

## ORDINANCE 1102

**AN ORDINANCE OF THE CITY OF EUDORA, KANSAS REPEALING ORDINANCE 1040; CHAPTER 4, ARTICLE 12 OF THE CODE OF THE CITY OF EUDORA, 2012 EDITION, AND AMENDMENTS THERETO, AND ENACTING, IN ITS PLACE, CHAPTER 4, ARTICLE 12 OF THE CODE OF THE CITY OF EUDORA, KANSAS, 2018 EDITION, AND AMENDMENTS THERETO, WHICH ADOPTS AND INCORPORATES BY REFERENCE THE RESIDENTIAL CODE, 2018 EDITION REGULATING BUILDING AND CONSTRUCTION WITHIN THE CITY OF EUDORA, KANSAS.**

**BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF EUDORA, KANSAS:**

**SECTION 1.** Existing Chapter 4, Article 12, of the Code of the City of Eudora, Kansas, 2012 Edition, and amendments thereto, is hereby repealed in its entirety, it being the intent of the Governing Body that Section 2 of this Ordinance supersedes it.

**SECTION 2.** The Code of the City of Eudora, Kansas, 2018 Edition, and amendments thereto, is hereby amended by enacting Chapter 4, Article 12, which reads as follows:

### **ARTICLE 12. RESIDENTIAL CODE**

**4-1200. ADOPTION OF INTERNATIONAL RESIDENTIAL CODE.** The International Residential Code, 2018 Edition, including the following Appendix Chapters:

Appendix E    Manufactured Housing Used as Dwellings  
Appendix F    Radon Control Methods  
Appendix J    Existing Buildings and Structures  
Appendix Q    Tiny Houses

as published by the International Code Council, is hereby adopted as the "Residential Code" of the City of Eudora, Kansas, for regulating and governing the construction, alteration, movement, enlargement, replacement, repair, equipment, location, removal and demolition of detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with separate means of egress in the incorporated areas of City of Eudora, Kansas as herein provided; providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, penalties, conditions, and said Residential Code are hereby referred to, adopted, and made a part hereof, as if fully set out herein, with the additions, insertions, deletions and changes hereinafter provided. The regulations hereby adopted, as amended, shall be known as the Residential Code of City of Eudora, Kansas, hereinafter interchangeably referred to as the "Code" or the "Residential Code."

**4-1201. COPIES.** Not less than one copy of the International Residential Code, 2018 Edition, marked and stamped in the manner provided by K.S.A. 12-3304, shall be filed with the City Clerk and shall be open to inspection and available to the public at reasonable business hours. Subsequent references to the "Residential Code" shall mean the International Residential Code, 2018 Edition, as adopted and amended herein.

**4-1202. AMENDMENTS TO RESIDENTIAL CODE.** The International Residential Code, 2018 Edition is amended or supplemented as provided below.

**4-1202.1. Chapter 1 of the Residential Code** is deleted and replaced with the provisions of Article 12 of this Chapter 4.

**4-1202.2. Table R301.2 (1). Climatic and Geographical Design Criteria.** Table R301.2 (1) is completed and is inserted to read as follows:

**Table R301.2 (1)  
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD (o)	WIND DESIGN				SEISMIC DESIGN CATEGORY (f)	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP (e)	ICE BARRIER UNDERLAY MENT Required (h)	FLOOD HAZARDS (g)	AIR FREEZING INDEX (i)	MEAN ANNUAL Temp (j)
	Speed (mph) (d)	Topographic effects (k)	Special wind region (l)	Windborne debris zone(m)		Weathering (a)	Frost line Depth (b)	Termite (c)					
20lbs psf	115 mph	No	No	No	A	Severe	30"	Moderate to Heavy	4° F	No	See note g below	778	56° F

**MANUAL J DESIGN CRITERIA (n)**

Elevation	Latitude	Winter heating	Summer cooling	Altitude correction factor	Indoor design temperature	Design temperature cooling	Heating temperature difference
833	39° N	10	95	.975	70° F	75° F	60
Cooling Temperature difference	Wind velocity heating	Wind velocity cooling	Coincident wet bulb	Daily range	Winter humidity	Summer humidity	-
20	-	-	76	M	-	-	-

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

a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(4). The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.

b. Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

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

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(5)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. The outdoor design dry-bulb temperature shall be selected from the columns of 971/2-percent values for winter from Appendix D of the International Plumbing Code. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official. [Also see Figure R301.2(1).]

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

g. (a) The date of the City of Eudora entry into the National Flood Insurance Program and date of adoption of the first code or ordinance for management of flood hazard areas was 03/02/1981, (b) the Date of the Flood Insurance Study is 08/05/2010, and (c) the panel numbers and dates of the currently effective FIRMs and FSFMs or other flood hazard map adopted by the City of Eudora, as amended are:

Panel numbers: 203, 204, 211, 212.

h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."

k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

l. In accordance with Figure R301.2(5)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

- m. In accordance with Section R301.2.1.2, the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a of 1b from ACCA Manual J or established criteria determined by the jurisdiction.
- o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in Figure R 301.2 (6).

**4-1202.3. Section R310.1.2. Existing Dwelling Units.** Basements of existing dwelling units or basements of dwelling units that were under construction prior to the adoption date of the 2006 International Code on 11/23/09 shall have at least one operable emergency escape and rescue opening in accordance with Section R310.1 when the finished area of the basement equals fifty percent or more of the total square footage of the basement area, or when sleeping room(s) are located in the basement.

**4-1202.4. Section R313.2. One and Two-Family Dwellings Automatic Fire Systems.** First sentence is amended to read: An automatic residential fire sprinkler system may be installed in one-and two-family dwellings.

**4-1202.5. Section R 403.3. Frost Protected Shallow Foundations.** Delete whole section and subsections, including figures R403.3 (1), R403.3 (3), and R403.3 (4), and Table R403.3 (1). (Frost Protected Shallow Foundations are not permitted.)

**4-1202.6. Section R404.4 Retaining Walls.** Retaining walls that are not laterally supported at the top and that retain in excess of 72 inches of unbalanced fill, or retaining walls exceeding 24 inches in height that resist lateral loads in addition to soil, shall be designed in accordance with accepted engineering practice to ensure stability against overturning, sliding excessive foundation pressure and water uplift. Retaining walls shall be designated for a safety factor of 1.5 against lateral sliding and overturning. This section shall not apply to foundation walls supporting buildings.

**4-1202.7. Table N1102.1.1 (R402.1.2). Insulation and Fenestration Requirements by Component.** Table N1102.1.1 (R402.1.2). is amended to read as follows:

Table N1102.1.1 (R402.1.1) INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT U-FACTOR (b)	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE (c)	SLAB R-VALUE AND DEPTH	CRAWL SPACE WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.32	0.55	0.25	38	20 or 13+5 <sup>b</sup>	5/8	19	5/13 <sup>f</sup>	0	5/13
4 except Marine	0.32	0.55	0.40	49	15 or 13+2 <sup>b</sup>	5/10	19	10/13	10, 2ft	10/13
5 and Marine 4	0.30	0.55	NR	49	20 or 13+5 <sup>b</sup>	13/17	30g	15/19	10, 2ft	15/19
6	0.30	0.55	NR	49	20+5 <sup>b</sup> or 13+10 <sup>b</sup>	15/19	30g	15/19	10, 4 ft	15/19
7 and 8	0.30	0.55	NR	49	20+5 <sup>b</sup> or 13+10 <sup>b</sup>	19/21	38g	15/19	10, 4 ft	15/19

NR = Not Required.

For SI: 1 foot = 304.8 mm.

- a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.

- b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration. Exception: In Climate Zones 1 through 3, skylights will be permitted to be excluded from glazed fenestration SHGC requirements, provided that the SHGC for such skylights does not exceed 0.30.
- c. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. Alternatively, "15/19" shall be R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the home.
- d. R-5 shall be provided under the full slab area of a heated slab in addition to the required slab edge insulation R-value for slabs, as indicated in the table. The slab edge insulation for heated slabs shall not be required to extend below the slab.
- e. There are no SHGC requirements in the Marine Zone.
- f. Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table  
R301.1.
- g. Alternatively, insulation sufficient to fill the framing cavity and providing not less than an R-value of R-19.
- h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, "13+5" means R13 cavity insulation plus R-5 continuous insulation.
- i. Mass walls shall be in accordance with Section R402.2.5. The second R-value applies where more than half of the insulation is on the interior mass of the wall.

**4-1202.8. Section N1102.4.1.2. Testing. Delete Section.**

**4-1202.9. Section N1103.5.1.1. (R403.5.1.) Circulation Systems.** Is amended to read, heated water circulation systems may be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. Controls for circulating hot water system pumps shall start the pump base on the identification of a demand for hot water within the occupancy. The controls shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is no demand for hot water.

**4-1202.10. Section N1103.5.3. (R403.5.3.) Hot Water Pipe Insulation (Prescriptive).** Is amended to read insulation for hot water pipe with a minimum thermal resistance (R-value) or R-3 shall be applied to the following:

1. Piping located outside the conditioned space
2. Piping from the water heater to a distribution manifold buried in piping
3. Supply and return piping in recirculation systems other than demand recirculation systems
4. Piping located under a floor slab

**4-1202.11. Section N1106.4 (R406.4) ERI-Based Compliance.** Compliance based on an ERI analysis requires that the rated design be shown to have an ERI less than or equal to the appropriate value listed in Table N1106.4 when compared to the ERI reference design. CLIMATE ZONE 4 ENERGY RATING INDEX is amended to 80 from 62.

**4-1202.12. Section G2406. (303.3) Prohibited Locations.** Appliances shall not be located in sleeping rooms, bathrooms, toilet rooms, hot tub rooms, storage closets, or surgical rooms, or in a space that opens only into such rooms or spaces, except where the installation complies with the following:

1. The appliance is a direct-vent appliance installed in accordance with the conditions of the listing and the manufacturer's instructions.

2. Vented room heaters, wall furnaces, vented decorative appliances, vented gas fireplaces, vented gas fireplace heaters and decorative appliances for installation in vented solid fuel-burning fireplaces are installed in rooms that meet the volume criteria of Section G2407.5.

3. A single wall mounted unvented room heater is installed in a bathroom and such unvented room heater is equipped as specified in Section 621.6 and has an input rating not greater than 6,000 Btu/h (1.76 kW) and a carbon monoxide detector, meeting the requirements of Section R315, is installed in the same room as the appliance. The bathroom shall meet the required volume criteria of Section 304.5.

4. A single wall-mounted unvented room heater is installed in a bedroom and such unvented room heater is equipped as specified in Section 621.6 and has an input rating not greater than 10000Btu/h (2.93 kW), and a carbon monoxide detector, meeting the requirements of Section R315, is installed in the same room as the appliance. The bedroom shall meet the required volume criteria of Section 304.5

5. The appliance is installed in a room or space that opens only into a bedroom or bathroom, and such room or space is used for no other purpose and is provided with a solid weather-stripped door equipped with an approved self-closing device. All combustion air shall be taken directly from the outdoors in accordance with Section G2407.6.

**4-1202.13. Section G2417.4.1. Fuel Gas Test Pressure.** Amended to read: The test pressure to be used shall be not less than one and one-half time the proposed maximum working pressure, but not less than 10 psig (69 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe.

**4-1202.14. Section P2503.4. Building Sewer Testing.** Is hereby amended by deleting all of Section P2503.4.

**4-1202.15. Section P2503.5.1. Rough Plumbing.** Amended to read: DWV systems shall be tested on completion of the rough piping installation by water or air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:

1. **Water test.** Each section shall be filled with water to a point not less than 10 feet (3048mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section being tested for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. **Air Test.** The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34kPa) or 10 inches of mercury column (34kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes.

**4-1202.16.1. Section P2603.5.1. Sewer Depth.** Amended to read: Building sewers that connect to private sewage disposal systems shall be not less than 12 inches (304 mm) below finished grade at the point of septic tank connection. Building sewers shall be not less than 12 inches (304 mm) below grade.

**4-1202.16.2. Section P3005.4.2. Building Drain and Sewer Size and Slope.** Amended to read: Pipe sizes and slope shall be determined from Table P3005.4.2 on the basis of drainage load in fixture units (d.f.u.) computed from Table P3004.1; however, no building sewer shall be less than four (4) inches in diameter.

**4-1202.17. Section P3114.2. Installation.** Amended to read: The valves shall only be installed with prior approval from the Planning and Zoning Department, in accordance with the requirements of this section and the manufacturer's installation instructions. Air admittance valves shall be installed after the DWV testing required by Section P2503.5.1 or P2503.5.2 has been performed.

**4-1202.17.1. Section P3114.3 Where Permitted.** Amended to read: The valves shall only be installed with prior approval from the department of Planning and Zoning. Individual vents, branch vents, circuit vents and stack vents shall be permitted to terminate with a connection to a permitted air admittance valve. Individual and branch type air admittance valves shall vent only fixtures that are on the same floor level and connect to a horizontal branch drain.

**4-1202.17.2. Section P3114.8. Prohibited Installations.** Amended to read: Air admittance valves without an engineered design shall not be used to vent sumps or tanks of any type and shall not be installed in new construction. Exception: Island fixtures in new construction may be vented by air admittance valves that comply with Section 3114.

**4-1202.18 Section E3601.6.2. Service Disconnect Location.** Amended to read: The service disconnecting means shall be installed at a readily accessible location either outside of the building or structure or inside the building or structure at a point limited to a horizontal distance not to exceed three (3) feet from the point of penetration of the service entrance raceway into the structure. The service entrance conductors shall be protected by a raceway from the point of service to the termination at the service disconnecting means enclosure. Service disconnecting means shall not be installed in bathrooms. Each occupant shall have access to the disconnect servicing the dwelling unit in which they reside.

**4-1202.19. Section E3604.5 Service Masts as Support.** Amended to read: Where a service mast is used for the support of service-drop conductors, it shall be a galvanized rigid conduit with a minimum trade size diameter of two (2) inches and of adequate strength to withstand the strain imposed by the service drop. Where the service mast projects above the roof surface in excess of three (3) feet, the mast shall be supported by braces or guys to withstand safely the strain imposed. Where raceway-type service masts are used, all equipment shall be approved. Only power service drop conductors shall be permitted to be attached to a service mast.

**4-1202.20. Section E3609.3.1. Intersystem bonding termination device.** Amended to read: An intersystem bonding termination for connecting intersystem bonding conductors required for other systems shall be provided external to enclosures at the service or metering equipment

enclosure and at the disconnecting means for additional buildings or structures. The intersystem bonding termination shall comply with the following:

1. It shall be accessible for connection and inspection
2. It shall consist of a set of terminals with the capacity for connection of not less than three intersystem bonding conductors
3. It shall not interfere with opening the enclosure for a service, building or structure disconnecting means, or metering equipment
4. Where located at the service equipment, it shall be securely mounted and electrically connected to an enclosure for the service equipment or shall be mounted at one of these enclosures and connected to the enclosure or to the grounding electrode with a minimum 6 AWG copper conductor
5. Where located at the disconnection means for a building or structure, it shall be securely mounted and electrically connected to the metallic enclosure for the building or structure disconnecting means, or shall be mounted at the disconnecting means and connected to the metallic enclosure or to the grounding electrode conductor with a minimum 6AWG copper conductor
6. It shall be listed as grounding and bonding equipment

**4-1202.21. Section E3902.16. Arc-Fault Circuit-interrupter Protection.** Amended to read: All branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in bedrooms shall be protected by a listed arc-fault circuit interrupter installed to provide protection of the branch circuit. Exceptions: AFCI protection is not required for a branch circuit supplying only a fire alarm system where the branch circuit is wired with metal outlet and junction boxes and RMC, IMC, EMT, or steel armored cable Type AC meeting the requirements of Section E3908.8.

**4-1203. SEVERABILITY.** If any section, subsection, sentence, clause or phrase in this Article or in the Residential Code is, for any reason, held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions hereof. The Codes Administrator declares that it would have passed this code, 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 or invalid.


**4-1204. EXISTING RIGHTS OR VIOLATIONS.** Nothing in this Article or in the Residential Code hereby adopted shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or resolution repealed in connection with the adoption of the Residential Code; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this.

**PASSED AND APPROVED** this 12<sup>th</sup> day of November, 2019, by the Governing Body of the City of Eudora, Kansas.

APPROVED:

  
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Tim Reazin, Mayor

ATTEST:

  
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Pam Schmeck, City Clerk