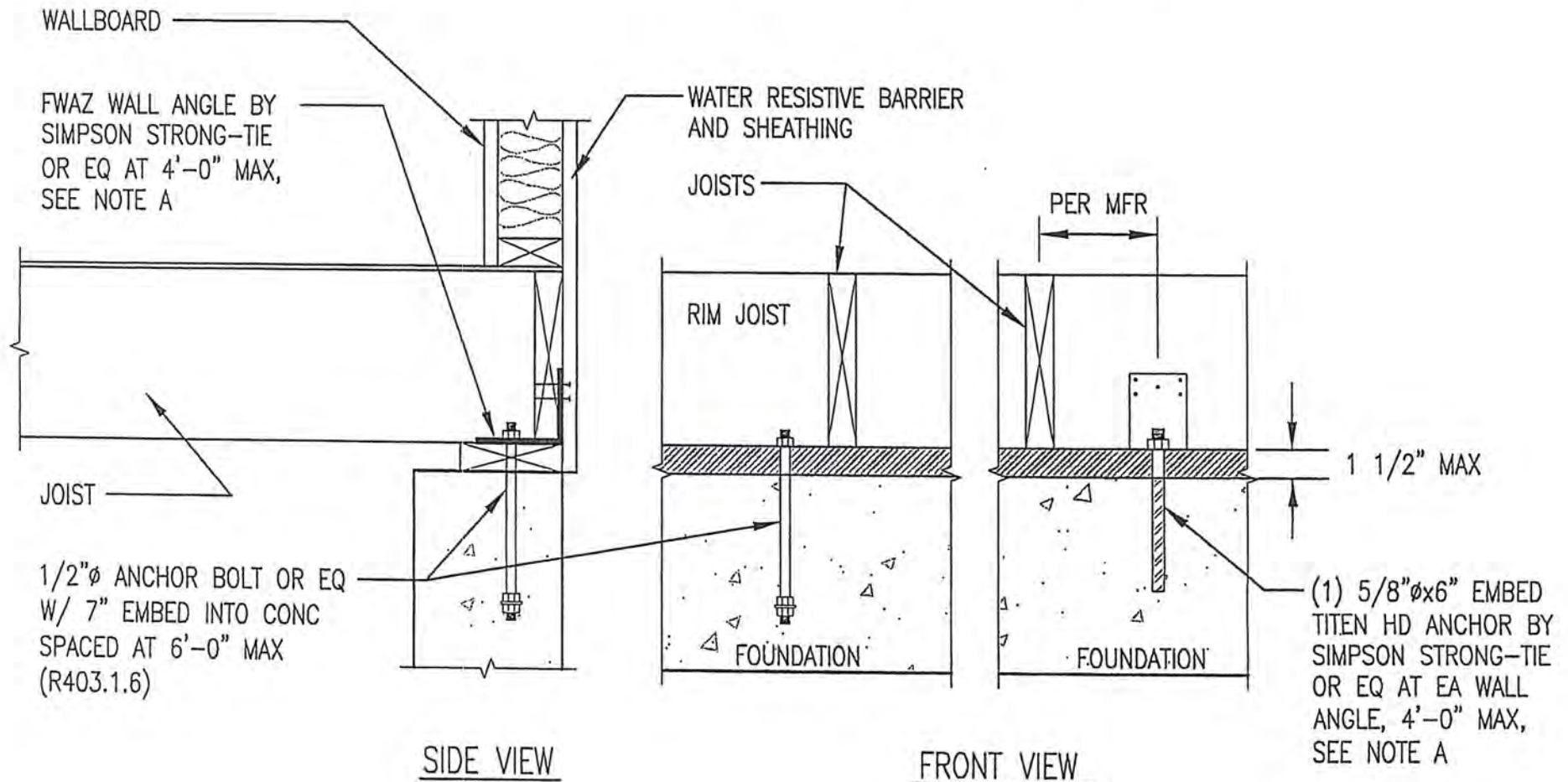
Section R403.1.6 Foundation Anchorage

Section R404 Foundations and Retaining Walls

Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.

NOTE A: Refer to the manufacturers tables for required spacing and placement of FWAZ wall angles



# ALTERNATIVE 2.2

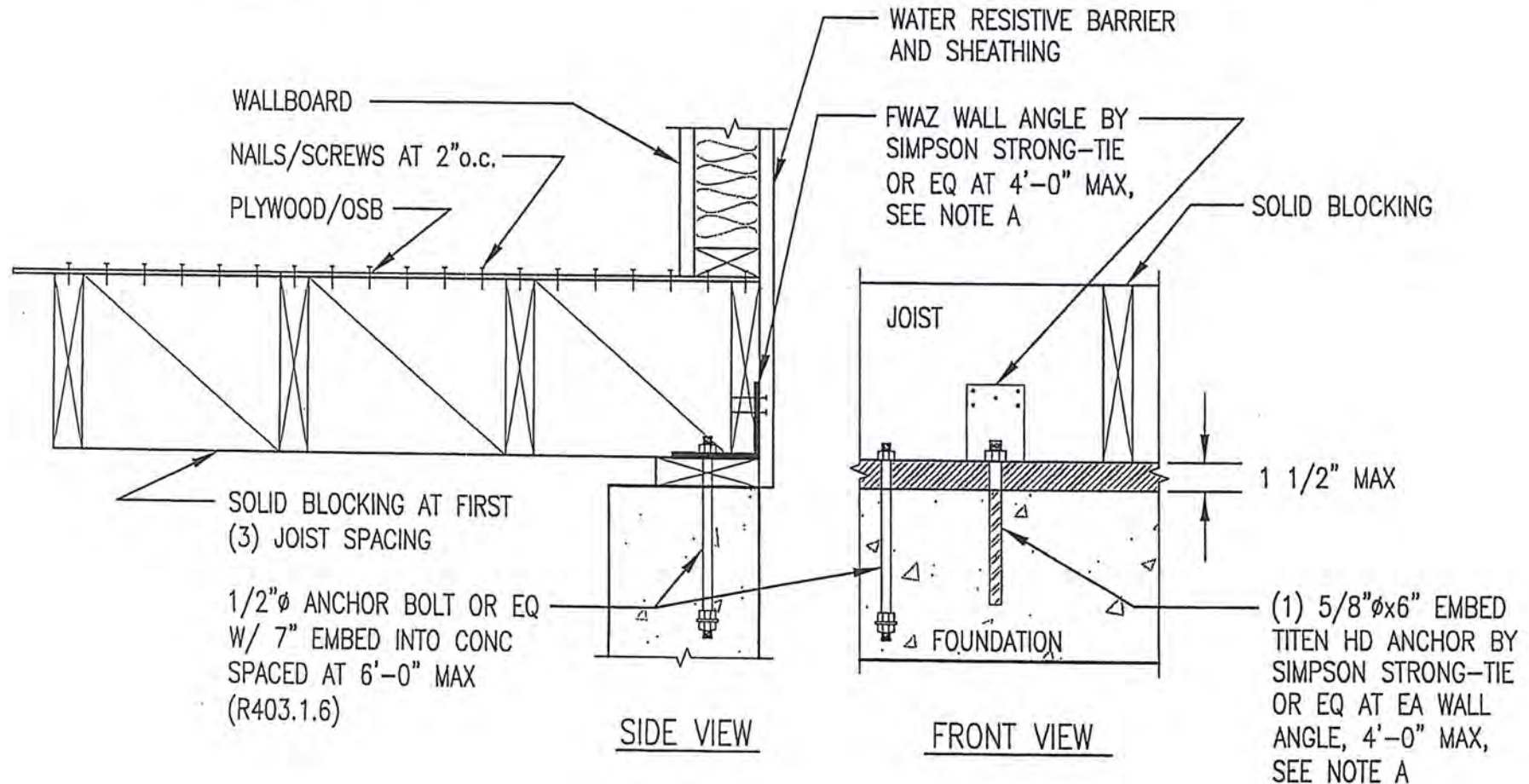
## Joist Parallel to Wall

2015 IRC

Section R403.1.6 Foundation Anchorage  
 Section R404 Foundations and Retaining Walls  
 Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.

NOTE A: Refer to the manufacturers tables for required spacing and placement of FWAZ wall angles





# ALTERNATIVE 3.1

## Joist Perpendicular to Wall W/O Brick

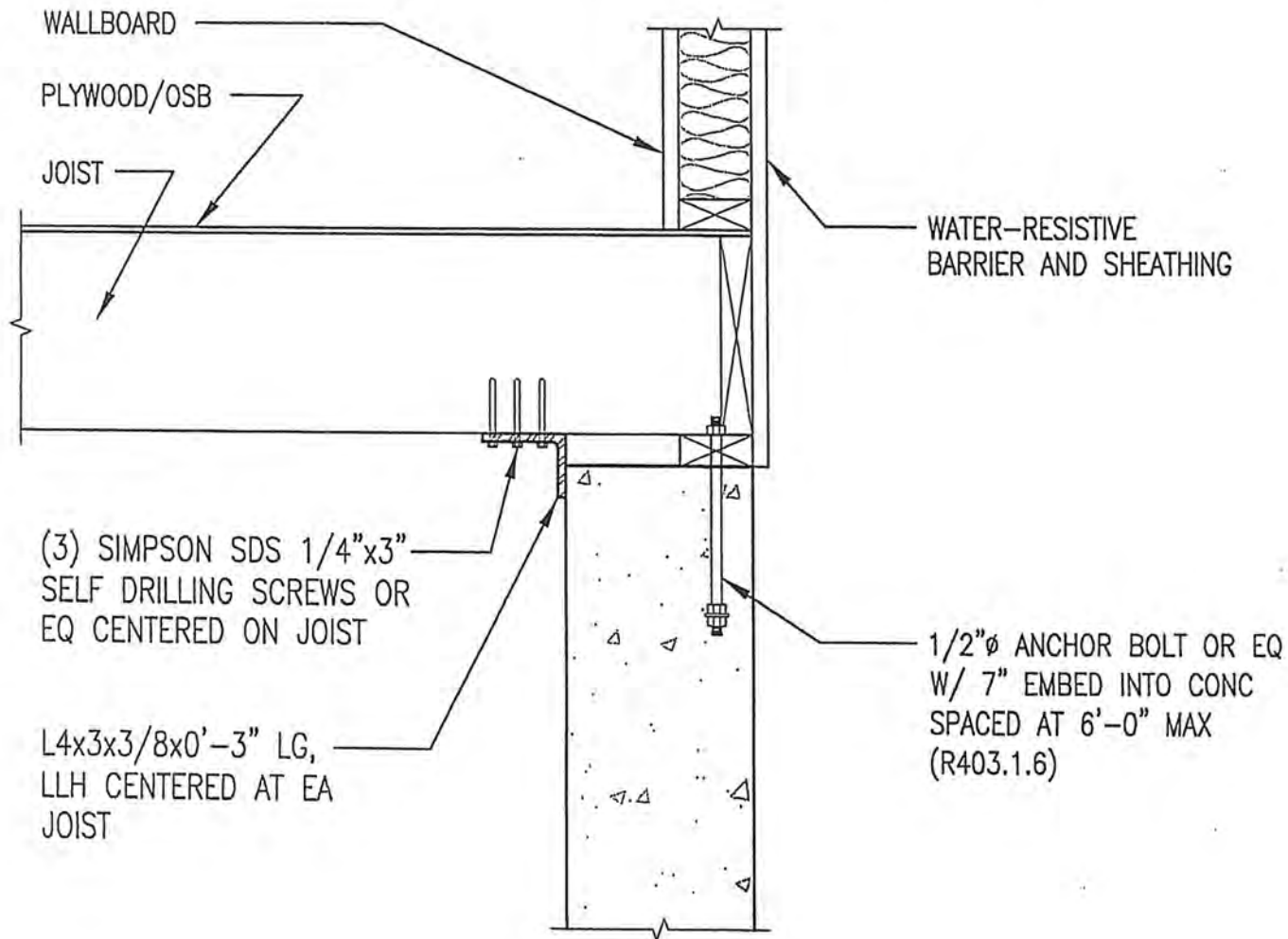
2015 IRC

Section R403.1.6 Foundation Anchorage

Section R404 Foundations and Retaining Walls

Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



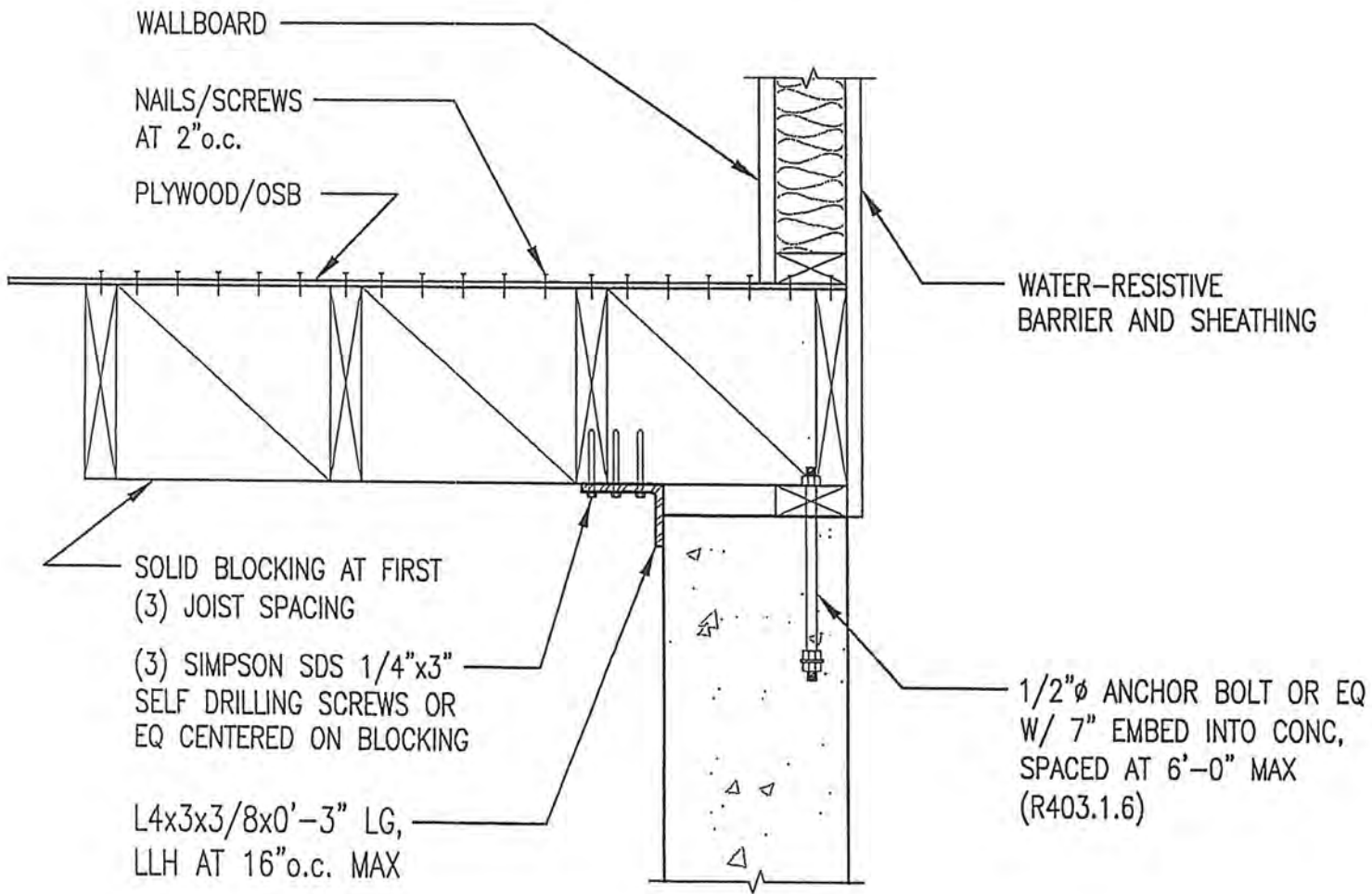
# ALTERNATIVE 3.2

## Joist Parallel to Wall W/O Brick

2015 IRC

Section R403.1.6 Foundation Anchorage  
Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



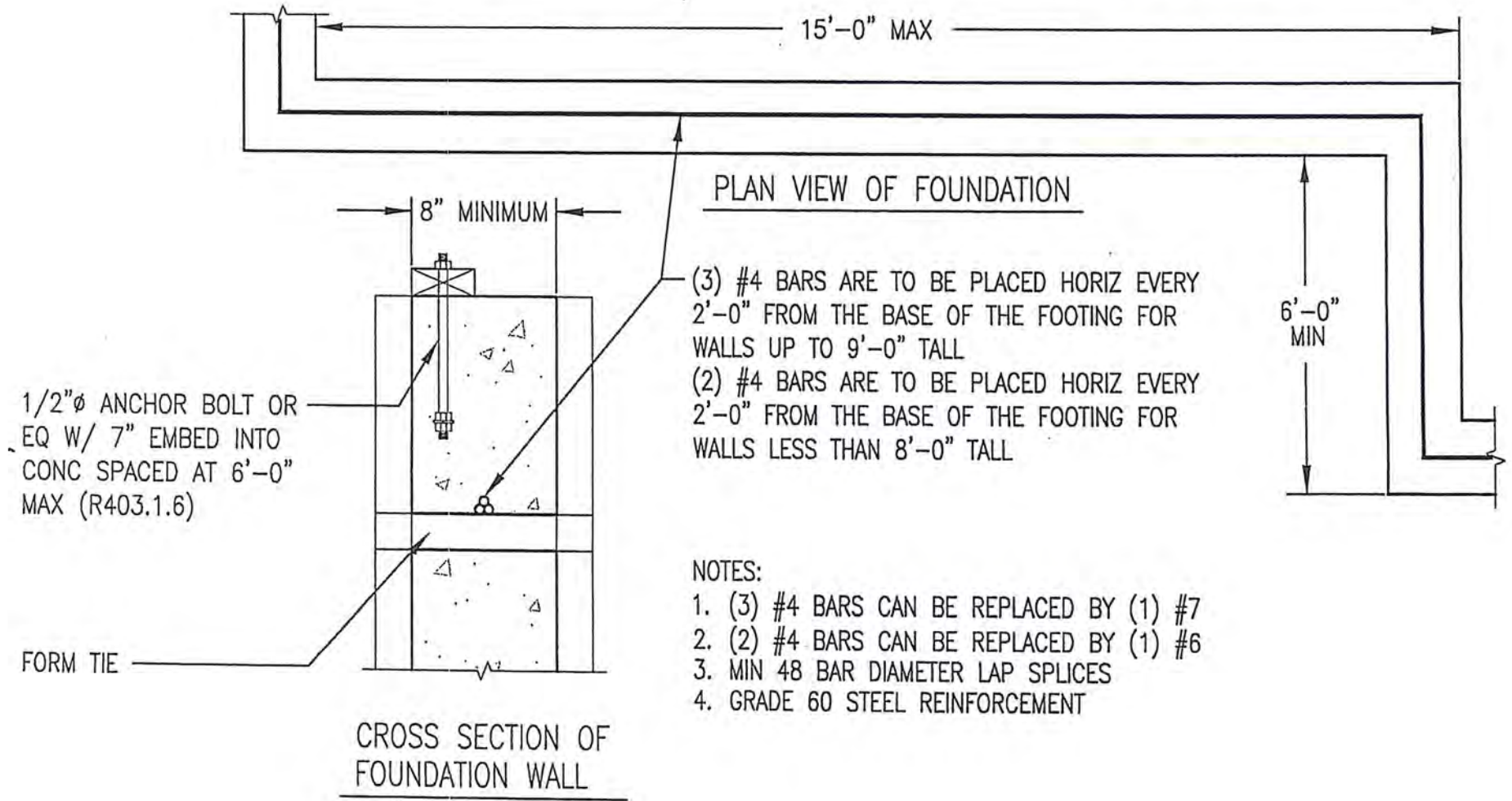


# ALTERNATIVE 4

2015 IRC

Section R403.1.6 Foundation Anchorage  
Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



# FOUNDATION DRAINAGE

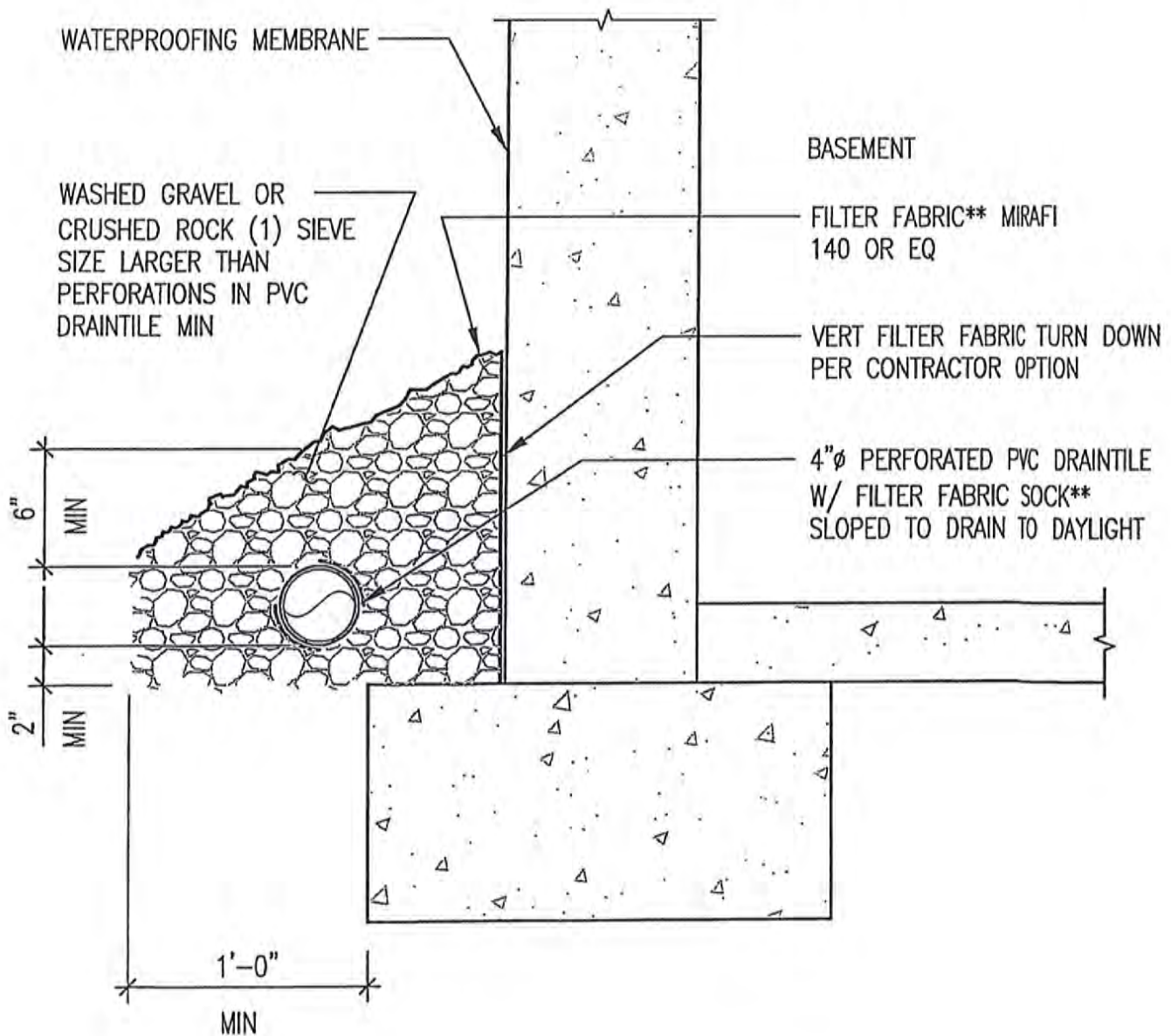
## FIGURE R405.1

2015 IRC

Section R405 Foundation Drainage

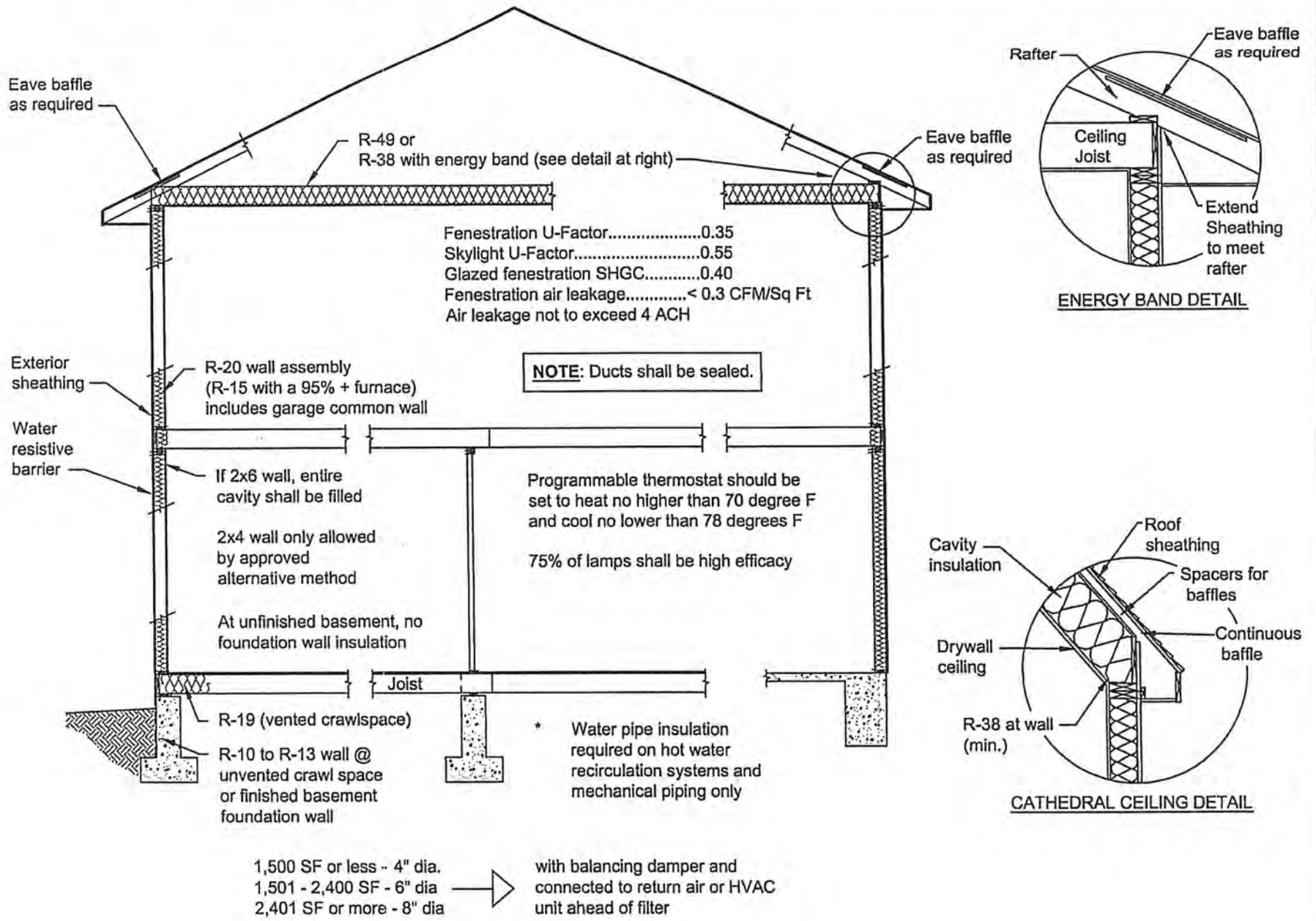
Section R406 Foundation Waterproofing and Dampproofing

- \* This figure is provided as an example. This is not an all inclusive list of code requirements.
- \*\* Either a filter fabric sock around draitile or filter fabric on the gravel shall be required, not both unless desired by the contractor.





**Figure 11.1 - BOONE COUNTY 2015 RESIDENTIAL ENERGY CODE REQUIREMENTS DIAGRAM**



COMMISSION ORDER NUMBER 149-2017

A COMMISSION ORDER ESTABLISHING THE MINIMUM REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND CONSTRUCTION OF PLUMBING SYSTEMS, BY PROVIDING REASONABLE SAFEGUARDS FOR SANITATION TO PROTECT THE PUBLIC HEALTH AGAINST THE HAZARDS OF INADEQUATE, DEFECTIVE OR UNSANITARY PLUMBING INSTALLATIONS; KNOWN AS THE PLUMBING CODE OF BOONE COUNTY, MISSOURI.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1. ADOPTION OF THE PLUMBING CODE:

That a certain document, one (1) copy of which are on file in the office of Building Official of the Boone County Department of Resource Management being marked and designated as the "International Plumbing Code/2015", as published by the International Code Council, Inc., be and is hereby adopted as the Plumbing Code of Boone County, Missouri for the control of buildings and structures as herein provided; and each and all of the regulations, provisions, penalties, conditions and terms of "International Plumbing Code/2015", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

SECTION 2. JURISDICTIONAL TITLE.

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

100.1.1 Wherever "Department of Plumbing Inspection" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

100.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

SECTION 3. AMENDMENTS TO THE INTERNATIONAL PLUMBING CODE/2015:

The International Plumbing Code/2015, is amended by additions, deletions and changes, including the changing of Articles, Sections, Sub-sections and Subsection titles, and the addition of new Sections and new Sub-sections reads as follows:

SECTION 103 DEPARTMENT OF PLUMBING INSPECTION. Delete.

Add:

SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management



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shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

106.6.3 Fee Refunds: The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. When no work has been done, the permit fee, less a processing fee of \$20.00 may be refunded to the original permittee.

The code official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee not later than 180 days after the date of fee payment.

108.4 Delete in its entirety.

Add:

108.4 Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall install plumbing work in violation of an approved plan 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, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

108.5 Stop work orders: Delete last sentence. Insert: Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe conditions, shall be guilty of a misdemeanor, punishable as provided by law.

109.2 Delete in its entirety.

Add:

109.2 Membership of the board: The board of appeals as established in Section 113 of the International Building Code / 2015 shall serve as the board of appeals for the International Plumbing Code.

109.2.1 Delete in its entirety.

109.2.2 Delete in its entirety.

109.2.3 Delete in its entirety.

109.2.4 Delete in its entirety.

109.2.5 Delete in its entirety.

109.2.6 Delete in its entirety.

109.3 Delete in its entirety.

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109.4 Delete in its entirety.

109.4.1 Delete in its entirety.

109.5 Delete in its entirety.

109.6 Delete in its entirety.

109.6.1 Delete in its entirety.

109.6.2 Delete in its entirety.

109.7 Delete in its entirety.

Add:

305.4.1 Sewer Depth: Building sewers that connect to private sewage disposal systems shall be a minimum of eighteen (18) inches below finished grade at the point of septic tank connection. Building sewers shall be a minimum of eighteen (18) inches below grade.

405.3.1 Water closets, urinals, lavatories and bidets: All water closets shall be spaced at least fifteen (15) inches from the centerline of the fixture to and wall or plumbing fixture except the centerline of the water closet may be spaced twelve (12) inches) if located next to the bathtub.

410.1 Add exception: In business, mercantile and storage occupancies where drinking fountains are required, the following exceptions are permitted to substitute for one hundred percent (100%) of the required drinking fountains if the required number is not greater than one (1):

1. A water cooler or bottled water dispenser;
2. Individual bottles of water;
3. A break room sink, bar sink or kitchen sink provided all sinks have an approved standard faucet per IPC 424.1.

602.3 Individual water supply. Delete

Add:

602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply shall be utilized. A potable public supply system shall be considered available to a lot if the lot is located within 300 feet of the public water main.

606.1 Location of full-open valves. Delete.

Add:

606.1 Location of full-open valves. Full open valves shall be installed in the following locations:

1. On the building water service pipe from the public water supply near the curb.
2. On the water distribution supply pipe at the entrance into the structure.
3. On the discharge side of every water meter.

Exception: Water meters not located inside a building.

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4. On the base of every water riser pipe in occupancies other than multiple-family residential occupancies which are two (2) stories or less in height and in one- and two-family residential occupancies.
5. On the top of every water down-feed in occupancies other than one- and two-family residential occupancies.
6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.
7. On the water supply pipe to a gravity or pressurized water tank.
8. On the water supply pipe to every water heater.

701.2 Delete in its entirety.

Add:

701.2 Sewer required: Every building in which plumbing fixtures are installed and every premises having drainage piping shall be connected to a public sewer, where available, or where a public sewer is not available, a private sewage disposal system in accordance with the requirements of the Columbia/Boone County Health Department or the Missouri Department of Natural Resources.

Add:

701.2.1 A public sewer system shall be considered available if any part of a lot is within 225 feet of a sanitary sewer system to which connection is practical and is permitted by the governmental agency or utility responsible for the sanitary sewer.

705.1 1.2 Solvent cementing. Delete exceptions

Add:

903.1 Roof extension. All open vent pipes that extend through a roof shall be terminated at least 12 inches above the roof, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet above the roof.



COMMISSION ORDER NUMBER: 149-2017

A COMMISSION ORDER ESTABLISHING THE MINIMUM REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND CONSTRUCTION OF MECHANICAL SYSTEMS, BY PROVIDING REASONABLE SAFEGUARDS TO PROTECT THE PUBLIC HEALTH AND SAFETY AGAINST THE HAZARDS OF INADEQUATE, DEFECTIVE OR UNSAFE MECHANICAL SYSTEMS AND INSTALLATIONS; KNOWN AS THE MECHANICAL CODE OF BOONE COUNTY, MISSOURI.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1. ADOPTION OF THE MECHANICAL CODE:

That a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Resource Management being marked and designated as "International Mechanical Code/2015", as published by the International Code Council, Inc., be and is hereby adopted as the Mechanical Code of Boone County, Missouri for the control of buildings and structures as herein provided; and each and all of the regulations, provisions, penalties, conditions and terms of "The International Mechanical Code/2015", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

SECTION 2. JURISDICTIONAL TITLE.

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

100.1.1 Wherever "Department of Mechanical Inspection" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

100.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

SECTION 3. AMENDMENTS TO THE INTERNATIONAL MECHANICAL CODE/2015:

The International Mechanical Code/2015 is amended by additions, deletions and changes, including the changing of Articles, Sections, Sub-sections and Subsection titles, and the addition of new Sections and new Sub-sections reads as follows:

101.2 Scope Exception 2: Mechanical systems in existing buildings undergoing repair, alterations or additions and change of occupancy shall be permitted to comply with the International Building Code or other applicable codes.

101.2.2 Appendices. Appendix A is adopted as part of this code.

SECTION 103 DEPARTMENT OF MECHANICAL SAFETY. Delete.

SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

103.4 Liability: No change.

106.3.1 Construction Documents. Add to exception: Buildings or structures exempt from these requirements are as follows:

- a. One-Family dwellings.
- b. Two family dwellings.
- c. Commercial or industrial buildings having less than 1200 square feet of floor space, or which provide for the employment, sleeping, assembly, housing or eating of not more than nine (9) persons.
- d. Any structure containing less than twenty-thousand cubic feet, except as provided above.
- e. Any building or structure used exclusively for farm purposes.

106.5.2 Fee schedule. The fees for mechanical work shall be as approved by the Boone County Commission.

106.5.3 Delete in its entirety.

Add:

106.5.3 Fee Refunds: The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. When no work has been done, the permit fee, less a processing fee of 25% of the original fee may be refunded to the original permittee.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the fee was paid.

108.4 Delete in its entirety. Insert: Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair mechanical equipment or systems in violation of an approved plan 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, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

108.5 Delete last sentence. Insert: Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a

violation or unsafe condition, shall be guilty of a misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

109.2 Delete in its entirety.

Add:

109.2 Membership of the board: The board of appeals as established in Section 113 of the International Building Code / 2015 shall serve as the board of appeals for the International Plumbing Code.

109.2.1 Delete in its entirety.

109.2.2 Delete in its entirety.

109.2.3 Delete in its entirety.

109.2.4 Delete in its entirety.

109.2.5 Delete in its entirety.

109.2.6 Delete in its entirety.

109.3 Delete in its entirety.

109.4 Delete in its entirety.

109.4.1 Delete in its entirety.

109.5 Delete in its entirety.

109.6 Delete in its entirety.

109.6.1 Delete in its entirety.

109.6.2 Delete in its entirety.

109.7 Delete in its entirety.

304.11 Guards. Delete exception.

504.8.2 Duct installation. Delete from the end of the last sentence the following words. "that protrude more than 1/8 inch (3.2 mm) into the inside of the duct".



COMMISSION ORDER NUMBER: 149-2017

A COMMISSION ORDER ESTABLISHING THE MINIMUM REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND CONSTRUCTION OF FUEL GAS SYSTEMS AND GAS FIRED-APPLIANCES, BY PROVIDING REASONABLE SAFEGUARDS TO PROTECT THE PUBLIC HEALTH AND SAFETY AGAINST THE HAZARDS OF INADEQUATE, DEFECTIVE OR UNSAFE FUEL GAS SYSTEMS AND GAS FIRED APPLIANCES; KNOWN AS THE FUEL GAS CODE OF BOONE COUNTY, MISSOURI.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1. ADOPTION OF THE FUEL GAS CODE:

That a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Planning and Building Inspection being marked and designated as "International Fuel Gas Code/2015", as published by the International Code Council, Inc., be and is hereby adopted as the Fuel Gas Code of Boone County, Missouri for the control of buildings and structures as herein provided; and each and all of the regulations, provisions, penalties, conditions and terms of "The International Fuel Gas Code/2015", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

SECTION 2. JURISDICTIONAL TITLE.

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

100.1.1 Wherever "Department of Inspection" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

100.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

SECTION 3. AMENDMENTS TO THE INTERNATIONAL FUEL GAS CODE/2015:

The International Fuel Gas Code/2015 is amended by additions, deletions and changes, including the changing of Articles, Sections, Sub-sections and Subsection titles, and the addition of new Sections and new Sub-Sections reads as follows:

Add:

101.2 Scope Exception 2: As an alternative to the provisions of this code, fuel-gas piping systems, fuel-gas utilization equipment and related accessories in existing buildings that are undergoing repairs, alterations, changes in occupancy or construction of additions shall be permitted to comply with the International Building Code or other applicable codes.

Add:

101.3 Appendices. Appendices A, B and C are adopted as part of this code.

SECTION 103 DEPARTMENT OF INSPECTION. Delete.

Add:

SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

103.4 Liability: No change.

106.3.1 Construction Documents. Add to exception: Buildings or structures exempt from these requirements are as follows:

- a. One-Family dwellings.
- b. Two family dwellings.
- c. Commercial or industrial buildings having less than 1200 square feet of floor space, or which provide for the employment, sleeping, assembly, housing or eating of not more than nine (9) persons.
- d. Any structure containing less than twenty-thousand cubic feet, except as provided above.
- e. Any building or structure used exclusively for farm purposes.

106.6.2 Fee schedule. The fees for mechanical work shall be as approved by the Boone county Commission.

106.6.3 Delete in its entirety.

Add:

106.6.3 Fee Refunds: The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. When no work has been done, the permit fee, less a processing fee of \$20.00 may be refunded to the original permittee.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the fee was paid.

108.4 Delete in its entirety. Insert: Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair mechanical equipment or systems in violation of an approved plan or directive of the building

109.2 Delete in its entirety.

Add:



109.2 Membership of the board: The board of appeals as established in Section 113 of the International Building Code / 2015 shall serve as the board of appeals for the International Plumbing Code.

109.2 through 109.7 - Delete

misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

108.5 Delete last sentence. Insert: Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be guilty of a misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

109.2 Delete in its entirety.

Add:

109.2 Membership of the board: The board of appeals as established in Section 113 of the International Building Code / 2015 shall serve as the board of appeals for the International Plumbing Code.

109.2 through 109.7 - Delete

403.4.3 Copper and brass. Delete.

Add:

403.4.3 Copper and brass. Copper and brass pipe shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters). Natural gas supplied by Ameren UE in Boone County exceeds this level therefore copper or brass shall not be used with natural gas. Threaded copper, brass and aluminum-alloy pipe shall not be used with gases corrosive to such metals.

403.5.2 Copper and brass tubing. Delete.

Add:

403.5.2 Copper and brass tubing. Copper tubing shall comply with standard Type K of ASTM B 88 or ASTM B 280.

Copper and brass tubing shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters). Natural gas supplied by Ameren UE in Boone County exceeds this level therefore copper or brass shall not be used with natural gas.

404.14 Piping underground beneath buildings. Add last sentence to paragraph which states: Any underground gas piping allowed by this section shall only be approved for gas that is less dense than the atmospheric pressure and shall be installed in accordance with section 404.12.1 and shall always terminate or vent to the outside.

404.14.2 Delete in its entirety.

406.4.1 Test pressure. Delete.

Add:



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406.4.1 Test pressure. The test pressure to be used shall not be less than one and one half (1-1/2) times the proposed maximum working pressure, but not less than 30 psig, irrespective of design pressure.

408.4 Sediment trap. Change "any length" to "3 1/2" minimum length."

COMMISSION ORDER NUMBER 149-2017  
Effective date: 4-1-17

A COMMISSION ORDER ADOPTING AND GOVERNING THE DESIGN, CONSTRUCTION, ALTERATION, ENLARGEMENT, EQUIPMENT REPAIR, DEMOLITION, REMOVAL, CONVERSION, USE OR MAINTENANCE OF ALL BUILDINGS AND STRUCTURES; AND FURTHER PROVIDING FOR THE ISSUE OF SAID PERMITS, COLLECTING OF FEES, MAKING OF INSPECTIONS, AND PROVIDING PENALTIES FOR THE VIOLATION THEREOF.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1. ADOPTION OF THE INTERNATIONAL EXISTING BUILDING CODE: ADDITIONS, INSERTIONS, DELETIONS AND CHANGES.

Commission Order Number 149-2017, known as the "Existing Building Code of Boone County, Missouri", that a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Resource Management and being marked and designated as "The International Existing Building Code – 2015 Edition", as published by the International Code Council, Inc, including Appendices A, B and C, be and is hereby adopted as the Building Code of Boone County, Missouri for the control of existing buildings and structures as provided herein; and each and all of the regulations, provisions, penalties, conditions and terms of " The International Existing Building Code – 2015 Edition", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

SECTION 2. JURISDICTIONAL TITLE.

0.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

0.1.1 Wherever "Department of Building Safety" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

0.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

0.2.1 Farm structure exemption: The provisions of this Code shall not be exercised so as to impose regulations or to require permits with respect to the erection, maintenance, repair, alteration or extension of farm buildings or farm structures further than seventy-five feet (75') from a dwelling provided that such buildings or structures are located on tracts of 20 acres or more and such buildings or structures are used exclusively for agricultural purposes. Farm dwellings shall conform to the provisions of this code as herein provided.



0.2.2 Manufactured home exemption: Manufactured homes, recreational vehicles or modular units which carry a seal as provided in Section 700.010 to 700.115 RSMo. shall be exempt from these provisions, provided that no alteration of the unit takes place once it has been placed upon a tract of land.

### SECTION 3. AMENDMENTS TO THE INTERNATIONAL EXISTING BUILDING CODE - 2015.

The International Existing Building Code - 2015 is amended by additions, deletions and changes including the changing of Articles, Sections, Sub-section titles and the addition of new sections and new sub-sections as follows:

101.2 Exception 2: Existing buildings undergoing repair, alterations, or additions and change of occupancy shall be permitted to comply with the requirements of the International Existing Building Code.

101.2.2: Appendices A, B, C, are hereby adopted as published.

103 DEPARTMENT OF BUILDING SAFETY. Delete.

Add:

#### SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

104.6 Right of entry: The code official shall have the authority to enter at any reasonable time any structure or premises for which a permit has been issued but has not received a certificate of occupancy in accordance with Section 110. Permit holders are required to provide means of access to all parts of structures subject to inspection, including the provision of ladders where required.

For all other structures or premises, when the code official has reasonable cause to believe that a code violation exists, the code official is authorized to enter the structure or premises at reasonable times to inspect subject to constitutional restrictions on unreasonable searches and



seizures. If entry is refused or not obtained, the code official is authorized to pursue recourse as provided by law.

104.7 Department records: An official record shall be kept of all business and activities of the department specified in the provisions of this code, and all such records shall be open to public inspection at all appropriate times and according to reasonable rules to maintain the integrity and security of such records.

Add:

105.8 Compliance with other Regulatory Agency Fire and Life Safety Codes: No permit shall be issued unless the plans and specifications or other required documentation for permit issuance has been approved by other Boone County regulatory agencies having jurisdiction for compliance with applicable fire and life safety codes. These provisions shall not apply to one and two family dwellings or residences.

Add:

105.9 Compliance with other Regulatory Agency Fire and Life Safety Codes: No final inspection or periodic inspection made at the conclusion of a building phase shall be passed or approved unless similar inspections for compliance with applicable fire and life safety codes have been made and approved or passed by other Boone County regulatory agencies having jurisdiction. These provisions shall not apply to one and two family dwellings or residences.

106.1 Submitted documents: Construction documents, special inspection and structural observation programs, and other data shall be submitted in two or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the Chapter 327 RSMo. The construction documents shall be drawn to scale with sufficient clarity and detail dimensions to show the nature and character of the work to be performed including general construction, special inspections, construction observation programs, structural, mechanical and electrical work and calculations. Each sheet of each set of plans, each set of specifications, calculations and other data shall be legally sealed by a registered design professions as required by Chapter 327 RSMo. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

112.1 Delete in its entirety.

Add:

112.1 Board of Appeals: The board of appeals as established in Section 113 of the International Building Code / 2015 shall serve as the board of appeals for the International Existing Building Code..

112.3 Delete in its entirety.

Section 117. Delete in its entirety.

COMMISSION ORDER NUMBER 149-2017  
Effective date: 4-1-17

A COMMISSION ORDER ADOPTING THE 2015 EDITION OF THE INTERNATIONAL ENERGY CONSERVATION CODE, REGULATING AND GOVERNING ENERGY-EFFICIENT BUILDING ENVELOPES AND INSTALLATION OF ENERGY -EFFICIENT MECHANICAL, LIGHTING AND POWER SYSTEMS IN BOONE COUNTY, MISSOURI; AND FURTHER PROVIDING FOR THE ISSUE OF SAID PERMITS, COLLECTING OF FEES, MAKING OF INSPECTIONS, AND PROVIDING PENALTIES FOR THE VIOLATION THEREOF.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1. ADOPTION OF THE INTERNATIONAL ENERGY CONSERVATION CODE: ADDITIONS, INSERTIONS, DELETIONS AND CHANGES.

Commission Order Number 149-2017, known as the "Energy Conservation Code of Boone County, Missouri", that a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Resource Management and being marked and designated as "The International Energy Conservation Code – 2015 Edition", as published by the International Code Council, Inc., including Appendices RA and RB, and as amended by the International Residential Code, and is hereby adopted as the part of the Building Code of Boone County, Missouri.

SECTION 2. JURISDICTIONAL TITLE.

0.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

0.1.1 Wherever "Department of Building Safety" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

0.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

SECTION 3. AMENDMENTS TO THE INTERNATIONAL EXISTING BUILDING CODE - 2015.

C109 Delete in its entirety.

Add:

109.1 Board of Appeals: The board of appeals as established in Section 113 of the International Building Code / 2015 shall serve as the board of appeals for the International Energy Conservation Code.

112.3 Delete in its entirety.



COMMISSION ORDER NUMBER 149-2017

A COMMISSION ORDER ESTABLISHING THE MINIMUM REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND CONSTRUCTION OF ELECTRICAL SYSTEMS, BY PROVIDING REASONABLE SAFEGUARDS TO PROTECT THE PUBLIC HEALTH AGAINST THE HAZARDS OF INADEQUATE, DEFECTIVE OR UNSAFE ELECTRICAL INSTALLATIONS; KNOWN AS THE ELECTRICAL CODE OF BOONE COUNTY, MISSOURI.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1. ADOPTION OF THE ELECTRICAL CODE:

That a certain document, one (1) copy of which are on file in the office of Building Official of the Boone County Resource Management being marked and designated as "The National Electrical Code 2014", as published by the National Fire Protection Association, be and is hereby adopted as the Electrical Code of Boone County, Missouri for the control of buildings and structures as herein provided; and each and all of the regulations, provisions, penalties, conditions and terms of "The National Electrical Code 2014", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

SECTION 2. AMENDMENTS TO THE NATIONAL ELECTRICAL CODE 2014:

The National Electrical Code 2014 is amended by additions, deletions and changes, including the changing of Articles, Sections, Sub-sections and Subsection titles, and the addition of new Sections and new Sub-Sections reads as follows:

ADD:

90.10. Plans and specifications: Plans and specifications shall be required for all work involving commercial, industrial, multiple family and buildings used for purposes of public assembly, or as determined by the building official.

90.11. Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall install, alter or repair electrical wiring in violation of this Code or without a proper permit shall be guilty of a misdemeanor and punishable by fine, or by imprisonment, or by both as directed by a court of law. Each day that a violation continues shall be deemed a separate offense,

90-12. Means of appeal: The owner of a building or structure or any other person may appeal a decision of the building official. Application for appeal may be filed in the office of the Resource Management Department.



90.13. For the purposes of the Electrical Code, the board of appeals appointed under Section 113 of the ICC International Building Code/2015 (Boone County Building Code) as adopted, shall serve as the board of appeals for matters referred to it for consideration under the Electrical Code.

#### Article 100

##### Add:

**Agriculture or Farming Activity:** An agricultural activity shall be defined as the cultivating of the soil, producing of crops and the raising of animals for food or fiber and including horticulture, beekeeping, aquaculture, silviculture and forestry. Concentrated animal feeding operations must conform to the Missouri Department of Natural Resource's regulations pertaining to waste water management and odor control. The raising and keeping of horses for any purpose other than the production of food and fiber is not considered agricultural activity.

**Switch, Transfer:** Change to read – An automatic or non-automatic device for transferring one or more load conductor connections from one power source to another. The transfer switch on activation shall disconnect all current carrying conductors to include the neutral to prevent back-feed to the utility.

110.5. Delete in its entirety. Insert: Conductors. Conductors normally used to carry current shall be of copper unless otherwise provided for in this code. Where the conductor material is not specified, the sizes given in this code shall apply to copper conductors. Where other materials are used, the size shall be changed accordingly. Aluminum and copper-clad aluminum will be approved as outside feeders of 100 amperes or larger and must terminate nearest the point of entrance of the feeder; or as designed and recommended by a registered professional engineer or a registered architect.

(FPN) For aluminum and copper-clad aluminum conductors, see Sections 250.120 (B), 310-14.

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. (A) Dwelling Units. All 125-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified in 210.8(A)(1) through (10) shall have ground-fault circuit-interrupter protection for personnel.

Exception No. 1 to (2) Garages and accessory buildings. Receptacles in locations that are not readily accessible. (e.g., on the ceiling of a garage).

Exception No. 2 to (2) Garages and (5) Unfinished basements. A single receptacle or a 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), (47), or (48).

Add the following Exception to (3) Outdoors. GFCI receptacles located in exterior soffits and used for seasonal decorative lighting are not required to be readily accessible.

Exception to (7) Sinks. Where the receptacles are installed within 1.8 m (6 feet) of the outside edge of the sink.



(a) Receptacles installed for appliances such as clothes washers, refrigerators, garbage disposals, dishwashers, and microwave ovens shall not be required to be GFCI protected where located within 6 feet of laundry, utility, kitchen or wet bar sink in a dwelling.

(b) A duplex receptacle may be used for a single appliance provided the duplex receptacle is located behind the appliance which, in normal use, is not easily moved and the receptacle is not readily accessible for the use of power tools. This receptacle must be marked "not GFCI protected". Receptacles installed under the exceptions to 210.8 (AX7) shall not be considered as meeting the requirements of 210.52 (G).

210.8(D) Kitchen Dishwasher Branch circuit. Delete this section

210.12 Arc-Fault Circuit-Interrupter Protection.

210.12 (A) Dwelling Units. All 120-volt, single phase, 15 – and 20 – ampere branch circuits supplying outlets installed in dwelling unit bedrooms and for smoke detectors shall be protected by a listed arc-fault circuit interrupter, combination-type installed to provide protection of the branch circuit. The rest of 210.12 (A) remains as stated.

Add the following Exception No. 4: Arc-Fault Circuit Interrupter Protection is not required in one and two-family dwellings which are regulated by the International Residential Code.

210.52 Dwelling unit receptacle outlets (C) Countertops (5) Receptacle outlet location. Exception to (5): Delete the second sentence to the first paragraph that reads; "Receptacles mounted below a countertop in accordance with this exception shall not be located where the countertop extends more than 150mm (6 inches) beyond its support base." The rest of the section remains as stated. This definition is to allow the placement of the receptacle no more than 12 inches below the countertop, and anywhere the countertop extends beyond its support base.

Add the following Exception to (E). (3): A receptacle is not required at an existing structure.

210.52 (G)(1) Receptacles in Garages. Delete first sentence, as follows: In each attached garage, and in each detached garage with electric power, the branch circuit supplying receptacles shall not supply outlets outside the garage." Retain second sentence: "At least one duplex receptacle shall be installed for each car space."

210.63 Heating, Air-conditioning, and Refrigeration Equipment Outlet: Existing exception to be shown as Exception No. 1: and add: Exception No. 2: Rooftop and exterior equipment on one- and two-family dwellings.

220.14.(J) Dwelling Occupancies: Delete "one-family, two-family" and add the following requirements for one- and two-family dwellings:

- (1) In one- and two-family dwellings, a 15-amp rated general purpose circuit shall be limited to a maximum of eight receptacle outlets or openings, or eight lighting outlets or openings, or any combination of receptacle outlets and lighting outlets totaling not more than eight.



- (2) In one- and two-family dwellings, a 20-amp rated general purpose circuit shall be limited to a maximum of ten receptacle outlets or openings, or ten lighting outlets or openings, or any combination of receptacle outlets and lighting outlets totaling not more than ten.
- (3) In one- and two-family dwellings, the small appliance circuits serving the kitchen countertop and similar areas, shall be limited to not more than two receptacle outlets or openings for the first two such circuits; the third and succeeding small appliance circuits shall be limited to not more than three receptacle outlets or openings per circuit.
- (4) In one- and two-family dwellings, the microwave receptacle outlet shall be a dedicated 20-amp rated circuit, and shall share with no other outlets.

230.50 Protection Against Physical Damage. (B) (1) Service Entrance Cables (3) Schedule 40 rigid nonmetallic conduit or equivalent.

230.70(A)(1). Add: Inside the nearest point of entrance is defined as the first full stud space inside the structure.

250.50 Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are present at each building or structure served shall be bonded together to form the grounding electrode system. Where none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used, except where there exists a metal water pipe in contact with earth for 10 feet or more, for one- and two-family dwellings, a single grounding electrode as required by the serving electrical utility shall be permitted to fill the requirements of Article 250.50.

250.94 Delete in its entirety.

300.5 Underground Installations: (D) protection from Damage: (3) Service conductors: Warning tape shall be installed a minimum of six (6) inches below grade and not less than twelve (12) inches above the electrical cables or conduit in all underground installations of 50 volts or more.

300.5 D (4) Enclosure and Raceway Damage: Where the enclosure or raceway is subject to physical damage, the conductors shall be installed in rigid metal conduit, intermediate metal conduit, Schedule 40 rigid nonmetallic conduit, or equivalent.

300.9 Raceways in Wet Locations Above Grade: Delete in its entirety.

300.11.(A).(2) Non-Fire Rated Assemblies: Add exception: One 3/4 inch raceway or smaller, with maximum conductor fill (for example, twelve #12 AWG), shall be permitted to be supported by the ceiling support wires.

314.23 (B)(1) Nails and Screws: Add last sentence to paragraph: Screws may be installed through the interior sides of a nonmetallic box to mount or fasten the box in place regardless of its listing and labeling provided the heads of the screws are covered or coated with a nonmetallic material.



334.12 Uses Not Permitted. (A) Types NM, NMC and NMS. Types NM, NMC and NMS cables shall not be permitted as follows: Delete the following in its entirety: (2) "Exposed in dropped or suspended ceilings in other than one- and two-family and multi-family dwellings."

334.12 (B) types NM and NMS. Types NM and NMS cables shall not be used under the following conditions or in the following locations. Exception: Type NMS cable shall be permitted in wet or damp locations.

334.15 (B) Protection from Physical Damage: Where schedule 80 PVC is stated in paragraph, replace with schedule 40 PVC or better. Cable shall be protected from physical damage where necessary by rigid metal conduit, electrical metallic tubing, Schedule 40 PVC conduit or other approved means. Where passing through a floor, the cable shall be enclosed in rigid metal conduit, intermediate metal conduit, electrical metal tubing, Schedule 40 PVC conduit or other approved means extending at least 150 mm (6 inches) above the floor.

334.80 Ampacity. The ampacity of Types NM, NMC and NMS cable shall be determined in accordance with 310.15. The ampacity shall be in accordance with the 60 degrees C (143 degrees F) conductor temperature rating. The 90 degree C (194 degree F) rating shall be permitted to be used for ampacity derating purposes, provided the final derated ampacity does not exceed that for a 60 degree C (140 degree F) rated conductor. The ampacity of Types NM, NMC and NMS cable installed in cable tray shall be determined in accordance with 392.11.

Where more than two NM cables containing two or more current-carrying conductors are installed, without maintaining spacing between the cables, through the same opening in wood framing that is to be fire- or draft-stopped using thermal insulation, caulk or sealing foam. The allowable ampacity of each conductor shall be adjusted in accordance with Table 310.15 (B)(2)(a). The rest of 334.80 is deleted in its entirety.

404.2.(C): Switches Controlling Lighting Loads: Delete.

404.9 Provisions for General-Use Snap Switches. (B) Grounding: Add exception 4: In one- and two-family dwellings, switches mounted to non-metallic boxes with non-metallic face plates shall not be required to be effectively grounded.

404.10 Mounting of Snap Switches. (B) Box Mounted. Add last sentence to paragraph, as follows: "The requirement for machine-threaded screws shall not apply to plastic outlet boxes."

406.4 General Installation requirements. (D) Replacements. Delete the following sentence: "Arc-fault circuit-interrupter type and ground-fault circuit-interrupter type receptacles shall be installed in a readily accessible location."

406.5 Receptacle Mounting. Add last sentence to first paragraph. "The requirement for Machine threaded screws shall not apply to plastic outlet boxes."

406.9 Receptacles in Damp or Wet Locations

(A) Damp locations. A receptacle installed outdoors in a location protected from the weather or in other damp locations shall have an enclosure for the receptacle that is weatherproof when the receptacle is covered (attachment plug cap not inserted and receptacle covers closed.)

An installation suitable for wet locations shall also be considered suitable for damp locations.

A receptacle shall be considered to be in a location protected from weather where located under roofed open porches, canopies, marquees and the like, and will not be subjected to a beating rain or water run-off. The rest of 406.8 (A) is deleted in its entirety.

(B) Wet Location.

- 1) 15- and 20- ampere receptacles in wet locations. 15- and 20- ampere, 125- and 250- volt receptacles installed in a wet location shall have an enclosure that is weather-proof whether or not the attachment plug cap is inserted. Weatherproof "in-use or bubble" covers not required. The rest of 406.8 (B) is deleted in its entirety.

406.12 Tamper-Resistant Receptacles for Dwelling Units. Delete in its entirety.

410.24 (B) Access to Boxes. Delete.

422.16(B) Specific Appliances (5) Storage-Type Water heaters: Storage-type water heaters shall be permitted to be cord-and -plug connected with a flexible cord rated at 30 amperes. Cord will not be required to be listed for this use.

440.9 Grounding and Bonding of Air Conditioning and Refrigerating Equipment. Where air conditioning and refrigeration equipment are installed outdoors with wiring methods consisting of liquid-tight flexible metal conduit or electrical metallic tubing, a wire-type equipment grounding conductor, as specified in 250.118(1), shall be provided in the outdoor portion of the raceway.

Note; This proposed change was erroneously omitted from the printing of the 2014 NEC.

440.14 Location. Add: Exception No 3: Cord-and-plug connected appliances

Article 545. Manufactured Building.

ADD:

545.14. Release from liability: Due to the fact that the Boone County Resource Management is unable to properly inspect wiring, outlets, junction boxes, etc., in manufactured buildings, the owner is responsible for insuring that all electrical components are in compliance with this code.

Article 550. Mobile Homes and Mobile Home Parks.

550.15.(H).(2): Change Schedule 80 PVC to Schedule 40 PVC.

550.34. Release from liability: Due to the fact that the Boone County Resource Management is unable to properly inspect wiring, outlets, junction boxes, etc. in manufactured buildings, the owner is responsible for insuring that all electrical components are in compliance with this code.

600.6 Disconnects. (A)(1): Change the wording of the first sentence as follows  
"Disconnects for signs and for outline lighting systems shall be located at the point where the feeder or branch circuits(s) enters the sign enclosure or pole, and shall disconnect all ungrounded conductors where they enter the sign enclosure or pole."

680.43 Indoor Installations: Delete Exception No. 2.

680.74 Bonding: Delete the last sentence.