2007 Kentucky Residential Code

Second Edition
Revised January 6, 2012

As Adopted by:

KENTUCKY BOARD OF HOUSING, BUILDINGS AND CONSTRUCTION

Department of Housing, Buildings and Construction
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PREFACE

The *Kentucky Residential Code (KRC),* now in its 6th year, is essentially *the 2006 International Residential Code* published by the International Code Council, Inc., with the specific Kentucky amendments. The Kentucky amendments to the code will be published as a separate document. It provides minimum standards to ensure the public safety, health and welfare insofar as they are affected by building construction and to secure safety to life and property from all hazards incident to the occupancy of buildings, structures or premises. This edition presents the code with changes approved by the Kentucky Board of Housing, Buildings and Construction through April 2, 2010.

The *Kentucky Residential Code* may be amended from time to time by the Board of Housing, Buildings and Construction through the regulatory process by considering proposals from code enforcement officials, industry and design professionals, and other interested persons and organizations. Changes are discussed in an open meeting of the board. Changes approved by the board and the Legislative Review Commission are printed in the Kentucky Administrative Register and posted on the OHBC website.

The Kentucky Residential Code is a "mini/maxi" code, in that it establishes minimum and maximum building code requirements for detached single family dwellings, two-family dwellings and townhouses and no local government shall adopt or enforce any other building code on these units.

(change effective 09/24/08)

SAMPLE ORDINANCE FOR ADOPTION OF THE
INTERNATIONAL RESIDENTIAL CODE
FOR SINGLE FAMILY DWELLINGS

ORDINANCE NO. _____

An ordinance of the _____ adopting the 2007 edition of *the Kentucky Residential Code,* regulating and controlling the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of one- and two-family dwellings and townhouses in the _____; providing for the issuance of permits and collection of fees therefore when used with money; repealing Ordinance No. of the _____ and all other ordinances and parts of the ordinances in conflict therewith.

The _____ of the _____ does ordain as follows:

Section 1. That certain documents, three (3) copies of which are on file in the office of the _____ **KEEPER of** RECORDS ___ and the _____, being marked and designated *as Kentucky Residential Code,* is hereby adopted as the code of the _____ for regulating the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of one- and two-family dwellings and townhouses not more than three stories in height in the _____ and providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, conditions and terms of such *Kentucky Residential Code,* 2007 edition, on file in the office of the _____ are hereby referred to, adopted and made a part hereof as if fully set out in this ordinance.

Section 2. The following sections are hereby revised:

Section R101.1 Insert: [NAME OF JURISDICTION]
Table R301.2(l) Insert: [APPROPRIATE DESIGN CRITERIA)

Section 3. That Ordinance No. _____of _____ entitled (fill *in here the complete title of the present ordinance or ordinances in effect at the present time so that they will be repealed by definite mention)* and all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The _____**-** hereby declares that it would have passed this ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 5. That the **[JURISDICTIOR'S—KEEPER OF RECORDS-** is hereby ordered and directed to cause this ordinance to be published. *(An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)*

Section 6. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect _____from and after the date of its final passage and adoption.

ACKNOWLEDGEMENTS

The Commonwealth of Kentucky gratefully acknowledges the contribution of time, expertise and diligent effort generously given by members of the Kentucky Board of Housing, Buildings and Construction in the continuing development of the *Kentucky Building Code.* Current Board members are as follows:

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CHAPTER 1

ADMINISTRATION

SECTION R101
TITLE, SCOPE AND PURPOSE

R101.1 Title. These regulations shall be known as the *Kentucky Residential Code,* hereinafter referred to as "this code".

R101.2 Scope. The provisions of the *2006 International Residential Code for One-and Two-Family Dwellings* as amended in these regulations shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above-grade in height with a separate means of egress and their accessory structures.

Exceptions:

1. Farm dwellings and other buildings and structures located on farms which are incident to the operation of the farm and located outside the boundary of a municipality; but only if they are not used in the business of retail trade, as a regular place of work for 10 or more people or for the processing or storage of timber products.

2. Manufactured homes constructed under federal HUD standards. However, the exterior electric, water and sewer connections and additions to the home are not exempt.

3. Swimming pools constructed completely above grade.

R101.3 Purpose. The purpose of this code is to establish minimum and maximum requirements to safeguard the public safety, health and general welfare through affordability, structural strength, means of egress facilities, stability, sanitation, light and ventilation, energy conservation and safety to life and property from fire and other hazards attributed to the built environment. No local government shall adopt or enforce any other building code for detached single family dwellings, two-family dwellings and townhouses. (change effective 09/24/08)

R101.4 Other residential buildings. Multiple single-family dwellings (townhouses) over three stories above grade in height or without separate entrances shall comply with the International Building Code (IBC) and Kentucky amendments to the IBC. (change effective 04/02/10)

R101.5 Accepted practices. In the absence of provisions not specifically contained in this code or final decisions of the appeals board, the specification and standards listed in Chapter 43 shall be deemed to represent accepted engineering practice with respect to materials, equipment, systems or method of construction as specified and shall be acceptable.

R101.6 Licensed HVAC contractors. All work involving HVAC as defined and required by KRS Chapter 198B shall be provided by a licensed Journeyman HVAC Mechanic working under the supervision of a licensed Master HVAC Contractor. The code official may require proof of licensure when making inspections.

R101.7 Plumbing contractors and inspections. All plumbing installations shall be performed under the supervision of a Kentucky Licensed Master Plumber according to law and shall be inspected and approved by the state plumbing inspector prior to usage pursuant to KRS Chapter 318 and 815 KAR Chapter 20. The code official may require proof of licensure when making inspections.

R101.8 Electrical contractors and inspections. All electrical installations shall be performed by licensed electricians according to law and shall be inspected by a certified electrical inspector pursuant to KRS 227.489 and KAR 35:015. The code official may require proof of licensure when making inspections.

SECTION R102
APPLICABILITY

R102.2 Other laws. Other local or state law shall be consulted to determine the existence of other powers given to the code official, such as those related to demolition or authority over unsafe structures; however, no local ordinance shall establish any additional or contradictory building construction standard than those adopted in this code. (change effective 09/24/08)

R102.5 Appendices. Provisions in the appendices of the 2006 International Residential Code shall not apply unless specifically referenced below.

R102.5.1 In-ground swimming pools. The provisions of Appendix G as amended in these regulations shall control the design and construction of in-ground swimming pools installed in or on the lot of a one- or two-family dwelling

R102.5.2 Appendix K, Sound transmission. The provisions found in Appendix K shall apply to wall and floor-ceiling assemblies separating dwelling units including those separating townhouses.

R102.7 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the locally adopted property maintenance code or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.

R102.8 Plumbing. The provisions of the *Kentucky State Plumbing* Code shall apply to the installation, alteration, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances.

R102.9 Electrical. The electrical system shall be installed in compliance with NFPA 70 as adopted by the Commonwealth of Kentucky.

SECTION R103
DEPARTMENT OF BUILDING SAFETY

R103.2.1 Certified inspectors. The local government shall provide at least one Kentucky Certified Building Inspector, Level I, pursuant to 815 KAR 7:070, and certified electrical inspector, certified according to 815 KAR 35:015. The local government shall report the name of all inspectors to the Department and the Department shall be notified of any changes in inspection personnel. To enforce the residential code only, the local government shall provide at least one inspector that has achieved_1 & 2 Family Dwelling Certification.

SECTION R104
DUTIES AND POWERS OF THE BUILDING OFFICIAL

R104.10.1 Areas prone to flooding. The building official shall not grant modifications to any provisions related to areas prone to flooding as established by local jurisdiction without the granting of a variance to such provisions by the board of appeals.

SECTION 105
PERMITS

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

Building:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11.15 m^2).

2. Fences not over 6 feet (1829 mm) high.

3. Retaining walls that are not over 4 feet (1219 mm) in height measured from grade at the bottom of the wall to the top of the wall.

4. Water tanks supported directly upon grade if the capacity does not exceed 5000 gallons (18927L) and the ratio of height to diameter or width does not exceed 2 to 1.

5. Sidewalks and driveways.

6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.

7. Swings and other playground equipment.

8. Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.

Electrical:

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

Radio and television transmitting stations. The provisions of this code shall not apply to electrical equipment used for radio and television transmissions.

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

Gas:

1. Portable heating appliance.

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

3. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

Mechanical:

1. Portable heating appliance;

2. Portable ventilation equipment;

3. Portable cooling unit;

4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.

5. Replacement of any part which does not alter its approval or make it unsafe.

6. Portable evaporative cooler;

7. Self-contained refrigeration system containing 10 pounds (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.

8. Portable-fuel-cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

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

The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

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

1. Identify and describe the work to be covered by the permit for which application is made.

2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work. New building or additions shall be accompanied by a copy of the current site survey bearing the seal and of a Kentucky Registered Land Surveyor, except the code official may, at the officials discretion, accept other proof of location.

2. Indicate the use and occupancy for which the proposed work is intended.

3. Be accompanied by construction documents and other information as required by Section 106.3.

4. Give such other data and information as required by the building official.

R105.3.1.1 Determination of substantially improved or substantially damaged existing buildings in flood hazard areas. For applications for reconstruction, rehabilitation, addition or other improvement of existing buildings or structures located in an area prone to flooding as established by local jurisdiction the building official shall examine or cause to be examined the construction documents and shall prepare a finding with regard to the value of the proposed work. For buildings that have sustained damage of any origin, the value of the proposed work shall include the cost to repair the building or structure to its predamage condition. If the building official finds that the value of proposed work equals or exceeds 50 percent of the market value of the building or structure before the damage has occurred or the improvement is started, the finding shall be provided to the board of appeals for a determination of substantial improvement or substantial damage. Applications determined by the board of appeals to constitute substantial improvement or substantial damage shall meet the requirements of Section R324.

SECTION R106
CONSTRUCTION DOCUMENTS

R106.1 Submittal documents. Construction documents, and other data shall be submitted in one or more sets with each application for permit. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Exception: The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that

the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code.

R106.1.3 Information for construction in flood hazard areas. For buildings and structures located in whole or in part in flood hazard areas as established by local jurisdiction construction documents shall include:

1. Delineation of flood hazard areas, floodway boundaries and flood zones and the design flood elevation, as appropriate.

2. The elevation of the proposed lowest floor, including basement; in areas of shallow flooding (AO zones), the height of the proposed lowest floor, including basement, above the highest adjacent grade; and

3. The elevation of the bottom of the lowest horizontal structural member in coastal high hazard areas (V zone); and
4. If design flood elevations are not included on the community's Flood Insurance Rate Map (FIRM), the building official and the applicant shall obtain and reasonably utilize and design flood elevation and floodway data available from other sources.

R106.2 Site plan. The construction documents submitted with the application for permit shall be accompanied by a site plan showing the size and location of new construction and existing structures on the site and distances from lot lines, the established street grades and the proposed finished grades; and it shall be drawn in accordance with an accurate boundary line survey. In case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

106.5 Retention of construction documents. The building official, as required by the Kentucky Department of Libraries and Archives administrative regulations, shall retain approved construction documents.

SECTION R107
TEMPORARY STRUCTURES AND USES

R107.3 Temporary power. The building official and the applicable licensed and certified inspector listed in Section 101.8 are authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in NFPA 70.

SECTION R108
FEES

R108.2.1 Work commencing before permit issued. Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits may be subject to an additional fee established by the building official which shall be in addition to and equal in the amount of the original fee but not less than $500.

R108.6 Accounting. The code official shall keep an accurate account of all fees collected and such collected fees shall be deposited monthly in the jurisdiction treasury, or otherwise disposed of as required by law.

SECTION R109
INSPECTIONS

R109.1 Types of inspections. From time to time, construction or work for which a permit is required shall be subject to inspection by the building official and such construction or work shall remain accessible and exposed for inspection purposes until approved. The building official shall either approve that portion of the construction as completed or shall notify the permit holder or his or her agent wherein the same fails to comply with this code. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

R109.1.3 Floodplain inspections. For construction in areas prone to flooding as established by local jurisdiction, upon placement of the lowest floor, including basement, and prior to further vertical construction, the building official shall require submission of documentation, prepared and sealed by a registered design professional, of the elevation of the lowest floor, including basement, required in Section R324.

R109.1.6 Industrialized building system inspections. The inspection of all buildings classified as industrialized building systems, regardless of size or occupancy classification, shall be in accordance with this section.

R109.1.6.1 Off-site construction. In-plant inspections in production and manufacturing facilities for industrialized building systems shall be conducted by the Department or its authorized agent.

R109.1.6.2 On-site construction. On-site construction related to modular homes or one- and two-family dwelling installations may be permitted and inspected by the local code official having jurisdiction upon notice from the Department of an approved modular home. The local code official having jurisdiction shall be responsible for inspection of the foundation system, placement of the building, connection of the units, final set-up of the units and issuance of the certificate of occupancy. The local code official shall be responsible for inspection of these systems for zoning, water supply and sewage disposal, and other applicable local ordinance purposes.

R109.1.7 Final inspections. Upon completion of the building, the owner or agent of the facility shall request a final inspection. The code official shall set a time for the inspection and notify the owner or agent. If substantial compliance with the approved construction documents and permit has been achieved, a certificate of occupancy shall be issued, as described in Section R110. If compliance has not been achieved, violations of the approved construction documents and permit shall be noted and immediately communicated to the owner, agency and other person holding the permit. It shall be the owner's responsibility and the responsibility of the person responsible for the construction work to fulfill any compliance deficiencies noted.

SECTION R111
SERVICE UTILITIES

R111.1 Connection of service utilities. No person shall make connections from a utility, source of energy, fuel or power to any building or system that is regulated by *this code* for which a permit is required, until approved by the building official and the applicable licensed and certified inspector listed in sections R101.7 and R101.8

R111.2 Temporary connection. The building official and the applicable licensed and certified inspector listed in Section 101.8 have the authority to authorize and approve the temporary connection of the building or system to the utility, source of energy, fuel or power.

SECTION R112
LOCAL BOARD OF APPEALS

R112.1 Local appeals board. Local appeals boards may be appointed to hear appeals from the decisions of the local code official in accordance with the provisions of R112.1.1 through R112.1.4.

R112.1.1 Appointment. The mayor or county judge executive of a local government which is enforcing the International Building Code may, upon approval of the local legislative body, appoint a local appeals board, consisting of at least five technically qualified persons with professional experience related to the building industry, three of which shall not be employees of the local government, to hear appeals from the decisions of the local code official regarding building code requirements.

R112.1.2 Cooperative agreements. Local governments which are enforcing the International Residential Code may co-operate with each other and provide a local appeals board and shall adhere to the provisions of KRS Chapter 65 when entering into a cooperative agreement.

R112.1.3 Disqualification of member. Local code officials or employees of a local inspection department shall not sit on a local appeals board if the board is hearing an appeal to a decision rendered by the local department. A member of a local appeals board shall not hear an appeal in a case in which the member has a financial interest.

R112.1.4 Right to appeal. Any party to a decision by the lo-cal code official may appeal that decision to the local appeals board. Upon receipt of an appeal from a qualified party, the local appeals board shall convene a hearing to consider the appeal within 15 days of receipt.

R112.2 Notice of meeting. All parties to the appeal shall be notified of the time and place of the hearing by letter sent by certified mail not later than ten days prior to the date of the hearing.

R112.3 Board decision. The local appeals board shall render a decision within five working days after the hearing. The board may uphold, amend or reverse the decision of the local code official, and there shall be no appeal from the decision of the local appeals board other than by appeal to the Board of Housing, Buildings and Construction.

R112.4 Open hearing. All hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any all persons whose interests are affected shall be given an opportunity to be heard.

R112.4.1 Procedure. The board shall adopt and make avail-able to the public through the secretary procedures under which a hearing will be conducted. The procedures shall not require compliance with strict rules of evidence but shall mandate that only relevant information is received.

R112.5 Board decision. The board shall modify or reverse the decision of the code official by a concurring vote of three members.

SECTION R115
PROOF OF INSURANCE

R115.1 Compliance with law. The issuance of a building permit shall be contingent upon presentation of proof to the effect that all contractors and subcontractors employed or that will be employed in the construction, alteration or repair under the permit are in compliance with the Kentucky law relating to worker's compensation and unemployment insurance.

R115.2 General applicability. Compliance with this section shall be achieved by presenting certificates or other forms approved by the Kentucky Labor Cabinet to the code official issuing the permit.

SECTION R116
STATE BOARD OF APPEALS

R116.1 General. All appeals from the decisions of local code officials shall be conducted in accordance with the appeals provisions of KRS 198B.070. Where a local appeals board exists, a party must first appeal to the local board when aggrieved by a decision of the local code official. The board shall further hear appeals directly from a party aggrieved by the decision of an agent of the department.

R116.2 Method of appeal. Application for appeal by a property owner or permittee may be made when it is claimed in writing that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction can be used, or that the code official has refused to grant a modification to the provisions of this code covering the manner of construction or material to be used in the erection, alteration or repair of a building or structure.

R116.3 Application procedure. Appeals to the board shall be in writing and shall be addressed to the Commissioner of the Department of Housing, Buildings and Construction, 101 Sea Hero Road, Suite 100, Frankfort, Kentucky 40601-5405; Attention: Appeals Board. The appeal shall include citations of those provisions of the Kentucky Residential Code which are at issue, an explanation of why the decision of the local code official relative to those provisions is being contested and a copy of the decision rendered by the local appeals board, if any.

R116.4 Investigation of appeal. The Commissioner shall immediately notify the board or the five-member committee authorized by the board when an appeal is received. The commissioner or a designated employee of the department shall then investigate the evidence pertaining to the appeal and, based on the results of the investigation, make written recommendations to the board or committee on the disposition of the case in question, within 30 days.

R116.5 Investigative authority. In conducting an investigation, the commissioner or the designated representatives, acting for the department, shall have the authority to administer oaths and affirmations, issue subpoenas authorized by law, rule upon offers of proof and receive relevant evidence, take or cause depositions to be taken, regulate the course of any hearings they may schedule, and hold conferences for the settlement or simplification of the issue by consent of the parties.

R116.6 Administrative hearing. Pursuant to KRS Chapter 13B, if the issue has not been settled by agreement of the parties, the Board shall schedule an administrative hearing on the matter. The cost of any appeal forwarded to the Department because there is no local appeals board shall be borne by the local government. The Department shall calculate the actual cost of processing the appeal and bill the local government at the conclusion of all proceedings.

R116.7 Judicial appeals. Final orders of the Board are appealable to the Circuit Court in the county in which the property is located.

SECTION R117
EFFECTIVE DATES

R117.1 General. Effective July 13, 2007 this code shall be mandatory and no permit shall be issued for construction under any other building code.

CHAPTER 2

DEFINITIONS

SECTION R202
DEFINITIONS

Add the following definitions:

Board or Board of Housing means the Kentucky Board of Housing, Buildings and Construction.

Building is defined by KRS 198B.010(4) and " means any combination of materials, whether portable or fixed, which comprises a structure or non-mine underground area affording facilities or shelter for any human occupancy, whether infrequent or regular, and also means single-family dwellings, including those sold or constructed under a trade or brand name. The word "building" shall be construed wherever used herein as if followed by the words "or part or parts thereof and all equipment therein" unless the context clearly requires a different meaning. "Building" shall also mean swimming pools constructed below grade on site, but not swimming pools assembled above grade on site. "Building" shall not mean a manufactured home governed by the National Manufactured Housing Construction and Safety Standards Act of 1974, 42 U.S.C. secs. 5401 et seq., or a farm dwelling or other farm buildings and structures incident to the operation and maintenance of the farm if the farm structures are located outside the boundary of a municipality and are not used in the business of retail trade or used as a place of regular employment for ten (10) or more people or structures used in the storage or processing of timber products.

Collar Beam/Tie A horizontal framing member connecting opposing rafter elements for stability.

Commissioner is defined by KRS 198B.010(9) and means the commissioner of housing, buildings and construction.

Farm means property having a bona fide agricultural or horticultural use as defined by KRS 132.010(9) and (10) which is qualified by and registered with the property valuation administrator in the county which the property is located.

Industrialized building system or building system is defined by KRS 198B.010(16) and means any structure or component thereof which is wholly or in substantial part fabricated in an off-site manufacturing facility for installation or assembly on a permanent foundation at the building site.

Knee Wall. Any short wall used as a part of the support for a roof structure.

KRS means the Kentucky Revised Statutes.

Manufactured home is defined by KRS 198B.010(23) and 227.550 and means a single-family residential dwelling constructed in accordance with the federal act, manufactured after June 15, 1976, and designed to be used as a single-family residential dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air conditioning, and electrical systems contained therein. The manufactured home may also be used as a place of business, profession, or trade by the owner, the lessee, or the assigns of the owner or lessee and may comprise an integral unit or condominium structure. Buildings the construction of which is not preempted by the federal act are subject to building code requirements of KRS Chapter 198B.

Modular home means an industrialized building system which is designed to be used as a residence and which is not a manufactured or mobile home.

Department means the Department of Housing, Buildings and Construction.

Ordinary repair is defined by KRS 198B.010(19) and means any nonstructural reconstruction or renewal of any part of an existing building for the purpose of its maintenance, or decoration, and shall include but not be limited to the replacement or installation of nonstructural components of the building such as roofing, siding, windows, storm windows, insulation, drywall or lath and plaster, or any other replacement, in kind, that does not alter the structural integrity, alter the occupancy or use of the building, or affect, by rearrangement, exitways and means of egress; but shall not include additions to, or alteration of, or relocation of any standpipe, water supply, sewer, drainage, gas, soil, waste, vent or similar piping, electric wiring, or mechanical equipment including furnaces and hot water heaters or other work affecting public health or safety.

Perpendicular Lumber Sheathing. For the purposes of this code, any lumber sheathing, either spaced or laid side-by-side having an angle of intersection with the rafter or joist of 60 degrees or greater.

Rational Analysis. Alternative analytical calculations, experimental data, published design data or other referenced citations that have been approved for use by the building official.

Repair. The reconstruction or renewal of any part of an existing building for the purpose of its maintenance. *See also "ordinary repair".*

CHAPTER 3

BUILDING PLANNING

SECTION R301
DESIGN CRITERIA

R301.1.1 Alternative provisions. As an alternative to the requirements in Section R301.1 the following standards are permitted subject to the limitations of this code and the limitations therein. Where engineered design is used in conjunction with these standards the design shall comply with the *International Building Code.*

1. American Forest and Paper Association (AF&PA) *Wood Frame Construction Manual* (WFCM).

2. American Iron and Steel Institute (AISI) Standard for Cold-Formed Steel Framing – Prescriptive Method for One- and Two-Family Dwellings (COFS/PM) with Supplement to Standard for Cold-Formed Steel Framing – Prescriptive Method for One- and Two-Family Dwellings.

3. Federal Emergency Management Administration, Homebuilders' Guide to Earthquake-Resistant Design and Construction, FEMA 232 – June 2006.

R301.2.2 Seismic provisions. The seismic provisions of this code shall apply to buildings constructed in Seismic Design Categories C, D_0, D_1, and D_2, as determined in accordance with this section. Buildings in Seismic Design Category E shall be designed in accordance with the *2006 International Building Code,* except when the Seismic Design Category is reclassified to a lower Seismic Design Category in accordance with Section R301.2.2.1.

Exceptions:

The following types of buildings or structures are exempt from the seismic requirements of this code:

1. Detached one- and two-family dwellings and their accessory structures located in Seismic Design Categories A, B or C.

2. Those dwellings which conform to the standards and principles set forth in the "Home Builder's Guide to Seismic Resistant Construction" issued by the Federal Emergency Management Agency (FEMA) in FEMA 232 (June 2006), which is incorporated by reference.

3. Where exceptions to the required provisions for Seismic Design Categories D_1, and D_2 can be shown to be justified by implementing the provisions of the Kentucky Building Code, a rational analysis design in accordance to the International Building Code may be used, subject to the approval of the building official.

The weight and irregularity limitations of Section R301.2.2.2 shall apply to buildings in all Seismic Design Categories regulated by the seismic provisions of this code. Buildings in Seismic Design Category C shall be constructed in accordance with the additional requirements of Section R301.2.2.3. Buildings in Seismic Design Categories D_0, D_1 and D_2 shall be constructed in accordance to the additional requirements of Section R301.2.2.4.

Exception: Where exceptions to the required provisions for Seismic Design Categories C, D_1 and D_2 can be shown to be justified by implementing the provisions of the Kentucky Building Code, a rational analysis design in accordance to the International Building Code may be used, subject to the approval of the Building Official.

R301.2.2.1. Determination of seismic design category. Buildings shall be assigned a seismic design category in accordance with Table R301.2.2.1.

R301.2.2.1.1 Alternate determination of seismic design category. The Seismic Design Categories and corresponding Short Period Design Spectral Response Accelerations, S_{DS} shown in Figure R301.2(2) are based on soil Site Class D, as defined in Section 1615.1.1 of the *International Building Code*, except that when S_s values exceed 75% (0.75 g) the 5% probability of exceedance values from the USGS 1996 National Seismic hazards map project shall be used for S_s. If the soil conditions are other than Site Class D, the Short Period Design Spectral Response Acceleration, $S_{DS,}$ for a site can be determined according to Section 1615.1 of the *International Building Code*. The value of S_{DS} determined according to Section 1615.1 of the *International Building Code* is permitted to be used to set the seismic design category according to Table R301.2.2.1.1, and to interpolate between values in Tables R602.10.1, R603.7, and other seismic design requirements of this code.

TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD	WIND SPEED[d] (mph)	SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM			ICE BARRIER UNDERLAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
			WEATHERING[a]	FROST Line depth[b]	Termite[c]				

For SI: 1 pound per square foot = 0.047kPa. 1 mile per hour = 0.447 m/s.

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible", "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.

b. The frost line depth shall be determined by Table R403.1.4. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the gable to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. Deleted

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Table R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the national Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the currently effective FIRM and FBFM, or other flood hazard map adopted by the community, as may be amended.

h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES". Otherwise, the jurisdiction shall fill in this part of the table with "NO".

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or fro the 100-year)99%) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32^{o} Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the national Climatic Data Center data table "Air Freezing Index-USA Method (Base 32^{o} Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

k. The jurisdiction shall fill in this part of the table with data for the specific county from Table R301.2.2.1.

TABLE R301.2.2.1
DESIGN SNOW AND SEISMIC LOADS FOR KENTUCKY COUNTIES

County	***Ground Snow Load*** p_g (psf)[a]	Seismic Design Category[b]	County	***Ground Snow Load*** p_g (psf)[a]	Seismic Design Category[b]
Adair	15	B	Knox	15	C
Allen	15	B	Larue	15	B
Anderson	15	B	Laurel	15	B
Ballard	15	D_2	Lawrence	15	B
Barren	15	B	Lee	15	B
Bath	15	B	Leslie	20	C
Bell	15[c]	C	Letcher	20[d]	C
Boone	20	B	Lewis	20	B
Bourbon	15	B	Lincoln	15	B
Boyd	20	B	Livingston	15	D_1
Boyle	15	B	Logan	15	C
Bracken	20	B	Lyon	15	D_0
Breathitt	15	B	McCracken	15	D_2
Breckinridge	15	C	McCreary	15	C
Bullitt	15	B	McLean	15	C
Butler	15	C	Madison	15	B
Caldwell	15	D_0	Magoffin	15	B
Calloway	15	D_0	Marion	15	B
Campbell	20	B	Marshall	15	D_1
Carlisle	15	D_2	Martin	20	B
Carroll	20	B	Mason	20	B
Carter	15	B	Meade	15	B
Casey	15	B	Menifee	15	B
Christian	15	C	Mercer	15	B
Clark	15	B	Metcalfe	15	B
Clay	15	C	Monroe	15	B
Clinton	15	B	Montgomery	15	B
Crittenden	15	D_0	Morgan	15	B
Cumberland	15	B	Muhlenberg	15	C
Daviess	15	C	Nelson	15	B
Edmonson	15	C	Nicholas	15	B
Elliott	15	B	Ohio	15	C
Estill	15	B	Oldham	15	B
Fayette	15	B	Owen	20	B
Fleming	15	B	Owsley	15	B
Floyd	20	B	Pendleton	20	B
Franklin	15	B	Perry	20	C
Fulton	15	D_2	Pike	20[c]	B
Gallatin	20	B	Powell	15	B
Garrard	15	B	Pulaski	15	B
Grant	20	B	Robertson	15	B
Graves	15	D_2	Rockcastle	15	B
Grayson	15	C	Rowan	15	B
Green	15	B	Russell	15	B
Greenup	20	B	Scott	15	B
Hancock	15	C	Shelby	15	B
Hardin	15	B	Simpson	15	C
Harlan	15[c]	C	Spencer	15	B
Harrison	15	B	Taylor	15	B
Hart	15	B	Todd	15	C
Henderson	15	C	Trigg	15	D_0
Henry	20	C	Trimble	20	B
Hickman	15	D_2	Union	15	D_0
Hopkins	15	C	Warren	15	C
Jackson	15	B	Washington	15	B
Jefferson	15	B	Wayne	15	B
Jessamine	15	B	Webster	15	C
Johnson	15	B	Whitley	15	C
Kenton	20	B	Wolfe	15	B
Knott	20	B	Woodford	15	B

For SI: 1 pound per square foot (psf) = 0.0479 kN/m^2.

a. Listed values of ground snow load, p_g, shall be used in accordance to Section R301.2.3 of this code.
b. Listed seismic design categories are the classifications to be used in conjunction with Section R301.2.2 of this code.
c. Ground snow load values for elevations above 2600 feet (792.480 m) in this county shall be based on site-specific case studies or by other approved means of rational analysis.
d. Ground snow load values for elevations above 2500 feet (762 m) in this county shall be based on site-specific case studies or by other approved means of rational analysis.

R301.2.2.2.2 Irregular buildings. Prescriptive construction as regulated by this code shall not be used for irregular structures located in Seismic design Categories C, D_0, D_1 and D_2. Irregular portions of structures shall be designed in accordance with accepted engineering practice to the extent the irregular features affect the performance of the remaining structural system. When the forces associated with the irregularity are resisted by a structural system designed in accordance with accepted engineering practice, design of the remainder of the building shall be permitted using the provisions of this code. A building or portion of a building shall be considered to be irregular when one or more of the following conditions occur:

1. When shear wall lines or braced wall panels are not in one plane vertically from the foundation to the uppermost story in which they are required.

Exception: For wood light-frame construction, floors with cantilevers, offsets, or setbacks not exceeding four times the nominal depth of the wood floor joists are permitted to support braced wall panels that are out of plane with braced wall panels below provided that:

1. Floor joists are nominal 2 inches by 10 inches (51 mm by 254 mm) or larger and spaced not more than 16 inches (406 mm) on center.

2. The ratio of the back span to the cantilever is at least 2 to 1.

3. Floor joists at ends of braced wall panels are doubled.

4. For wood-frame construction, a continuous rim joist is connected to ends of all cantilever joists. When spliced, the rim joists shall be spliced using a galvanized metal tie not less than 0.58 inch (1.5 mm) (16 gage) and 1 ½ inches (38 mm) wide fastened with six 16d nails on each side of the splice or a block of the same size as the rim joist of sufficient length to fit securely between the joist space at which the splice occurs fastened with eight 16d nails on each side of the splice; and

5. Gravity loads carried at the end of cantilevered joists are limited to uniform wall and roof loads and the reactions from headers having a span of 8 feet (2438 mm) or less.

2. When a section of floor or roof is not laterally supported by shear walls or braced wall lines on all edges.

Exceptions:

1. Portions of floors that do not support shear walls or braced wall panels above, or roofs, shall be permitted to extend no more than 6 feet (1829 mm) beyond a shear wall or braced wall line.

2. Portions of floors that do not support shear walls or braced wall panels above, or roofs, shall be permitted to extend no more than 25 feet (7,620 mm) or two-thirds of the width of the cantilever portion, whichever is less, beyond a shear wall or braced wall line provided that:

   a. If a roof deck, the overhang is continuously braced by a wood truss designed for the lateral load effects of the overhang, or shear walls or braced wall panels between the roof deck and ceiling. The bracing element shall be directly over the line of the lower braced wall system.

   b. All unsupported deck edges are continuously blocked and all edges are nailed with 8d common nails or not greater than 6” (152 mm) centers.

   c. A continuous double rim joist matching the dimensions of the joists, purlins or rafters is provided along the three open sides.

3. Where only one side of the section is unbraced, the length perpendicular to the unbraced side shall not exceed 25 feet nor have a ratio to the unbraced dimension of 1 for a one-story structure or 0.67 for other structures, whichever is less, provided:

    a. All unsupported deck edges within the section are continuously blocked and all edges are nailed with 8d common nails or not greater than 6" (152 mm) on center.

    b. A continuous rim joist matching the dimensions of the joists, purlins or rafters is provided along the unbraced side. On the other three sides there shall be a continuous joist, rim joist or blocking directly over the braced walls.

3. When the end of a braced wall panel occurs over an opening in the wall below and ends at a horizontal distance greater than 1 foot (305 mm) from the edge of the opening. This provision is applicable to shear walls and braced wall panels offset in plane and to braced wall panels offset out of plane as permitted by the exception to Item 1 above.

Exception: For wood light-frame wall construction, one end of a braced wall panel shall be permitted to extend more than 1 foot (305 mm) over an opening not more than 8 feet (2438 mm) wide in the wall below provided that the opening includes a header in accordance with the following:

1. The building width, loading condition and framing member species limitations of Table R502.5(1) shall apply and

2. Not less than on 2 x 12 or two 2 x 10 for an opening not more than 4 feet (1219 mm) wide or

3. Not less than two 2 x 12 or three 2 x 10 for and opening not more than 8 feet (1829 mm) wide or

4. Not less than three 2 x 12 or four 2 x 10 for an opening not more than 8 feet (2438 mm) wide and

5. The entire length of the braced wall panel does not occur over an opening in the wall below.

4. When an opening in a floor or roof exceeds the lesser of 12 feet (3657 mm) or 50 percent of the least floor of roof dimension.

Exception: The opening is bounded by braced walls within four feet of the opening on all four sides and running the full height of the structure. The braced walls shall bear on continuous foundations walls or the basement slab.

5. When portions of a floor level are vertically offset.

Exceptions:

1. Framing supported directly by continuous foundations at the perimeter of the building.

2. For wood light-frame construction, floors shall be permitted to be vertically offset when the floor framing is lapped or tied together as required by Section R502.6.1.

3. The offset occurs at a braced wall system over continuous foundations or a basement slab.

6. When shear walls and braced wall lines do not occur in two perpendicular directions.

7. When stories above-grade partially or completely braced by wood wall framing in accordance with Section R602 or steel framing in accordance with Section R603 include masonry or concrete construction.

Exception: Fireplaces, chimneys and masonry veneer as permitted by this code. When this irregularity applies, the entire story shall be designed in accordance with accepted engineering practice.

SECTION R302
EXTERIOR WALL LOCATION

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1. These provisions shall not apply to walls, projections, openings or penetrations in walls that are perpendicular to the line used to determine the fire separation distance. Projections beyond the exterior wall shall not extend more than 12 inches (305 mm) into the areas where openings are prohibited.

Exceptions:

1. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.

2. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).

3. Foundation vents installed in compliance with this code are permitted.

4. For building applications that have received local zoning approvals for plats or for preliminary concept or master plans prior to July 1, 2007, dwellings with a fire separation distance of less than three (3) feet from the property line shall be required to have at least a one-hour fire resistance rating and exposure from both sides and openings shall not be permitted. Projections and penetrations shall comply with Table R302.1.

5. Minimum Fire separation distances for exterior walls may be decreased to a minimum of three (3) feet from the property line if the exterior wall of the dwelling on the adjacent site is held by deed or other recorded land restriction at a distance from the property line which affords at least ten (10) feet between the exterior walls of the dwellings. Projections more than 12 inches beyond the exterior wall are prohibited..

R302.1.1 Continuity. The fire-resistance-rated wall shall be continuous from the foundation to the underside of the roof sheathing, deck or slab, and shall extend the full length of the wall or assembly, to a point where the fire separation distance no longer would require a fire-resistance rating of the exterior wall. (change effective 09/24/08)

R302.1.2 Parapets. Parapets shall be constructed on exterior walls of buildings in accordance with Section R317.2.2 and R317.2.3

Exceptions. A parapet need not be provided on an exterior wall where any of the following conditions exist:

1. The wall is not required to be fire-resistance rated in accordance with Table R302.1.

2. When the entire building is provided with a Class C roof covering, the exterior walls shall be permitted to terminate at the underside of the roof sheathing or deck provided:

   2.1 The roof sheathing or desk is constructed of approved non-combustible materials or of fire-retardant-treated wood for a distance of 4 feet (1220mm); or

   2.2 The roof is protected with one layer of 5/8 (15.9mm) Type X gypsum board directly beneath the roof sheathing or deck, supported by a minimum of nominal 2-inch (51mm) ledgers attached to the sides of the roof framing members for a minimum distance of 4 feet (1220mm).

3. Where the exterior wall is permitted to have a maximum of 25% unprotected openings based on fire separation distance based on Table R302.1.

(change effective 09/24/08)

TABLE R302.1
Exterior Walls

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	(Fire-resistance rated)	1 hour with exposure from both sides	0 Feet (0mm)
	(Not fire-resistance rated)	0 hours	5 Feet (1525 mm)
Projections	(Fire-resistance rated)	1 hour on the underside	2 Feet (305 mm)
	(Not fire-resistance rated)	0 hours	5 Feet (1525 mm) 4 Feet for roof overhangs
Openings	Not allowed	N/A	< 3 Feet (915 mm)
	25% Maximum of Wall Area	0 hours	3 Feet (915 mm)
	Unlimited	0 hours	5 Feet (1525 mm)
Penetrations	All	Comply with Section R317.3	< 5 Feet (1525 mm)
		None required	5 Feet (1525 (1525 mm)

SECTION R310
EMERGENCY ESCAPE AND

R310.1 Emergency escape and rescue. Every sleeping room shall have at least one operable emergency and rescue opening. Such opening shall open directly into a public street, public alley, yard or court. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches (1118 mm) above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with Section R310.2. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

SECTION R311
MEANS OF EGRESS

R311.4.3 Landings at doors. There shall be a floor or landing on each side of each exterior door. The floor or landing at the exterior door shall not be more than 1.5 inches (38 mm) lower than the top of the threshold. The landing shall be permitted to have a slope not to exceed 0.25 units vertical in 12 units horizontal (2-percent).

Exceptions:

1. Other than the required exit door, where the vertical elevation measured between the interior finish floor and the exterior finish grade, patio or deck does not exceed 30 inches, a landing is not required for the exterior side of the door provided the door, other than an exterior storm or screen door, does not swing over the stairway.

2. The exterior landing at an exterior doorway shall not be more than 8 ¼ inches (210 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door does not swing over the landing.

The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

R311.5.3.1 Riser height. The maximum riser height shall be 8 ¼ inches (210 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm)

R311.5.6.2 Continuity. Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1 ½ inch (38) between the wall and the handrails.

Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post at the turn.
2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.
3. Handrails within a dwelling unit shall be permitted to be discontinuous between the top and bottom of a flight of stairs where the ends of the discontinued rail are returned to a wall or post and the maximum distance between the ends of discontinued rails is not greater than 4 inches (102 mm).

R311.5.3.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than $^3/_8$ inch (9.5 mm). Winder treads shall have a minimum tread depth of 9 inches (229 mm) measured at a point 12 inches (305) mm from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12 inch (305 mm) walk line shall not exceed the smallest by more than $^3/_8$ inch (9.5 mm).

R311.5.6.3 Handrail grip size. All required handrails shall be of one of the following types or provide equivalent graspibility.

1. Type I. Handrails with a circular cross section shall have an outside diameter of at least 1 ¼ inches (32 mm) and not greater than 2 5/8 inches (67 mm). Other handrail shapes, including those complying with Figure R311.1 (a-f) are considered to be equivalent in graspability. If the handrail is not circular it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6 ¼ inches (160 mm) with a maximum cross section of dimension of 2 ¼ inches (57 mm).

2. Type II. Handrails with a perimeter greater than 6 ¼ inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of ¾ inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16 inch (8 mm) with 7/8 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least 3/8 inch (10 mm) to a level that is not less than 1 ¾ inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1 ¾ inches (32 mm) to a maximum of 2 ¾ inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

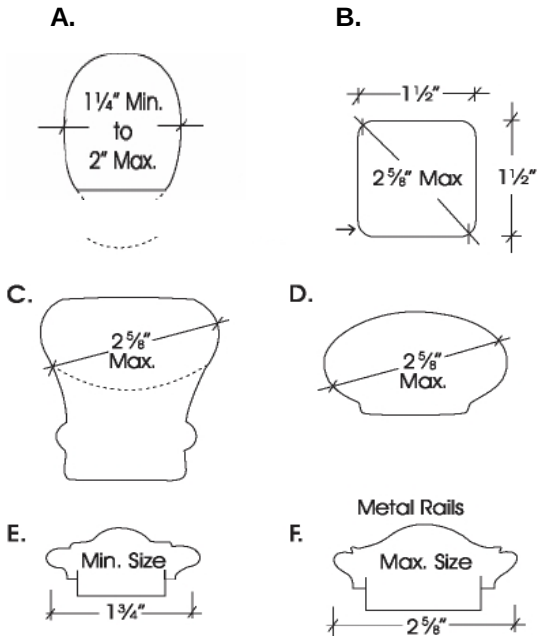


Figure 311.5.6.3

For SI: 1 inch =25.4 mm; 1 degree = 0.018 rad

SECTION R312
GUARDS

R312.3 Guards at retaining walls. Where retaining walls with differences in grade level on either side of the wall is in excess of 30 inches and are located closer than 3 feet to a walk, designated walking path or driveway on the high side, such retaining wall shall be provided with guards that are constructed in accordance with Section R312.1 and R312.2.

SECTION R313
SMOKE ALARMS

R 313.1 Smoke detection and notification. All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.

Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms in the event the system is not connected to a central station. (change eff. 07/29/09)

SECTION R319
PROTECTION AGAINST DECAY

R319.3 Fasteners. Fasteners for pressure preservative and fire-retardant-treated wood shall be of hot-dipped galvanized steel, stainless steel, silicon bronze or copper and/or as approved by the treated product manufacturer's requirements. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A 153.

Exceptions:

1. One-half-inch (12.7 mm) diameter or larger steel bolts.

2. Fasteners other than nails and timber rivets shall be permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B695, Class 55, minimum.

SECTION R325
CARBON MONOXIDE ALARMS
(effective 03-06-2011 mandatory enforcement 06-01-2011)

R325.1 Carbon monoxide alarms. For new construction, an approved carbon monoxide alarm shall be installed outside of each sleeping area in the in the immediate vicinity of all bedrooms in dwelling with which fuel-fired appliances are installed and in dwelling units that have attached garages.

R325.2 Where required in existing dwellings. Where work requiring a permit occurs within an existing dwelling equipped with fuel-fired appliance(s) or an existing dwelling that has an attached garage(s), the permitting authority shall inform the owner/occupant that carbon monoxide alarms are required to be installed in accordance with Section R325.1 of the code.

R325.3 Alarm requirements. Single station carbon monoxide alarms shall be listed as complying with UL 2034. Carbon monoxide alarms shall be installed in accordance with this code and the manufacturer's installation instructions.

CHAPTER 4

FOUNDATIONS

SECTION R401
GENERAL

R401.1 Application. The provisions of this chapter shall control the design and construction of the foundation and foundation spaces for all buildings. In addition to the provisions of this chapter, the design and construction of foundations in areas prone to flooding as established by local jurisdiction shall meet the provisions of Section R324. Wood foundations shall be designed and installed in accordance with AF&PA Report No. 7.

Exception: The provisions of this chapter shall be permitted to be used for wood foundations only in the following situations:

1. In building that have no more than two floors and a roof.

2. When interior basement and foundation wall are constructed at intervals not exceeding 50 feet (15240 mm).

Wood foundations in Seismic Design Category D_0, D_1 or D_2 shall be designed in accordance with accepted engineering practice.

TABLE R401.4.1
PRESUMPTIVE LOAD–BEARING VALUES OF FOUNDATION MATERIALS[a]

Class of Material	LOAD–BEARING PRESSURE (pounds per square foot)
Crystalline bedrock	12,000
Sedimentary and foliated rock	4,000
Sandy gravel and/or gravel (GW and GP)	3,000
Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000
Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1500[b,c]

For SI: 1 pound per square foot = 0.0479 kN/m^2.

a. When soil tests are required by Section R401.4, the allowable bearing capacities of the soil shall be part of the recommendations.

b. Where the building official determines that in–place soils with an allowable bearing capacity of less than 1,500 psf are likely to be present at the site, the allowable bearing capacity shall be determined by a soils investigation.

c. 2000 psf presumptive load-bearing value shall be used for Boone, Campbell and Kenton counties for CL and CH soils only.

SECTION R403
FOOTINGS

R403.1.4 Minimum depth. The minimum depth of all exterior footings and foundation wall systems shall extend not less than the minimum frost-protection depths (MFPD) specified in Table R403.1.4 and Figure R403.1.4. The minimum frost depth shall be measured from the proposed finished grade to the bottom of the footing. All site fills shall be prepared in accordance with the requirements of Section R401.2. The minimum frost-protection depths specified in Table R403.1.4 may be achieved by backfilling with non-compacted soil above the base of the footing to a depth equal to or greater than the required frost depth plus an additional 4 inches (102 mm). The maximum grade slope for frost protection shall not exceed 2 to 1 and the minimum grade slope shall comply with the drainage requirements of Section R401.3.

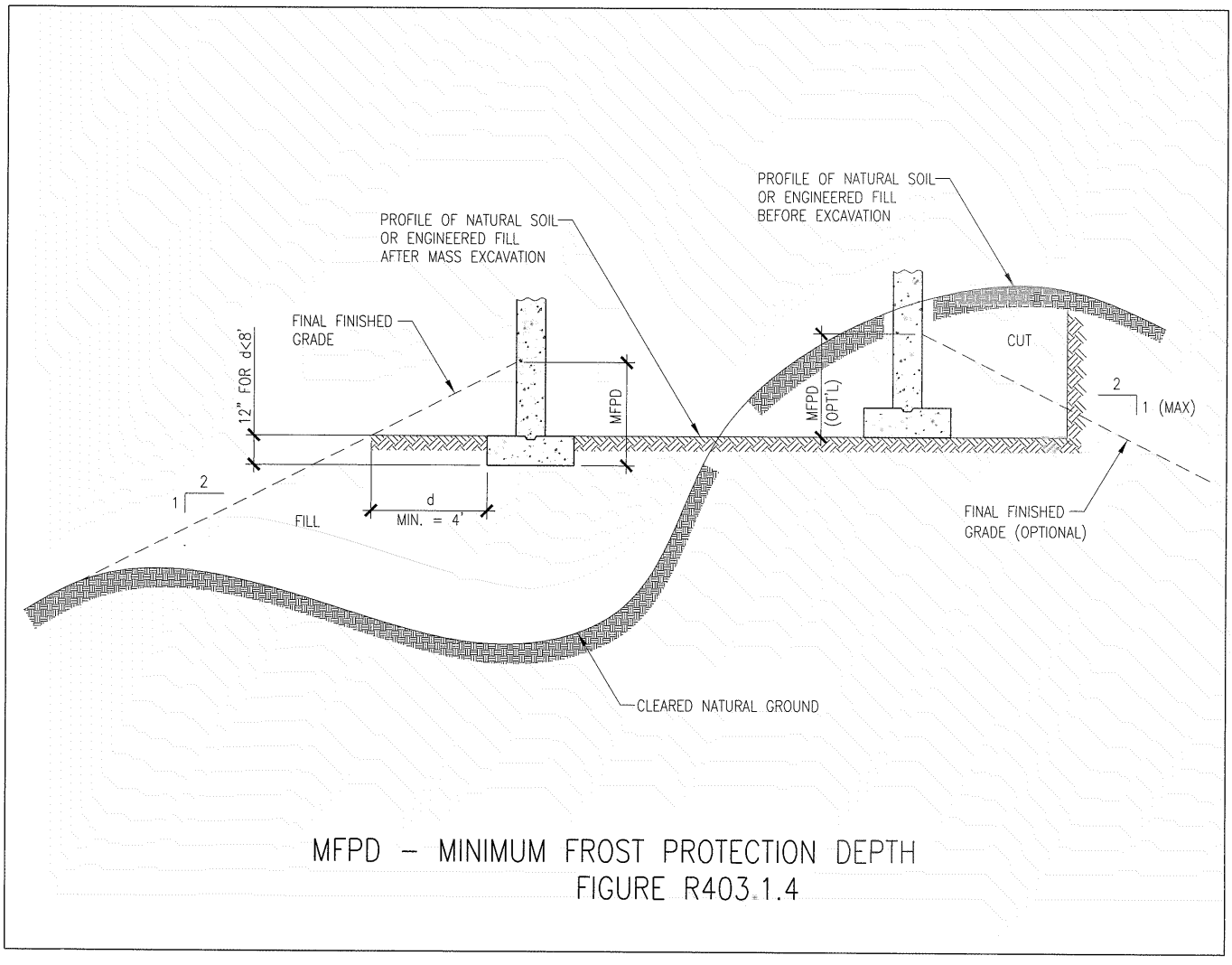
Footing and foundation systems may be formed on top of the finished prepared site grade of the cut side of the excavation when the excavation cut exceeds 28 inches (711 mm) and the MFPD may be achieved by backfilling the cut slope.

The “finished prepared site grade” shall be defined as the area exposed after clearing, grubbing, topsoil removal, and grading of the building pad, exposing stable ground.

Where applicable, the depth of footings shall also conform to Sections R403.1.4.1 through R403.1.4.2.

TABLE 403.1.4
MINIMUM FROST PROTECTION DEPTH FOR KENTUCKY

County	Frost Depth d (in)	County	Frost Depth d (in)	County	Frost Depth d (in)
Bell	27	Johnson	30	Magoffin	30
Boone	30	Kenton	30	Martin	33
Breathitt	30	Knott	33	Owsley	27
Campbell	30	Knox	27	Perry	30
Clay	27	Lawrence	27	Pike	33
Floyd	33	Leslie	30	**All other Ky Counties**	24
Harlan	30	Letcher	33		



MFPD – MINIMUM FROST PROTECTION DEPTH
FIGURE R403.1.4

SECTION R404
FOUNDATION AND RETAINING WALLS

R404.1 Concrete and masonry foundation walls. Concrete and masonry foundation walls shall be selected and constructed in accordance with the provisions of Section R404 or in accordance with ACI 318, ACI 332, NCMA TR68-A or other approved standards. When ACI 318, ACI 332 or ACI 530/ASCE 5/TMS 402 or the provisions of Section R404 are used to design concrete or masonry foundation walls, project drawings, typical details and specifications are not required to bear the seal of the architect or engineer responsible for design, unless otherwise required by the state law of the jurisdiction having authority.

TABLE R404.1.1(5)
CONCRETE FOUNDATION WALLSh,i,j,k

MAXIMUM WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHTb	MINIMUM VERTICAL REINFORCEMENT SIZE AND SPACINGc, d, e, f, l											
		Soil classes[a] and design lateral soil (psf per foot of depth)											
		GW, GP, SW and SP 30				GM, GC, SM, SM-SC and ML 45				SC, ML-CL and inorganic CL 60			
		Minimum wall thickness (inches)											
		5.5	7.5	9.5	11.5	5.5	7.5	9.5	11.5	5.5	7.5	9.5	11.5
5	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
6	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PCg	PC	PC	#4@35″	PCg	PC	PC
	6	PC	PC	PC	PC	#5@48″	PC	PC	PC	#5@36″	PC	PC	PC
7	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	PC	PC	PC	PC	#5@47″	PC	PC	PC
	6	PC	PC	PC	PC	#5@42″	PC	PC	PC	#6@43″	#5@48″	PCg	PC
	7	#5@46″	PC	PC	PC	#6@42″	#5@46″	PCg	PC	#6@34″	#6@48″	PC	PC
8	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	#4@38″	PCg	PC	PC	#5@43″	PC	PC	PC
	6	#4@37″	PCg	PC	PC	#5@37″	PC	PC	PC	#6@37″	#5@43″	PCg	PC
	7	#5@40″	PC	PC	PC	#6@37″	#5@41″m	PC	PC	#6@34″	#6@43″	PC	PC
	8	#6@43″	#5@47″	PCg	PC	#6@34″	#6@43″	PC	PC	#6@27″	#6@32″	#6@44″	PC
9	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	#4@35″	PCg	PC	PC	#5@40″	PC	PCe	PC
	6	#4@34″	PCg	PC	PC	#6@48″	PC	PC	PC	#6@36″	#5@39″	PCg	PC
	7	#5@36″	PC	PC	PC	#6@34″	#5@37″	PC	PC	#6@33″	#6@38″	#5@37″	PCg
	8	#6@38″	#5@41″	PCg	PC	#6@33″	#6@38″	#5@37″n	PCg	#6@24″	#7@39″	#6@39″	#4@48″h
	9	#6@34″	#6@46″	PC	PC	#6@26″	#7@41″	#6@41″	PC	#6@19″	#7@31″	#7@41″	#6@39″
10	4	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC
	5	PC	PC	PC	PC	#4@33″	PCg	PC	PC	#5@38″	PC	PC	PC
	6	#5@48″	PCg	PC	PC	#6@45″	PC	PC	PC	#6@34″	#5@37″	PC	PC
	7	#6@47″	PC	PC	PC	#6@34″	#6@48″	PC	PC	#6@30″	#6@35″	#6@48″	PCg
	8	#6@34″	#5@38″	PC	PC	#6@30″	#7@47″	#6@47″	PCg	#6@22″	#7@35″	#7@48”	#6@45”h
	9	#6@34″	#6@41″	#4@48″	PCg	#6@23″	#7@37″	#7@48″	#4@48″h	DR	#6@22″	#7@37″	#7@47″
	10	#6@28″	#7@45″	#6@45″	PC	DR	#7@31″	#7@40″	#6@38″	DR	#6@22″	#7@30″	#7@38″

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa; 1 pound per square foot per foot = 0.157 kPa/mm.

a. Soil classes are in accordance with the United Soil Classification System. Refer to Table R405.1

b. Unbalanced backfill height is the difference in height of the exterior and interior finish ground levels. Where there is an interior concrete slab, the unbalanced back- fill height shall be measured from the exterior finish ground level to the top of the interior concrete slab.

c. The size and spacing of vertical reinforcement shown in the table is based on the use of reinforcement with a minimum yield strength of 60,000 psi. Vertical reinforcement with a minimum yield strength of 40,000 psi or 50,000 psi is permitted, provided the same size bar is used and the spacing shown in the table is reduced by multiplying the spacing by 0.67 or 0.83, respectively.

d. Vertical reinforcement, when required, shall be placed nearest the inside face of the wall a distance d from the outside face (soil side) of the wall. The

distance d is equal to the wall thickness, t, minus 1.25 inches plus one-half the bar diameter, db (d = t - (1.25 + db/2). The reinforcement shall be placed within a tolerance of ± 3/8 inch where d is less than or equal to 8 inches, or ± 1/2 inch where d is greater than 8 inches.

e. In lieu of the reinforcement shown, smaller reinforcing bar sizes and closer spacings resulting in an equivalent cross-sectional area of reinforcement per linear foot of wall are permitted.

f. Concrete cover for reinforcement measured from the inside face of the wall shall not be less than $^3/_4$ inch. Concrete cover for reinforcement measured from the outside face of the wall shall not be less than $1^1/_2$ inches for No. 5 bars and smaller, and not less than 2 inches for larger bars.

g. The minimum thickness is permitted to be reduced 2 inches, provided the minimum specified compressive strength of concrete f'_c, is 4,000 psi.

h. A plain concrete wall with a minimum thickness of 11.5 inches is permitted, provided minimum specified compressive strength of concrete, f'_c, is 3,500 psi.

i. Concrete shall have a specified compressive strength of not less than 2,500 psi at 28 days, unless a higher strength is required by note g or h.

j. "DR" means design is required in accordance with ACI 318 or ACI 332.

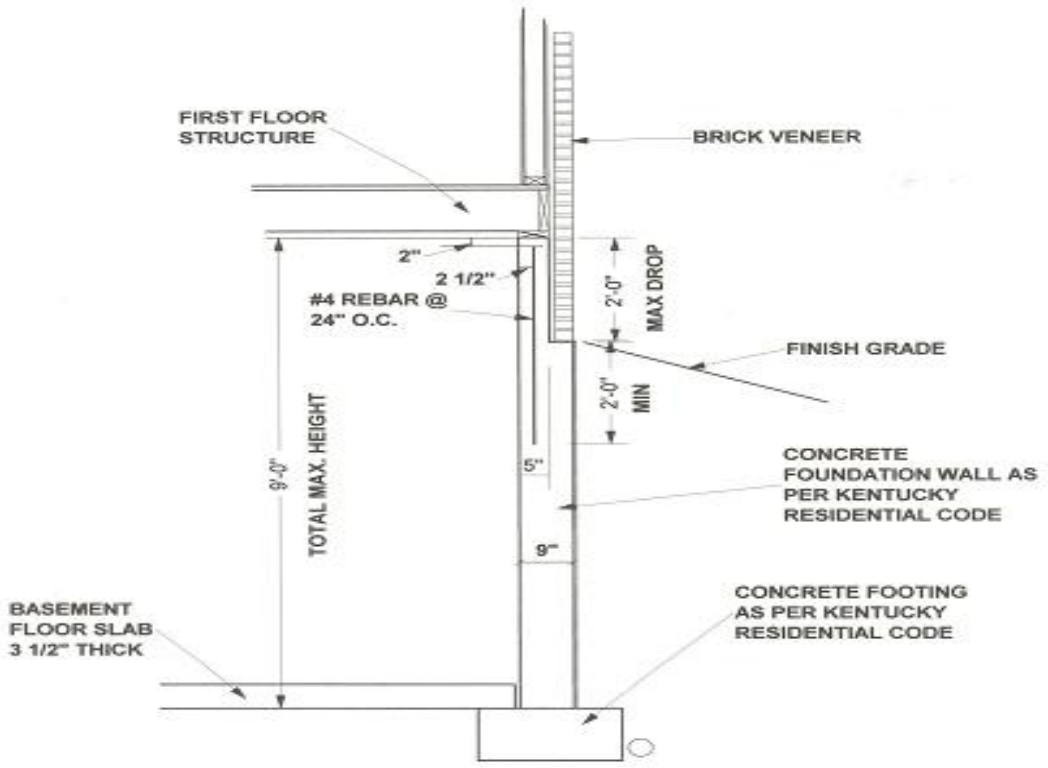
k. "PC" means plain concrete.

l. Where vertical reinforcement is required, horizontal reinforcement shall be provided in accordance with the requirements of Section R404.4.6.2 for ICF foundation walls.

m. For a minimum 8" thick concrete wall with a minimum specified compressive strength of concrete f'_c of 3000 psi, no wall *reinforcement is required.*

n. For a minimum 10" thick concrete wall with a minimum specified compressive strength of concrete f'_c of 3000 psi, no wall reinforcement is required.

R404.1.2 Concrete foundation walls. Concrete foundation walls shall be constructed as set forth in Table R404.1.1(5) and shall also comply with the provisions of Section R404 and the applicable provisions of Section R402.2. Concrete foundation walls with a brick drop stem wall and located within Jefferson, Bullitt, Oldham, Spencer and Shelby counties which are known to have soil with sufficient stiffness, shall be permitted to comply with Figure R404.1.2. In seismic Design Categories D_0, D_1 and D_2, concrete foundation walls shall also comply with Section R404.1.4.



ALTERNATE FOUNDATION WALL/BRICK DROP SECTION

Figure R 404.1.2

SECTION R408
UNDER-FLOOR SPACE

R408.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement) shall have ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 m^2) for each 150 square feet (14 m^2) of under-floor space area, unless the ground surface is covered by a Class 1 vapor retarder material. When a Class 1 vapor retarder material is used the minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 $m^{2)}$ for each 1,500 square feet (140 m^2) of under-floor space area. (change effective 07/29/09)

R408.2 Openings for under-floor ventilation. The minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 m^2) for each 150 square feet (14 m^2) of under floor area. One ventilation opening shall be within 3 feet (914 mm) of each corner of the building. Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed 1.4 inch (6.4 mm):

1. Perforated sheet metal plates not less than 0.070 (1.8 mm) thick.
2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick.
3. Cast-iron grill or grating.
4. Extruded load-bearing brick vents.
5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier.
6. Corrosion-resistant wire mesh, with the least dimension being 1/8 inch (3.2 mm) thick.

Exception: The total area of ventilation openings shall be permitted to be reduced to 1/1,500 of the under-floor area where the ground surface is covered with an approved Class 1 vapor retarder material and the required openings are placed so as to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited. (change effective 07/29/09)

Amend Chapter 5 of the 2007 Kentucky Residential Code (KRC) by creating new subsections to Section 502.2.2 to read as follows: (effective 1/06/2012)

R502.2.2.1 Decks ledger connection to band joist. For decks supporting a total design load of 50 pounds per square foot (2394 Pa) [40 pounds per square foot (1915 Pa) live load plus 10 pounds per square foot (479 Pa) dead load], the connection between a deck ledger of pressure-preservative-treated Southern Pine, incised pressure-preservative treated Hem-Fir or approved decay-resistant species, and a 2-inch (51 mm) nominal lumber band joist bearing on a sill plate or wall plate shall be constructed with ½-inch (12.7 m) lag screws or bolts with washers in accordance with Table R502.2.2.1. Lag screw, bolts and washers shall be hot-dipped galvanized or stainless steel.

R502.2.2.1.1 Placement of lag screws or bolts in deck ledgers. The lag screws or bolts shall be placed 2 inches (51mm) in from the bottom or top of the deck ledgers and between 2 and 5 inches (51 and 127 mm) in from the ends. The lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger.

R502.2.2.2 Alternate deck ledger connections. Deck ledger connections not conforming to Table R502.2.2.1 shall be designed in accordance with accepted engineering practice. Girders supporting deck joists shall not be supported on deck ledgers or band joists. Deck ledgers shall not be supported on stone or masonry veneer unless specifically designed by a design professional.

R502.2.2.3 Exterior wood/plastic composite deck boards. Wood/plastic composite deck boards shall be installed in accordance with the manufacturer's instructions.

TABLE R502.2.2.1
FASTNER SPACING FOR A SOUTHERN PINE OR HEM-FIR DECK DEDGER AND A 2-INCH NOMINAL SOLID-SAWN SPRUCE-PINE-FIR BAND JOIST[c, f, g]
(Deck live load = 40 psf, deck lead load = 10 psf)

JOIST SPAN	6' of less	6'1" to 8'	8'1" to 10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
Connection details	On-center spacing of fasteners [d, e]						
½ inch diameter lag screw with $^{15}/_{32}$ maximum sheathing [a]	30	23	18	15	13	11	10
½ inch diameter bolt with $^{15}/_{32}$ inch maximum sheathing	36	36	34	29	24	21	19
½ inch diameter bolt with 15/32 inch maximum sheathing and ½ inch stacked washers [b, h]	36	36	29	24	21	18	16

For SI: 1-inch = 25.4 mm, 1 foot = 304.8 mm. 1 pound per square foot = 0.0479kPa.

a. The tip of the lag crew shall fully extend beyond the inside face of the band joist.
b. The maximum gap between the face of the ledger board and face of the wall sheathing shall be ½ ".
c. Ledgers shall be flashed to prevent water from contacting the house band joist.
d. Lag screws and bolts shall be staggered n accordance with Section R502.2.2.1.1.
e. Deck ledger shall be minimum 2 x 8 pressure-preservative-treated No. 2 grade lumber, or other approved materials as established by standard engineering practice.
f. When solid-sawn pressure-preservative-treated deck ledgers are attached to a minimum 1 inch thick engineered wood product (structural composite lumber, laminated veneer lumber or wood structural panel band joist), the ledger attachment shall be designated in accordance with accepted engineering practice.
g. A minimum 1 x 9 ½ Douglas Fir laminated veneer lumber rimboard shall be permitted in lieu of the 2-inch nominal band joist.
h. Wood structural panel sheathing, gypsum board sheathing not exceeding 1 inch in thickness shall be permitted. The maximum distance between the face of the ledger board and the face of the band joist shall be 1 inch.

CHAPTER 6

WALL CONSTRUCTION

SECTION R602
WOOD WALL FRAMING

R602.10.6.1 Alternate braced wall panels. Alternate braced wall lines constructed in accordance with one of the following provisions shall be permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.10.4. The maximum height and minimum width of each panel shall be in accordance with Table R602.10.6:

1. In one-story building, each panel shall be sheathed on one face with 3/8 inch minimum thickness (10 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table R602.3(1) and blocked at all wood structural panel sheathing edges. Two anchor bolts installed in accordance with Figure R403.1(1) shall be provided in each panel. Anchor bolts shall be placed at panel quarter points. Each panel end stud shall have a tie-down device fastened to the foundation, capable of providing an uplift capacity in accordance with Table R602.10.6. The tie down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation which is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom. When the continuous foundation is required to have a depth greater than 12 inches (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than No. 4 bar top and bottom. This reinforcement shall be lapped 15 inches (381 mm) with the reinforcement required in the continuous foundations located directly under the braced wall line.

2. In the first story of two-story buildings, each braced wall panel shall be in accordance with Item 1 above, except that the wood structural panel sheathing shall be installed on both faces, sheathing edge mailing spacing shall not exceed 4 inches (102 mm) on center, at least three anchor bolts shall be placed at one-fifth points.

3. Use of minimum OSB and Thermoply wall sheathing requirements for one and two-story residences, which meet the 90 MPH (3 second gust) basic wind speed, as depicted in Table 602.10.1(1), 602.10.1(b), 602.10.1(a) or 602.10.2(b). (change effective 04/02/10)

Tables 602.10.1(a), 602.10.1(b), 602.10.2(a), and 602.10.2(b) on the following pages.

SECTION R613
EXTERIOR WINDOWS AND GLASS DOORS

R613.2 Window sills. Delete Section R613.2 of the IRC in its entirety.

Table 602.10.1(a)
MINIMUM OSB WALL SHEATING REQUIREMENTS FOR TWO STORY RESIDENCE TO MEET 90 MPH (3 SECOND GUST) BASIC WIND SPEED

(FIRST TO SECOND FLOOR)

EXPOSURE B (SUBURBAN)	
House Depth	15/32" OSB Exterior Sheathing Required Front and Rear Sheathing Length
20'	9'
24'	10'
28'	12'
32'	14'
36'	15'
40'	17'
44'	19'
48'	21'
52'	22'
56'	24'
60'	26'

EXPOSURE B (SUBURBAN)	
House Width	15/32" OSB Exterior Sheathing Side Wall Sheathing Length
50'	22'
60'	26'
70'	30'
80'	34'
90'	39'
100'	43'
110'	47'
120'	53'
130'	56'
140'	60'
150'	66'

Notes:

1. OSB sheathing to be 15/32" thick attached to studs with 10d nails at 4" o.c. at panel edges and 12" o.c. at intermediate supports. All panel edges to be blocked with 2x material.
2. Sheathing lengths to be additive with minimum segment length of 3' - 0".
3. Garage/house common wall can be used; 2 to 1 ratio with OSB, 3 to 1 with T-ply. (i.e. 20' wall length equals 10' effective sheathing length.)
4. Garage wall that includes the overhead garage door shall not be included in any of the provided wall length calculations.
5. If residence is located in rural area, increase required sheathing lengths by 1/3.
6. Maximum first floor ceiling height 10'- 0", maximum second floor ceiling height 9' - 0", maximum roof height above second floor ceiling 12' - 0".
7. Sheath all exterior garage walls with 15/32" OSB with nailing patterns per note 1.

Table 602.10.1(b)
MINIMUM OSB WALL SHEATING REQUIREMENTS FOR TWO STORY RESIDENCE TO MEET 90 MPH (3 SECOND GUST) BASIC WIND SPEED

(UPPER FLOOR OFTWO STORY RESIDENCE)

EXPOSURE B (SUBURBAN)	
House Depth	15/32" OSB Exterior Sheathing Required Front and Rear Sheathing Length
20'	6'
24'	8'
28'	9'
32'	10'
36'	12'
40'	13'
44'	14'
48'	15'
52'	17'
56'	18'
60'	19'

EXPOSURE B (SUBURBAN)	
House Width	15/32" OSB Exterior Sheathing Required Side Wall Sheathing Length
50'	16'
60'	19'
70'	22'
80'	26'
90'	29'
100'	32'
110'	35'
120'	38'
130'	42'
140'	45'
150'	48'

Notes:

1. OSB sheathing to be 15/32" thick attached to studs with 10d nails at 4" o.c. at panel edges and 12" o.c. at intermediate supports. All panel edges to be blocked with 2x material.
2. Sheathing lengths to be additive with minimum segment length of 3"-0".
3. Garage/house common wall can be used; 2 to 1 ratio with OSB, 3 to 1 ratio with T-ply. (i.e. 20' wall length equals 10' effective sheathing length.
4. Garage wall that includes the overhead garage door shall not be included in any of the provided wall length calculations.
5. If residence is located in rural area, increase required sheathing lengths by 1/3.
6. Maximum first floor ceiling height 10' – 0", maximum roof height above second floor ceiling 15' – 0".
7. Sheath all exterior garage walls with 15/32" OSB with nailing patterns per note 1.

Table 602.10.2(a)
MINIMUM THERMOPLY WALL SHEATING REQUIREMENTS FOR TWO STORY RESIDENCE TO MEET 90 MPH (3 SECOND GUST) BASIC WIND SPEED

(FIRST TO SECOND STORY RESIDENCE)

EXPOSURE B (SUBURBAN)	
House Depth	.135" T-PLY Exterior Sheathing Required Front and Rear Sheathing Length (each wall)
20'	10'
24'	12'
28'	13'
32'	15'
36'	17'
40'	19'
44'	21'
48'	23'
52'	25'
56'	26'
60'	28'

EXPOSURE B (SUBURBAN)	
House Width	.135" T-PLY Exterior Sheathing Required Front and Rear Sheathing Length (each wall)
40'	19'
50'	24'
60'	28'
70'	33'
80'	37'
90'	42'
100'	47'
110'	51'
120'	56'
130'	61'
140'	65'
150'	70'

Notes:

1. Thermoply to be 0.135" thick blue structural grade thermoply attached to studs with 16 gage x 7/16" or 1" crown x 1- ¼" long leg staples at 3" o.c. at all panel edges and 3" o.c. at all intermediate supports. Interior sheathing to be ½" thick gypsum wallboard attached to all studs and plates with 1-1/4" drywall screws spaced at 7" o.c. at all panel edges and 7" o.c. at all intermediate supports.
2. Sheathing lengths to be additive with minimum segment length of 2'-8".
3. Garage/house common wall can be used; 2 to 1 ratio with OSB, 3 to 1 ratio with T-ply. (i.e.20' wall length equals 10' effective sheathing length.
4. Garage wall that includes the overhead garage door shall not be included in any of the provided wall length calculations.
5. If residence is located in rural area, exposure "C", increase required sheathing lengths by 1.33.
6. Maximum first floor ceiling height 10' – 0", maximum second floor ceiling height 9'-0", maximum roof height above second floor ceiling 12' – 0".
7. Sheath all exterior garage walls with 0.135 thermoply with nailing patterns per note 1.
8. Each 2'-8" wall shall be fabricated with a minimum No. 2 grade 2 x 4 Spruce-Pine-Fir dimension lumber for the top plates, sill plates and studs. The framing shall consist of double top plates, double sill plates and double studs (without spacers) for the corner posts. The interior stud is a single member. Stud spacing is a nominal 16 inches (406 mm) on center. A single 2 x 4 horizontal cross bracing member shall be installed at the wall's mid-height in each stud cavity. The double studs shall be nailed together with 16d common or box nails staggered pattern, approximately 2 inches (51 mm) from the stud edge at 24 inches (610 mm) on center. The double top plates and double sill plates shall be nailed together with 16d common or box nails spaced 24 inches (610 mm) on center. The remaining framing is to be fastened according to Table R602.3(1) of the *International Residential Code.*
9. Thermoply can be used for 1 and 2 story buildings in seismic design categories A and B and in seismic design category C if total structure height is less than 35 feet. It can be used only on the top story in seismic design category D when structure is less than 35 feet. Thermoply cannot be used on structures located in seismic design category E and F.

Table 602.10.2(a)
MINIMUM THERMOPLY WALL SHEATING REQUIREMENTS FOR TWO STORY RESIDENCE TO MEET 90 MPH (3 SECOND GUST) BASIC WIND SPEED

(FIRST TO SECOND STORY RESIDENCE)

EXPOSURE B (SUBURBAN)	
House Depth	.135" T-PLY Exterior Sheathing Required Front and Rear Sheathing Length (each wall)
20'	10'
24'	12'
28'	13'
32'	15'
36'	17'
40'	19'
44'	21'
48'	23'
52'	25'
56'	26'
60'	28'

EXPOSURE B (SUBURBAN)	
House Width	.135" T-PLY Exterior Sheathing Required Front and Rear Sheathing Length (each wall)
40'	19'
50'	24'
60'	28'
70'	33'
80'	37'
90'	42'
100'	47'
110'	51'
120'	56'
130'	61'
140'	65'
150'	70'

Notes:

1. Thermoply to be 0.135" thick blue structural grade thermoply attached to studs with 16 gage x 7/16" or 1" crown x 1- ¼" long leg staples at 3" o.c. at all panel edges and 3" o.c. at all intermediate supports. Interior sheathing to be ½" thick gypsum wallboard attached to all studs and plates with 1-1/4" drywall screws spaced at 7" o.c. at all panel edges and 7" o.c. at all intermediate supports.
2. Sheathing lengths to be additive with minimum segment length of 2'-8".
3. Garage/house common wall can be used; 2 to 1 ratio with OSB, 3 to 1 ratio with T-ply. (i.e.20' wall length equals 10' effective sheathing length.
4. Garage wall that includes the overhead garage door shall not be included in any of the provided wall length calculations.
5. If residence is located in rural area, exposure "C", increase required sheathing lengths by 1.33.
6. Maximum first floor ceiling height 10' – 0", maximum second floor ceiling height 9'-0", maximum roof height above second floor ceiling 12' – 0".
7. Sheath all exterior garage walls with 0.135 thermoply with nailing patterns per note 1.
8. Each 2'-8" wall shall be fabricated with a minimum No. 2 grade 2 x 4 Spruce-Pine-Fir dimension lumber for the top plates, sill plates and studs. The framing shall consist of double top plates, double sill plates and double studs (without spacers) for the corner posts. The interior stud is a single member. Stud spacing is a nominal 16 inches (406 mm) on center. A single 2 x 4 horizontal cross bracing member shall be installed at the wall's mid-height in each stud cavity. The double studs shall be nailed together with 16d common or box nails staggered pattern, approximately 2 inches (51 mm) from the stud edge at 24 inches (610 mm) on center. The double top plates and double sill plates shall be nailed together with 16d common or box nails spaced 24 inches (610 mm) on center. The remaining framing is to be fastened according to Table R602.3(1) of the *International Residential Code.*
9. Thermoply can be used for 1 and 2 story buildings in seismic design categories A and B and in seismic design category C if total structure height is less than 35 feet. It can be used only on the top story in seismic design category D when structure is less than 35 feet. Thermoply cannot be used on structures located in seismic design category E and F.

CHAPTER 7

WALL COVERING

SECTION R703
EXTERIOR COVERING

R703.7.4.2 Air space. The veneer shall be separated from the sheathing by an air space of a minimum of 0.75 inch (19 mm) but not more than 4.5 inches (114mm). The weather-resistant membrane or asphalt-saturated felt required by Section R703.2 is not required over water-repellent sheathing materials

TABLE R703.4
WEATHER–RESISTANT SIDING ATTACHMENT AND MINIMUM THICKNESS

SIDING MATERIAL	NOMINAL THICKNESS[a] (inches)	JOINT TREATMENT	SHEATHING PAPER REQUIRED	TYPE OF SUPPORTS FOR THE SIDING MATERIAL AND FASTENERS[b,c,d]					
				Wood or wood structural panel sheathing	Fiberboard sheathing into stud	Gypsum sheathing into stud	Foam plastic sheathing into stud	Direct to studs	Number or spacing of fasteners
Horizontal aluminum[e] Without insulation	0.019[f]	Lap	Yes	0.120 nail 1 1/2" long	0.120 nail 2" long	0.120 nail 2" long	0.120 Nail[y]	Not allowed	Same as stud spacing
Horizontal aluminum[e] Without insulation	0.024	Lap	Yes	0.120 nail 1 1/2" long	0.120 nail 2" long	0.120 nail 2" long	0.120 Nail[y]	Not allowed	
Horizontal aluminum[e] With insulation	0.019	Lap	Yes	0.120 nail 1 1/2" long	0.120 nail 2 1/2" long	0.120 nail 2 1/2" long	0.120 Nail[y]	0.120 nail 1 1/2" long	
Brick veneer[z] Concrete masonry Veneer[z]	2 2	Section R703	Yes (Note l)	See Section R703 and Figure R703.7[g]					
Hardboard[k] Panel siding-vertical	7/16	-	Yes	Note n	Note n	Note n	Note n	Note n	6" panel edges 12~ inter. sup.[o]
Hardboard Lap-siding-horizontal	7/16	Note r	Yes	Note p	Note p	Note p	Note p	Note p	Same as stud spacing 2 per bearing
Steel[h]	29 ga.	Lap	Yes	0.113 nail 1 3/4" Staple–1 3/4"	0.113 nail 2 3/4" Staple–2 1/2"	0.113 nail 2 ½" nail[y] Staple–2 ¼"	0.113 nail[y] Staple[y]	Not allowed	Same as stud spacing
Stone veneer	2	Section R703	Yes (Note l)	See Section R703 and Figure R703.7[g]					
Particleboard panels	3/8 – ½	-	Yes	6d box nail (2" x 0.099")	6d box nail (2" x 0.099")	6d box nail (2" x 0.099")	box nail[y]	6d box nail (2"x0.099"), 3/8 not allowed	6" panel edge 12" inter. sup.
Particleboard panels	5/8	-	Yes	6d box nail (2" x 0.099")	8d box nail (2 ½" x 0.113")	8d box nail (2 ½" x 0.113")	box nail[y]	6d box nail (2"x0.099")	
Plywood panel[i] (exterior grade)	3/8	-	Yes	0.099 nail–2"	0.113 nail–2 1/2"	0.099 nail–2"	0.113 nail[y]	0.099 nail–2"	6" on edges 12" inter. sup.
Vinyl siding[m]	0.035	Lap	Yes	0.120 nail 1 1/2" Staple–1 3/4"	0.120 nail 2" Staple–2 1/2"	0.120 nail 2" Staple–2 1/2"	0.120 nail[y] Staple[y]	Not allowed	Same as stud spacing
Wood[j] Rustic, drop	3/8 Min	Lap	Yes	Fastener penetration into stud–1"				0.113 nail–2 1/2" Staple–2"	Face nailing up to 6" widths, 1 nail per bearing; 8" widths and over, 2 nails per bearing
Shiplap	19/32 Average	Lap	Yes						
Bevel	7/16								
Butt tip	3/16	Lap	No						
Fiber cement panel Siding[r]	5/16	Note s	Yes Note x	6d corrosion resistant nail[t]	6d corrosion resistant nail[t]	6d corrosion resistant nail[t]	6d corrosion resistant nail[t-y]	4d corrosion resistant nail[v]	6" oc on edges, 12" oc on intermed. studs
Fiber cement lap siding[r]	5/16	Note v	Yes Note x	6d corrosion resistant nail[t]	6d corrosion resistant nail[t]	6d corrosion resistant nail[t]	6d corrosion resistant nail[t-y]	6d corrosion resistant nail[w]	Note w

For SI: 1 inch = 25.4 mm.

a. Based on stud spacing of 16 inches on center where studs are spaced 24 inches, siding shall be applied to sheathing approved for that spacing.
b. Nail is a general description and shall be T–head, modified round head, or round head with smooth or deformed shanks.
c. Staples shall have a minimum crown width of $^{7}/_{16}$–inch outside diameter and be manufactured of minimum No. 16 gage wire.
d. Nails or staples shall be aluminum, galvanized, or rust–preventive coated and shall be driven into the studs for fiberboard or gypsum backing.
e. Aluminum nails shall be used to attach aluminum siding.
f. Aluminum (0.019 inch) shall be unbacked only when the maximum panel width is 10 inches and the maximum flat area is 8 inches. The tolerance for aluminum siding shall be +0.002 inch of the nominal dimension.
g. All attachments shall be coated with a corrosion-resistant coating.
h. Shall be of approved type..
i. Three-eighths-inch plywood shall not be applied directly to studs spaced greater than 16 inches on center when long dimension is parallel to studs. Plywood ½ - inch or thinner shall not be applied directly to studs spaced greater than 24 inches on center. The stud spacing shall not exceed the panel span rating provided by the manufacturer unless the panels are installed with the face grain perpendicular to studs or over sheathing approved for that stud spacing.
j. Wood board sidings applied vertically shall be nailed to horizontal nailing strips or blocking set 24 inches on center. Nails shall penetrate 1 ½ inches into studs, studs and wood sheathing combined, or blocking. A weather-resistive membrane shall be installed weatherboard fashion under the vertical siding unless the siding boards are lapped or battens are used.
k. Hardboard siding shall comply with AHA A135.6.
l. For masonry veneer, a weather-resistive sheathing paper is not required over a sheathing that performs as a weather-resistive barrier when a ¾ inch air space is provided between the veneer and the sheathing. When the ¾ inch space is filled with mortar, a weather-resistive sheathing paper is required over studs or sheathing.
m. Vinyl siding shall comply with ASTM D 3679.
n. Minimum shank diameter of 0.092 inch, minimum head diameter of 0.225 inch, and nail length must accommodate sheathing and penetrate framing 1 ½ inches.
o. When used to resist shear forces, the spacing must be 4 inches at panel edges and 8 inches on interior supports.
p. Minimum shank diameter of 0.099 inch, minimum head diameter of 0.240 inch, and nail length must accommodate sheathing and penetrate framing 1 ½ inches.
q. Vertical end joints shall occur at studs and shall be covered with a joint cover or shall be caulked.
r. Fiber cement siding shall comply with the requirements of ASTM C 1186.
s. See Section R703.10.1.
t. Minimum 0.102" smooth shank, 0.255" round head.
u. Minimum 0.099" smooth shank, 0.250" round head.
v. See Section R703.10.2.
w. Face nailing: 2 nails at each stud. Concealed nailing: one 11 gage 1 ½ galv. roofing nail (0.371" head diameter, 0.120" shank) or 6d galv. box nail at each stud.
x. See Section R703.2, exceptions.
y. Minimum nail length must accommodate sheathing and penetrate framing 1 ½ inches.
z. Adhered masonry veneer shall comply with the requirements in Sections 6.1 and 6.3 of ACI 530/ASCE 5/TMS-402.

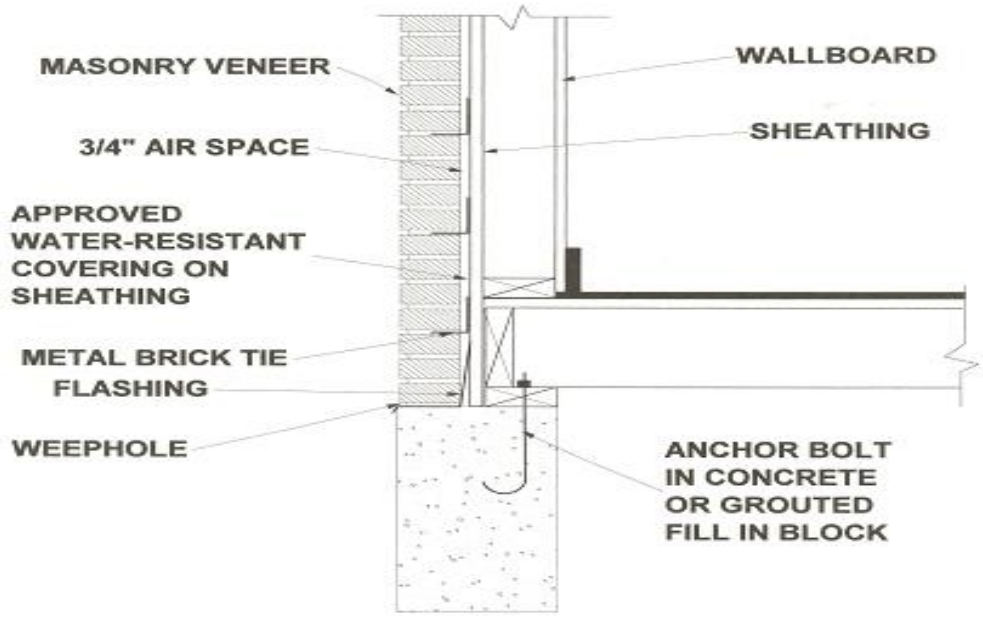


FIGURE R703.7

CHAPTER 8

ROOF-CEILING CONSTRUCTION

SECTION R802
WOOD ROOF FRAMING

R802.3.1 Ceiling joist and rafter connections. Ceiling joists and rafters shall be nailed to each other in accordance with Table R802.5.1(9) and the rafter shall be fastened to the top plate by the use of approved connectors having a resistance to uplift of not less than 175 pounds (79.45 kg.) and shall be installed in accordance with the manufacturer's specifications. Ceiling joists shall be continuous or securely joined in accordance with Table R802.5.1(9) where they meet over interior partitions and are nailed to adjacent rafters to provide a continuous tie across the building when such joists are parallel to the rafters.

Where ceiling joists are not connected to the rafters at the top wall plate, joists connected higher in the attic shall be installed as rafter ties, or rafter ties shall be installed to provide a continuous tie. Where ceiling joists are not parallel to rafters, rafter ties shall be installed. Rafter ties shall be a minimum of 2-inch by 4-inch (51 mm by 102 mm) (nominal), installed in accordance with the connection requirements in Table R802.5.1(9), or connections of equivalent capacities shall be provided. Where ceiling joists or rafter ties are not provided, the ridge formed by these rafters shall be supported by a wall or girder designed in accordance with accepted engineering practice.

Collar ties or ridge straps to resist wind uplift shall be connected in the upper third of the attic space in accordance with Table R602.3(1).

Collar ties shall be a minimum of 1-inch by 4-inch (25 mm by 102 mm) (nominal), spaced not more than 4 feet (1219 mm) on center.

Create a new section to read as follows:

R802.12. Roof framing in Seismic Design Category D_0, D_1 and D_2. Braced walls and shear walls in the story below the roof shall be provided with a continuous load path in the direction of the wall to the roof deck by means of parallel roof framing or trusses. Where trusses or ceiling joists are not located directly over the braced wall or shear wall, 2x4 nominal blocking shall be provided between the adjacent joists or trusses. Blocking shall be attached at the joists and the wall plate, spaced at 48-inch (1219 mm) maximum centers for Seismic Design Category D_0 and D_1, and at 24-inch (607 mm) maximum centers for Seismic Design Category D_2. Where roof framing is perpendicular to the braced wall, diagonal bracing consisting of not less than 2x4 nominal lumber and having a slope of not greater than 50 degrees from the horizontal may be used. Brace members and blocking shall be secured to the wall plate, joists and rafters with two 16d nails at each connection. Brace members shall be laterally supported on no greater than 75-inch (1905 mm) centers or shall have the thickness increased proportionally to the actual unbraced length with respect to a 75-inch (1905 mm) limit.

SECTION R803
ROOF SHEATHING

R803.1 Lumber sheathing. Allowable spans for lumber used as roof sheathing shall conform to Table R803.1. Spaced lumber sheathing for wood shingle and shale roofing shall conform to the requirements of Sections R905.7 and R905.8. Perpendicular lumber sheathing is not allowed in Seismic Design Categories D_1 and D_2.

CHAPTER 11

ENERGY EFFICIENCY

N1101.1 Scope. This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code.

Exceptions:

1. Portions of the building envelope that do not enclose conditioned space.

2. Compliance demonstrated by meeting requirements of Section 102.1.1 of the International Energy Conservation Code.

N1101.2 Compliance. Compliance shall be demonstrated by. meeting the requirements of the *Internatonal Energy Conservation Code* and Section N1101.2.1 of this code where applicable.

N1101.2..1 Basement walls. Exterior walls associated with conditioned basements shall be insulated from the inside or outside of the basement wall from the top of the basement wall down to the design frost depth in accordance with Section R403.1.4. Walls associated with unconditioned basements shall meet this requirement unless the floor overhead is insulated in accordance with Sections 402.1.1 and 402.2.6 of the *International Energy Conservation Code* .

Delete the rest of Chapter 11

(effective January 6, 2010)

CHAPTER 13
GENERAL MECHANICAL SYSTEM REQUIREMENTS

SECTION M1301
GENERAL

M1301.1. Scope. The provisions of this chapter shall govern the installation of mechanical systems not specifically covered in other chapters applicable to mechanical systems. Installation of mechanical appliances, equipment and systems not addressed by this code shall comply with the applicable provisions of the International Mechanical Code and the NFPA 54 National Fuel Gas Code. (change effective 04/02/10)

CHAPTER 17
COMBUSTION AIR

Delete Chapter 17 in its entirety and replace with the following:

M1701.1 NFPA 54. The provisions of NFPA 54 National Fuel Gas Code shall apply to all fuel gas, combustion air, chimney, venting and special fuel-burning equipment installations.
(change effective 04/02/10)

CHAPTER 18
CHIMNEYS AND VENTS

Delete Chapter 18 in its entirety and replace with the following:

M1801.1 NFPA 54. The provisions of NFPA 54 National Fuel Gas Code shall apply to all fuel gas, combustion air, chimney, venting and special fuel-burning equipment installations. (change effective 04/02/10)

CHAPTER 19
SPECIAL FUEL-BURNING EQUIPMENT

Delete Chapter 19 in its entirety and replace with the following:

M1901.1 NFPA 54. The provisions of NFPA 54 National Fuel Gas Code shall apply to all fuel gas, combustion air, chimney, venting and special fuel-burning equipment installations. (change effective 04/02/10)

CHAPTER 20
BOILERS AND WATER HEATERS

Modify Chapter 20 by deleting the entire section and replace with the following language.

M2001.1 Referenced Code and Standard. The provisions contained in the *2007 Kentucky State Plumbing Code* and *2003 Kentucky State Boiler and Pressure Vessel and Piping Law* and the requirements contained within the *NFPA 54 National Fuel Gas Code* shall apply to all Boiler/Water Heater installations. (change effective 04/02/10)

CHAPTER 24
FUEL GAS

Modify Chapter 24 by deleting the entire chapter and replace with the following language.

G2401.1 Application. Installations of mechanical appliances, equipment and systems not addressed by this code shall comply with the applicable provisions of the International Mechanical Code and the NFPA 54 National Fuel Gas Code.

CHAPTERS 25 THRU 42

Delete all of Chapters 25 thru 32 of the IRC for they deal with plumbing and the International Plumbing Code. All plumbing shall meet the applicable requirements of the Kentucky State Plumbing Code as is addressed in our modified version of Chapter 1.

Delete all of Chapters 33 thru 42 of the IRC for they deal with electrical system and the International electrical Code. All electrical work shall meet the applicable requirements of the NFPA 70 as is addressed in Chapter 1.

CHAPTER 43
REFERENCED STANDARDS

KENTUCKY CODES

Department of Housing, Buildings and Construction
101 Sea Hero Road, Suite 100
Frankfort, Kentucky 40601-5405

Standard Reference Number	Title	Referenced in code section number
KPC-07	Kentucky State Plumbing Code	Chapters 25 thrru32
KSB & PV & PL-03	Kentucky State Boiler and Pressure Vessel and Piping Law	M2001.1

FEMA

500 C. Street SW
Washington, D.C. 20472

Standard Reference Number	Title	Referenced in code section number
FEMA 232 – June, 2006	Home Builders Guide to Seismic Resistant Construction	R301.1.1, R301.2.2

ICC

International Code Council
5203 Leesburg Pike
Falls Church, VA 22041

Standard Reference Number	Title	Referenced in code section number
IBC-06	International Building Code®	22.1, R324.1, R324.1.15, R403.1.8, R1001.8.2, G2402.3
IECC-09(change effective 1/6/12)	International Energy Conservation Code®	R104.11
IFC-06	International Fire Code®	R102.7, G2402.3, G2412.2, G2423.1
IMC-06	International Mechanical Code®	R104.11. M2106.1, G2402.3

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269-9101

Standard Reference Number	Title	Referenced in code section number
70-11 (change effective 1/6/12)	National Electric Code	R102.9 and Chapters 33 thru 42
54-09 (change effective 1/6/12)	National Fuel Gas Code	M1301.1, M1701.1, M1801.1, M2001.1, G2401.1

APPENDIX G

SWIMMING POOLS

SECTION AG101
General

AG101.1 General. The provisions of this appendix shall control the design and construction of swimming pools installed in or on the lot of a one-or two-family dwelling.

SECTION AG102 DEFINITIONS

AG102.1 General. For the purpose of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2

BARRIER. A fence,wall, building wall or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

IN-GROUND POOL. See "Swimming Pool".

RESIDENTIAL. That which is situated on the premises of a detached one- or two-family dwelling or a one-family townhouse not more than there stories in height.

SWIMMING POOL. Any in-ground structure intended for swimming or recreational bathing that contains water over 24 inches (610mm) deep.

Swimming Pool Indoor. A swimming pool which is totally contained within a structure and surrounded on all four sides by the walls of the enclosing structure.

Swimming Pool Outdoor. Any swimming pool which is not an indoor pool.

SECTION AG103
SWIMMING POOLS

AG103.1 In-ground pools. In-ground pools shall be designed and constructed in conformance with ANSI/NSPI-5 as listed in Section AG108.

SECTION AG105
BARRIER REQUIREMENTS

AG105.1 Application. The provisions of this chapter shall control the design of barriers for residential in-ground swimming pools. These design controls are intended to provide protection against potential drownings and near drownings by restricting access to swimming pools.

AG105.2 Outdoor swimming pool. An outdoor in-ground swimming pool shall be surrounded by a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be (4 inches (102 mm)) measured on the side of the barrier which faces away from the swimming pool.

2. Openings in the barrier shall not allow passage of a 4 inch diameter. (102 mm) sphere.

3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joins.

4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 24 inches (610 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1 ¾ inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1 ¾ inches (44mm) in width. (effective 04/02/10)

   Exception: When intermediate horizontal members are located 34 inches (864 mm) or more above grade, the spacing between vertical member shall not exceed 4 inches (102 mm) in width. (effective 04/02/10)

5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 24 inches (610 mm) or more, spacing between vertical members shall not exceed 4 inches (102mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1 ¾ inches (44 mm) in width.

6. Maximum mesh size for chain link fences shall be a (2 ¼" (75mm)) square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not less than 1 ¾ inches (44 mm).

7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1 ¾ inches (4mm).

8. Access gates shall comply with the requirements of Section AG105.2, Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 48 inches (1219 mm) from the bottom of the gate, the release mechanism and openings shall comply with the following: (change effective 4/2/10)

   8-1. The release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate: and

   8-2. The gate and barrier shall have no opening larger than ½ inch (13mm) within 18 inches (457 MM) of the release mechanism.

AG105.3 Indoor swimming pool. Walls surrounding an indoor swimming pool shall comply with one of the following conditions:

1. The pool shall be equipped with a powered safety cover in compliance ASTM F 1346; or

2. Doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and/or it screen, if present are opened. The alarm shall be listed in accordance with US 2017. The audible listed in accordance with UL 2017. The audible alarm shall activate with 7 seconds and sound continuously for a minimum of 30 seconds after the door and/or its screen, if present, are opened and be capable of being heard throughout the house during normal household activities. The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual means, such as touch pad or switch, to manual means, such as touch pad or switch, to temporarily deactivate the alarm for a single opening. Deactivation shall last for not more than 15 seconds. The deactivation switch(s) shall be located at least 54 inches (1372 mm) above the threshold of the door: or

3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by Item 1 or 2 described above

AG105.4 Prohibited locations. Barriers shall be located to prohibit permanent structures, equipment or similar objects from being used to climb them.

AG105.5 Locations. Private swimming pools shall not encroach on any front or side yard required by this code or by the governing zoning laws, unless in accordance with specific rules of the jurisdiction in which the pool is located. A wall of a swimming pool shall not be located less than 6 feet (1829 mm) from any rear or side property lines or 10 feet (3048 mm) from any street property line, unless in accordance with the specific rules of the jurisdiction in which the pool is located. (effective 04/02/10)

SECTION AG106
ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS

AG106.1 General. Suction outlets shall be designed to produce circulation throughout the pool or spa. Single-outlet systems, such as automatic vacuum cleaner systems, or multiple suction outlets, whether isolated by valves or otherwise, shall be protected against user entrapment.

AG106.2 Suction fittings. Pool and spay suction outlets shall have a cover that conforms to ANSI/ASMEA112.19.8M, or an 18 inch x 23 inch (457mm by 584mm) drain grate or larger, or an approved channel drain system.

Exception: Surface skimmers

AG106.3 Atmospheric vacuum relief system required. Pool and spa single or multiple-outlet circulation systems shall be equipped with atmospheric vacuum relief should grate covers located therein become missing or broken. This vacuum relief system shall include at least one approved or engineered method of the type specified herein, as follows:

1. Safety vacuum release system conforming to ASME A112.19.17; or
2. An approved gravity drainage system

AG106.4 Dual drain separation. Single or multiple pump circulation systems have a minimum of two suction outlets of the approved type. A minimum horizontal or vertical distance 3 fee (914mm) shall separate the outlets. These suction outlets shall be piped so that water is drawn through them simultaneously through a vacuum-relief-protected line to the pump or pumps.

AG106.5 Pool cleaner fittings. Where provided, vacuum or pressure cleaner fitting(s) shall be located in an accessible position(s) at least 6 inches (152mm) and not more than 12 inches (305mm) below the minimum operational water level or as an attachment to the skimmer(s).

SECTION AG107
ABBREVIATIONS

AG107.1 A General.

ANSI – American National Standards Institute, 11 West 42nd Street, New York, NY10036

ASME – American Society of Mechanical Engineering, Three Park Avenue, New York, NY 10016-5990

ASTM – ASTM International
100 Barr Harbor Drive, West Conshohocken, PA 19428

NSPI – National Spa and Pool Institute
211 Eisenhower Avenue, Alexandria, VA 22314

UL – Underwriters Laboratories, Inc.
333 Pfingsten Road,
Northbrook, Illinois 60062-2096

SECTION AG108
STANDARDS

AG108.1 General.

ANSI/NSPI

ANSI/NSPI-5-2003 Standard for Residential In-ground Swimming Pools…….AG103.1

ANSI/ASME A112.19.8M-1987 (R1996) Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, Hot Tubs and Whirlpool Bathing Appliances……AG106.2

ASTM

ASTM F 1346-91 (2003) Performance Specifications for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs……...AG105.2, AG105.5

ASME

ASME A112.19.17 Manufacturers Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub and Wading Pool……..….AG106.3