



# Building Codes Division

## 2019 Newsletter

### **2018 CONSTRUCTION CODES UPDATE**

The City of Shawnee City Council has approved the adoption of the construction codes listed below. These codes will be effective for any construction permit submitted on or after July 1, 2019.

- 2018 International Building Code,
- 2018 International Fire Code,
- 2018 International Residential Code,
- 2018 International Plumbing Code,
- 2018 International Mechanical Code,
- 2018 International Fuel Gas Code,
- 2018 International Energy Conservation Code,
- 2017 National Electrical Code.

Copies of the adopting ordinances and a summary of amendments to these codes can be found at [www.cityofshawnee.org](http://www.cityofshawnee.org)

### **SIGNIFICANT CODE CHANGES IN THE RESIDENTIAL CODE**

The following is a list of significant Shawnee amendments and changes between the 2012 International Residential Code and the 2018 International Residential Code (IRC) and include some previous requirements that were topics of discussion in the 2018 code adoption process.

#### **Chapter 3 (General Requirements)**

- Any attached garage to the main house shall be provided with a single heat detector. Heat detector shall be hard wired and interconnected with the household smoke alarm system. Heat detectors shall be listed for the ambient environment and installed per the manufactures installation instructions.
- Interconnection is now required where multiple carbon monoxide alarms are required in a dwelling unit. Alarms are to be hardwired with battery backup.
- The mandatory fire protection sprinkler systems requirement was deleted from the code, but townhome buildings and apartments with four or more units are required to be protected with a sprinkler system.
- All openings between the garage and a residence are required to be provided with 1 3/8 inch solid wood doors (or equivalent) and equipped with a self-closing device.

- Wood I-joint and truss floor systems are required to be protected on their underneath side by ½” gypsum board or 5/8” wood structural panel sheathing or a fire protection sprinkler system.
- Operable windows with sills that are more than 72 inches above the finished grade or outside surface below and that are less than 24” above the finished floor of the room are required to limit the opening of the window to prevent young children from accidentally falling out of the window. There are new mechanisms called window opening control devices that can limit the opening, but still allow the window to be fully opened to allow emergency egress. These new mechanisms are required to comply with ASTM 2090.
- Ice barrier (ice shield) is now **required**.
- Pool barrier height is 4’.
- New homes that have an air leakage rate of less than 3 air changes per hour are required to provide “whole house mechanical ventilation” as described in Section M1505.4 of the IRC.

### Energy

- The Energy Efficiency section of the code has a few changes. See energy efficiency compliance paths below.
- All new homes are required to have an air leakage test (blower door test) performed to verify that the air leakage rate does not exceed 5 air changes per hour at a pressure differential of 50 Pascals. The details of the test are in Section N1102.4.1.2 of the IRC.
- The requirement for duct testing was deleted from the code. The prohibition from using stud spaces or panning of floor joists for return air was deleted from the code.

### Mechanical

- The passageway and termination of dryer exhaust duct terminals shall be undiminished in size and shall provide an open area of not less than 12.5 square inches.
- Dryer exhaust duct power ventilators are approved to increase the allowable exhaust duct length for clothes dryers. A permanent label for concealed and non-concealed duct is required for duct length greater than 35’.

### Plumbing

- The application of primer to drain, waste and vent pipe and fittings prior to solvent cement is not required for 4-inch pipe size and smaller, provided that the piping is for a non-pressure application.
- A water-hammer arrestor shall be installed where quick-closing valves are utilized. This includes dishwashers and washing machines.

### Electrical

- A separate 20-ampere branch circuit is now required to serve receptacle outlets of attached garages and detached garages with electrical power.
- A receptacle outlet must be located in each vehicle bay in a garage.



# Building Codes Division

## 2019 Newsletter

- Cabinets with countertops are now considered wall space in determining required locations for general purpose receptacle outlets.
- 15 and 20 ampere, non-locking receptacles installed in damp and wet locations shall be listed and identified as the weather-resistant type.
- Tamper resistant receptacles are required as described by IRC Section E4002.14.
- Ground-fault circuit protection (GFCI) is now required for dishwasher receptacles.
- Arc-fault circuit interrupter protection is now required for all branch circuits serving 15 and 20 amp outlets installed in kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, and similar areas as prescribed in section E3902.16 of the IRC.

### **ENERGY EFFICIENCY COMPLIANCE PATHS**

Amendments to Chapter 11 Energy Efficiency of the 2018 International Residential Code provide for three different compliance paths:

- 1. Prescriptive alternative.**
- 2. Simulated Performance alternative.**
- 3. Energy Rating Index (HERS) option.**

The new home compliance path option must be indicated at the time of permit application by the permit applicant on the form provided by the City of Shawnee.

Chapter 11 mandates some requirements, regardless of the compliance path chosen. These requirements are listed in the table below.

<b>CHAPTER 11 MANDATORY PROVISIONS</b>	
<b>IRC Code Reference</b>	<b>Description</b>
<b>N1101.14</b>	Requires posting a permanent certificate that lists the energy efficient components installed and constructed in the house.
<b>N1102.4</b>	Requires that an air leakage test (blower door) be conducted, verifying the house achieves 5 air changes per hour or less leakage.
<b>N1103.1.1</b>	Requires that each HVAC system be provided with a programmable thermostat.
<b>N1103.1.2</b>	Requires that heat pumps meet supplementary electric heat energy efficiency requirements.
<b>N1103.3.2</b>	Requires that ducts, air handlers and filter boxes joints and seams be sealed.
<b>N1103.6</b>	Requires mechanical ventilation systems to meet minimum efficiency requirements.
<b>N1103.10</b>	Requires pools and spas to meet minimum energy efficiency levels.

1. **Prescriptive alternative.** Shawnee amended the prescriptive provisions of Chapter 11. New homes may be constructed with all insulation and fenestration requirements by component as shown in the following table, and be deemed compliant with Chapter 11. Please note that all unfinished foundation walls and some water pipes are required to be insulated under this option.

**INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT<sup>a</sup>**

Hot Water pipes R-value <sup>f</sup>	Fenestration U-factor <sup>b</sup>	Skylight <sup>b</sup> U-factor	Glazed Fenestration SHGC <sup>b</sup>	Ceiling R-value	Wood Frame Wall R-value	Mass Wall R-Value <sup>e</sup>	Floor R-Value	Basement Wall R-value <sup>c</sup>	Slab <sup>d</sup> R-Value & Depth	Crawl Space <sup>c</sup> Wall R-Value
<b>3</b>	<b>0.32</b>	<b>0.55</b>	<b>0.40</b>	<b>49</b>	<b>13</b>	<b>8/13</b>	<b>19</b>	<b>10 / 13</b>	<b>NR</b>	<b>10/13</b>

- a. R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the installed R-value of the insulation shall not be less than the R-value specified in the table.
- b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- c. “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 walls.
- d. NR shall mean no requirement.
- e. The second R-value applies when more than half the insulation is on the interior of the mass wall.
- f. When required by IRC Section N1103.5.3

2. **Simulated Performance Alternative.** IRC Section N1105 allows for a simulated energy performance analysis for energy use for new homes. New homes may be constructed with various building components and orientations that are proven by approved compliance software tools to use equal or less energy as the “standard reference design” house. There are many other specific requirements that are detailed in Section N1105.

3. **ERI / HERS Option.** The ERI or HERS Index rating option can be met by hiring a HERS rater and constructing a residence that scores **80** or less on the HERS Index. A Preliminary HERS Certificate with 'Draft' watermark or a copy of a REM/Rate compliance report with 'Draft' watermark **must be submitted with building permit plans.** The “Draft” HERS certificate or report shall identify the project address, and include the HERS raters name and contact information.

All HERS ratings shall be performed by a rater accredited by the Residential Energy Services Network (RESNET). The HERS rater is required to perform a blower door test, duct blaster test, pre-drywall inspection and final inspection as part of the standard HERS Index





# Building Codes Division

## 2019 Newsletter

rating process. The final HERS Index score must be posted on the Certificate required by Section N1101.14 (R401.3). The final HERS Certificate which indicates that the dwelling unit achieved a compliant HERS Index score must be submitted to the city before issuance of a Certificate of Occupancy. The final HERS certificate shall identify the project address, and include the HERS raters name and contact information.

### **CITY HOLIDAYS IN 2019**

The Codes Administration offices will be closed on the following holidays:

- New Years Day – Tuesday, January 1, 2019
- Martin Luther King, Jr. Day – Monday, January 21, 2019
- Presidents’ Day – Monday, February 18, 2019
- Memorial Day – Monday, May 27, 2019
- Independence Day – Thursday, July 4, 2019
- Labor Day – Monday, September 2, 2019
- Veterans’ Day – Monday, November 11, 2019
- Thanksgiving Day – Thursday, November 28, 2019
- Thanksgiving Holiday – Friday, November 29, 2019
- Christmas Eve – Tuesday, December 24, 2019
- Christmas – Wednesday, December 25, 2019

### **TRUSS DRAWING SUBMITTALS**

The City of Shawnee does not require truss drawings to be submitted at the time of permit application. Our experience has been that the truss drawings submitted at the time of permit application rarely match up with the trusses that get installed. Please submit 2 sets of the **final** truss drawings to us prior to scheduling the rough in inspection. The final truss drawings should include the following:

- Both sets of truss plans should be reviewed and approved (not sealed) by the person responsible for the structural design of the house. The review is to verify that the proposed trusses are compatible with the design of the building. Proof of this review and approval may be a letter, an approval stamp, or something similar.
- A copy of the truss manufacturer’s most recent quarterly TPI inspection report, as required by ANSI/TPI-1 must be submitted as part of the truss drawing package.
- The truss drawings should show both a layout plan, identifying the different truss locations, and individual truss type drawings, which show the spacing, design loads, support points, job location or builder/plan #, truss manufacturer, and other relevant information required by R502.11 and/or R802.10.1.
- Both sets of truss drawings should be signed and sealed by a Kansas registered engineer. Truss layout plans do not require a seal. Seals are not required to be original.