

Memo

To: Mayor Dunn and Members of the Council
From: Travis Torrez, MCP, Building Official
CC: Scott Lambers, Richard Coleman, Gene Hunter
Date: December 3, 2012
Re: **Proposed 2012 Code Adoption**

After a 9 month evaluation, Community Development and the Fire Department would like to recommend the adoption of the following Building/Fire Codes (as amended).

- 2012 International Building Code
- 2012 International Fire Code
- 2012 International Residential Code for One & Two Family Dwellings
- 2012 International Plumbing Code
- 2012 International Mechanical Code
- 2012 International Fuel Gas Code
- 2011 National Electrical Code
- 2012 International Energy Conservation Code

Background

In an effort to have consistency amongst different municipalities, and at the urging of local mayors and administrators, the Johnson County Code Committee was formed in February 2012.

- Johnson County Code Committee – Group of area Building Officials from Leawood, Olathe, Shawnee, Lenexa, Gardner, Mission Hills, Merriam, DeSoto, and Johnson County Unincorporated working together to evaluate all 2012 code changes with the purpose of reaching more consistent standards throughout jurisdictions. The committee members have met over a dozen times personally, and have been in constant communication over the past 9 months considering code modifications.

- Code Model – The Code Committee utilized the code provisions that have already been vetted and adopted in Overland Park and Kansas City, Missouri as the foundation for our code evaluation.
- Round Table Discussions – The Code Committee invited every licensed contractor to participate in 5 round table discussions with our panel of Building Officials. Nearly 100 licensed contractors and builders provided input in the code evaluation process.

Significant Changes from 2006 to 2012- Residential

The following is a list of the substantial changes from our current code standards. These changes would apply to new residential construction.

Window Sill Heights – A minimum 24 inch sill height as measured from the floor is required where an operable window is over 6 feet above grade at the exterior. This provision is intended to reduce the number of injuries to children resulting from falls through windows.

Carbon Monoxide Alarms – Carbon monoxide alarms are now required to be installed in new construction and on interior renovations where the home has either fuel-fired appliances or an attached garage. The Centers for Disease Control and Prevention estimates that unintentional CO exposure accounts for an estimated 15,000 emergency department visits and 500 unintentional deaths in the United States each year.

Fire Protection of Floors – Manufactured I-joists and floor trusses in un-finished basements are now required to be protected with a minimum ½ inch gypsum board. The change addresses concerns for firefighter safety and incidents of injury or death to firefighters while fighting residential fires due to the collapse of light-frame floor systems.

Tamper-Resistant Receptacles – This provision requires all general-purpose electrical outlets within 5 ½ feet of the floor to have tamper-resistant receptacles. Tamper-resistant receptacles are designed to prevent the insertion of any small object into one side of the electrical outlet. This provision is intended to reduce the number of electrical shock injuries to children.

Arc-Fault Protection – Arc-Fault Circuit-Interrupters (AFCI) have been expanded beyond the bedroom circuits, and are now required for most receptacle outlets in the house. An AFCI is designed to prevent fires by detecting an unintended electrical arc and disconnecting the power before the arc starts a fire. Arc-faults in homes are one of the leading causes of household fires. Each year in the United States, over 40,000 fires are attributed to home electrical wiring.

Energy Efficiency - Residential

Many changes have occurred over the past two code cycles to address the energy efficiency of our homes and the sustainability of our resources.

Unfinished Basements – Unfinished basement walls will now be required to be insulated. This was required for our region in the 2006 code cycle, but was amended out by local jurisdictions. Basement walls without insulation are an enormous drain on the energy efficiency of a home, and this requirement is now going to be widely enforced throughout the metro area.

Attic Insulation – Required attic insulation increased from R-38 to R-49.

Windows – More efficient windows are now required. The maximum U-factor (heat loss) for windows has been lowered from .40 to .35. Additionally, windows in our region are now required to have a maximum .40 Solar Heat Gain Coefficient.

Significant Items Amended out of the Leawood Code

In an effort to work with local builders, and also to meet state obligations, many model code items were amended out locally. These items were amended by most local jurisdictions.

- ***Deleted Sprinkler Systems for One- and Two-Family Dwellings*** – The State of Kansas has passed legislation prohibiting jurisdictions from mandating sprinkler systems in one- and two-family dwellings. The model code has been amended locally to comply with this state requirement.
- ***R-20 Wall Insulation*** – The model energy code increased the minimum wall insulation for our region from R-13 to R-20. Since R-20 batt insulation will not fit into a 2 x 4 wall assembly, this would have essentially mandated 2 x 6 exterior wall framing, which greatly affects the cost-benefit ratio of such a provision. A minimum R-19 insulation will be required where 2 x 6 walls are provided.
- ***Hot Water Pipe Insulation not required***
- ***Ducted return air for heating and cooling systems not required***
- ***No mandate for contractors/builders to provide efficient light bulbs***
- ***Whole-house mechanical ventilation*** – Model code provision required whole house ventilation system where the dwelling had natural ventilation of less than 5 Air Changes per Hour. Local jurisdictions amended to 3 Air Changes per Hour which will make it much less likely that whole-house ventilation will be required.

Significant Changes from 2006 to 2012- Commercial

The following is a list of significant changes from our current code standards. These changes would apply to new commercial construction.

Hotel Exit Signs – Floor level exit signs are now required in hotels. The installation of these low level exit signs will assist occupants and fire fighters in locating the exit doors if the high level exit signs become obscured by smoke.

Fire-Penetrations – In addition to required city inspections, buildings with high-risk occupancies that represent a substantial hazard to human life will now be required to have 3rd party inspections and approval for all fire-rated penetrations.

Window Sill Heights – For apartments, a minimum 36 inch sill height as measured from the floor is required where an operable window is over 6 feet above grade at the exterior. This provision is intended to reduce the number of injuries to children resulting from falls through windows.

Assisted Living – Residential Group Homes and Assisted Living Facilities with less than 16 occupants must now be constructed per the International Building Code. Previously these small group homes were allowed to meet residential code requirements. This change to the model code will explicitly require sprinkler protection for these uses (as has been required in Leawood for some time).

Mercantile Occupant Load – The design occupant load for sprinkled Mercantile Occupancies has been changed from 1 occupant per 30 square feet to 1 occupant per 60 square feet. 60 square feet per occupant was selected because it is a more reasonable number in today's retail environment where much of the floor area is covered with display cases and counters. This change was approved for the 2015 IBC, and staff felt it was reasonable to incorporate this by amendment for this code cycle.

Energy Efficiency – Many changes have been made to increase the energy efficiency of commercial buildings including more efficient windows, greater insulation values, more efficient HVAC equipment, and more efficient lighting systems.

General Code Changes

Construction Toilets – Portable toilets now explicitly required for construction sites where facilities are not readily available.

Re-roof Replacements – New provision makes clear that replacement roof coverings shall exactly match existing roof coverings where only part of the roof is being replaced as per the Leawood Development Ordinance. Where over 50% of the roof coverings are being replaced, complete replacement of all roof coverings is required.

Permit Lengths – Permit lengths for fences, re-roofs, decks, hot tubs, outdoor kitchens, patios, and miscellaneous permits have been shortened to a timeframe more appropriate to the work involved.

Compliance

To allow time to work with staff, builders, contractors, and design professionals to adapt to the new changes, Community Development and the Fire Department would recommend an enforcement date for the new codes of **April 1st, 2013**.

This is a timeline that is being pursued by many jurisdictions that participated with the Johnson County Code Committee, and was also well supported by the Home Builders Association.