City of Brentwood
Planning and Codes Department
5211 Maryland Way (37027)
P.O. Box 788
Brentwood, TN 37024-0788

Office (615) 371-2204
Fax (615) 371-2233
www.brentwood-tn.org/planning

Begin using this document ***January 1, 2013***

Residential

♦ New Home Construction Permit Application ♦

ICC International Residential Code, 2012 edition - International Energy Conservation Code, 2009 Edition

1.) GENERAL INFORMATION

Subdivision Name: _____ Lot Number: _____
Property Street Address: _____
Market or Custom House? : _____
Is this a 'Transitional Lot' ? (Yes / No) : _____
Is the Lot within a 'Floodway Fringe' ? (Yes / No): _____ Lowest Floor Elevation: _____
Grinder Pump? (Yes / No): _____

2.) BUILDING SPECIFICS (*FOR NEW HOUSE - ONLY*)

House Area (sq. ft. for 1st & 2nd floors, combined): _____
Basement ~ Finished Area (sq. ft.): _____ Basement ~ Unfinished Area (sq. ft.): _____
Covered Porch Area (sq. ft.): _____ Covered Porch Valuation: $ _____
Deck Area (sq. ft.): _____ Deck Valuation: $ _____
Garage Area (sq. ft.): _____
Other Finished Area(s) (sq. ft.): _____ Other Unfinished Area(s) (sq. ft.): _____

HVAC Contractor (if known): _____
Plumbing Contractor (if known): _____
Water Service Provider: _____
Sewer Service Provider: _____

3.) PRIMARY CONTRACTOR'S INFORMATION

Primary Contractor's Name: _____
Mailing Address: _____
City/State/Zip Code: _____
Physical Address: _____
City/State/Zip Code: _____
Telephone Number: (____)_____ Fax #: (____)_____
Permit Contact Person's Name: _____ Tele #: (____)_____ Ext #: _____
Jobsite Superintendent's Name: _____ Tele #: (____)_____ Ext #: _____
Email Address: _____
TN Contractor's License No.: _____ Expiration Date: _____
Workmen's Comp. Policy No.: _____ Expiration Date: _____
Brentwood Business Tax License No.: _____ Expiration Date: _____

4.) PROPERTY OWNER'S INFORMATION

Property Owner's Name(s): _____
Mailing Address: _____
City/State/Zip Code: _____
Telephone No.: (____)_____
Email Address: _____

(CONTINUED ON BACK)

OFFICE USE ONLY

REVIEWED BY: _____

DATE: _____

♦ **APPLICANT:**

Refer to the *Residential Plan Review and Correction Checklist* for information required to be included with your plans submittal. This document is available from within our office lobby and on the City of Brentwood - Planning & Codes website under the "Applications and Documents" section:

http//www.brentwood-tn.org/planning

Since construction projects vary, the type of necessary documentation varies. Ensure all necessary documentation has been provided for your specific project.

Failure to provide the following documentation will delay approval.

5.) ACKNOWLEDGE (READ BEFORE SIGNING)

I acknowledge and certify that the information provided on this application is true and complete. Any information not provided on this application may result in an immediate rejection of the plan.

For transitional lot site check, I understand that I am to contact the Engineering Dept. at (615) 371-0080.

I understand that when an engineer completes a footing inspection, it is required that I call the Codes Department the same day notifying them of the inspection, and the engineer submits his/her letter to the Codes Department within three (3) days of inspection. also, I agree to provide the codes department with a foundation survey prior to the start of any framing on the above project.

Further, I understand under Section R110.1 of the International Residential Code for One- and Two-Family Dwellings 2012 edition, that a Final Inspection and Certificate of Occupancy are required prior to the occupancy of any new building, addition or renovation. All requirements from the City of Brentwood Planning & Codes Department, Engineering Department and the Tennessee State Electrical Inspector/Scott Mulligan, shall be satisfied, prior to occupancy. Residential fire suppression systems require review and approval by the Brentwood Fire Department.

All requirements from the City of Brentwood Planning & Codes Department and the State Electrical Inspector, Scott Mulligan, shall be satisfied, prior to occupancy.

Signature: Only the primary contractor or a direct-company-employee (i.e. no sub-contractor) of the primary contractor or only the property owner shall be permitted to sign this document.

APPLICANT'S SIGNATURE _____ **DATE** _____

APPLICANT'S NAME (PRINT CLEARLY) _____

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Residential

♦ ENERGY CONSERVATION CODE DECLARATION ♦

ICC INTERNATIONAL ENERGY CONSERVATION CODE (IECC), 2009 EDITION

Subdivision Name _____ Lot Number _____

Address _____

Type of Permit _____

(i.e., new single family, addition, remodel, basement build-out)

Contractor's Name_____

Contractor's Address _____

City/State/Zip Code: _____

Phone Number (_____)_____

Email Address _____

Tennessee State Contractor's License Number _____

DECLARATION OF ENERGY CODE METHOD

If the structure fails to meet the minimum specified "R" values, or exceeds the permitted maximum percentage of openings and skylights, or the maximum glazing U-Factor using the prescriptive method, then you should consult your designer, insulation sub-contractor and your door & window supplier to assist you with compliance by methods 1 or 2 (provide documentation of compliance).

CHECK THE APPROPRIATE BOX BELOW TO INDICATE SELECTED METHOD

SECTION 402 BUILDING THERMAL ENVELOPE (PRESCRIPTIVE)	SECTION 404 SIMULATED PERFORMANCE ALTERNATIVE (PERFORMANCE)
402.1 GENERAL 402.1.1 INSULATION AND FENESTRATION CRITERIA. THE BUILDING THERMAL ENVELOPE SHALL MEET THE REQUIREMENTS OF TABLE 402.1.1 BASED ON THE CLIMATE ZONE SPECIFIED IN CHAPTER 3. (CLIMATE ZONE 4) (SEE BACK OF THIS SHEET)	404.1 SCOPE. THIS SECTION ESTABLISHES CRITERIA FOR COMPLIANCE USING SIMULATED ENERGY PERFORMANCE ANALYSIS. SUCH ANALYSIS SHALL INCLUDE HEATING, COOLING, AND SERVICE WATER HEATER ENERGY ONLY. (SEE BACK OF THIS SHEET)
METHOD 1 [ ]	METHOD 2 [ ]

➡ **AFTER READING THE CONTENT OF THE SECOND PAGE, RETURN TO THIS PAGE AND SIGN / DATE BELOW, CERTIFYING COMPLIANCE TO THE REQUIREMENTS STATED BELOW:**

COMPLIANCE CERTIFICATION

This structure meets or exceeds Chapter 4 of the ICC International Energy Conservation Code (IECC), 2009 edition

_____ _____

CONTRACTOR'S SIGNATURE **DATE**

PRINT NAME _____

FACTORS REQUIRED BY THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC), 2009 EDITION

TABLE 402.1.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	FENESTRATION *U*-FACTOR[b]	SKYLIGHT[b] *U*-FACTOR	GLAZED FENESTRATION SHGC[b, e]	CEILING *R*-VALUE	WOOD FRAME WALL *R*-VALUE	MASS WALL *R*-VALUE[i]	FLOOR *R*-VALUE	BASEMENT[c] WALL *R*-VALUE	SLAB[d] *R*-VALUE & DEPTH	CRAWL SPACE[c] WALL *R*-VALUE
1	1.2	0.75	0.30	30	13	3/4	13	0	0	0
2	0.65[j]	0.75	0.30	30	13	4/6	13	0	0	0
3	0.50[j]	0.65	0.30	30	13	5/8	19	5/13[f]	0	5/13
4 except Marine	0.35	0.60	NR	38	13	5/10	19	10 /13	10, 2 ft	10/13
5 and Marine 4	0.35	0.60	NR	38	20 or 13+5[h]	13/17	30[g]	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	20 or 13+5[h]	15/19	30[g]	15/19	10, 4 ft	10/13
7 and 8	0.35	0.60	NR	49	21	19/21	38[g]	15/19	10, 4 ft	10/13

For SI: 1 foot = 304.8 mm.

a. *R*-values are minimums. *U*-factors and SHGC are maximums. R-19 batts compressed into a nominal 2 × 6 framing cavity such that the *R*-value is reduced by R-1 or more shall be marked with the compressed batt *R*-value in addition to the full thickness *R*-value.

b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. "15/19" means R-15 continuous insulated sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulated sheathing on the interior or exterior of the home. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

d. R-5 shall be added to the required slab edge *R*-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs.

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 301.1 and Table 301.1.

g. Or insulation sufficient to fill the framing cavity, R-19 minimum.

h. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.

i. The second *R*-value applies when more than half the insulation is on the interior of the mass wall.

j. For impact rated fenestration complying with Section R301.2.1.2 of the *International Residential Code* or Section 1608.1.2 of the *International Building Code*, the maximum *U*-factor shall be 0.75 in Zone 2 and 0.65 in Zone 3.

All R-values shall be printed on the actual insulation.

REQUIREMENT PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY

INTERNATIONAL ENERGY CONSERVATION CODE (IECC), 2009 - SECTION 401.3:

"A permanent certificate shall be posted on or in the electrical distribution panel. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels.

The certificate shall be completed by the builder or registered design professional. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration; and the solar heat gain coefficient (SHGC) of fenestration.

Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment.

Where a gas-fired unvented room heater, electric furnace and/or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric base board heaters."

CITY OF BRENTWOOD
EROSION PREVENTION AND SEDIMENT CONTROL CHECKLIST

ENGINEERING DEPARTMENT – 1750 GENERAL GEORGE PATTON DRIVE – (615) 371-0080

(09/2007; REFORMAT 01/2013)

FIRM NAME / APPLICANT			PROPERTY ADDRESS		
ADDRESS			SUBDIVISION / SECTION		LOT NO.
CITY	STATE	ZIP	PHONE NO.	BUILDING PERMIT NO.	

The following pre-construction erosion prevention and sediment control Best Management Practices (BMPs) must be correctly installed ***prior*** to the initiation of the disturbance activities:

- A stabilized construction access, such as a temporary stone access, must be installed to prevent offsite tracking.
- Silt fence, or other sediment barriers, must be installed along topographical contours down slope of the area to be disturbed.
- Where applicable, inlet protection for nearby storm sewer curb and drop inlets must be installed.

The following erosion prevention and sediment control BMPs must be performed *until the project is completed:*

- All areas to remain undisturbed along streams, rivers, and ponds must be protected to avoid erosion of banks and infiltration of silt.
- Topsoil should be stripped from all cut and fill areas, stockpiled and redistributed over graded areas to a minimum depth of six (6) inches. ***A sediment barrier must be installed around the base of the stockpile to prevent erosion.***
- Stabilization measures must be performed within three (3) days in portions of the site where construction activities have temporarily or permanently ceased, within fifteen (15) days after final grading, or prior to final inspection (stabilization practices may include: temporary seeding, permanent seeding, mulching, matting, and sod stabilization.)
- Inspections of all control measures and disturbed areas must be performed at least once every three (3) days. Inspections must be documented and include the date of the inspection and major observations.
- Based on the results of inspections, any inadequate control measures or control measures in disrepair must be replaced or modified, or repaired as necessary, within one (1) day after the need is identified.
- Sediment must be removed from sediment barriers and other sediment controls when design capacity has been reduced by 50%.
- Sediment that has escaped the construction site and has collected in the street or drainage structures must immediately be physically removed. ***This requirement shall remain the responsibility of the permit holder until the project is accepted by the City of Brentwood.***
- All damage to existing pavement, drainage structures and curbs resulting from new construction must be repaired or replaced by like materials at the builder's expense.
- All trees designated to remain must be protected. Heavy equipment will not be operated or parked, nor materials handled or stored, within the drip lines of trees.
- Roof downspouts must discharge onto splash blocks to prevent erosion. If downspouts are routed through drain lines, the system must not discharge directly into the street or drainage system.
- Restroom facilities for construction employees must be made available.
- Building and waste materials, and non-storm water discharges, such as concrete or paint wastewater, must be managed to prevent them from entering the storm water system or nearby water body.

I certify that I have reviewed this document and understand the erosion prevention and sediment control requirements herein. I understand that these requirements will be inspected and enforced by the City of Brentwood and failure to comply may result in the issuance of a "Stop Work Order" until compliance is accomplished.

Print Name	Signature	Date

RESIDENTIAL

Plan Review and Correction List
City of Brentwood - Planning & Codes Department - Fire Department
5211 Maryland Way - P.O. Box 788
Brentwood, TN 37024-0788

Plans have been reviewed for compliance with the 2012 *International Residential Code* (IBC), 2009 *International Energy Conservation Code* (IECC), 2008 *National Electrical Code* (NEC NFPA 70), *Special Guidelines for Electrical Installation* and the City of Brentwood Code of Ordinances.

The plan review comments may not be an all inclusive list. It is the responsibility of the owner, design team and contractor to construct all projects in accordance with the adopted code references listed above.

(Effective January 1, 2013 / Modified 01/18/13 Volume 1b)

Permit No. _____ 1st Review Date:_____ 2nd Review Date: _____

Subdivision & Lot Number: _____

Project Address: _____

Residential Zoning District (**circle one**): **OSRD** **OSRD-IP** **AR** **R-1** **R-2**

- ☐ New Single Family
- ☐ Addition
- ☐ Remodeling
- ☐ Basement Build-Out
- ☐ Deck
- ☐ Covered Porch
- ☐ Garage
- ☐ Accessory Structure
- ☐ Other_____
- ☐ Fence (Review only-no permit required)

Residential Fire Suppression (**circle one**): **Yes** **No** If yes, Contact Fire Department for add'l requirements

NOTE: Homes constructed prior to 1978 require compliance with EPA's-Lead Based Paint Regulations
YEAR STRUCTURE WAS CONSTRUCTED _____

Transitional Lot (**circle one**): **YES** **NO**

Lot/Property located within a "Floodway Fringe" (**circle one**): **YES** **NO**

Identify type of Utilities: Water or Well or Both Septic System or Sewer System Gravity or Pump/Grinder

Provide Plan Review Comments to: _____

Fax Number or E-mail address _____

_____

PROCEDURES:

a.) City of Brentwood Business Tax License - Susan Le Fan (615-371-0060) Home Occupation - Angie Elmore (615-371-2204)

b.) Receipt of payment to Williamson County for Privilege Taxes. (New single-family construction)

c.) Copy of receipt of payment for water & sewer tap fees from the appropriate water purveyor. (New single family, change over from septic to sewer or an increase in the water service line)

d.) Approval letter from Williamson County Environmental for new single family construction or improvements to existing residential structures facilitated by a septic system. If sewer is available, NSF homes and existing residential structures undergoing improvements shall be connected to the sewer system.

e.) Review and sign *Erosion Prevention and Sediment Control Checklist* form.

f.) Application shall be completed in its entirety according to type of construction project. Required information identified on permit application and applicable documentation for initial plan review shall be submitted as a complete package. Read, sign and date the acknowledgement section.

REQUIRED DOCUMENTATION (*IF APPLICABLE)*:

(New single family, Addition, Remodeling, Basement build-out, Deck, Covered Porch, Garage, Accessory Structure, Fence or any other proposed building or existing building improvement)

1.) Two complete sets of drawings including plot plans (3 copies for a transitional lot; lot slope is 15% or greater and will be reviewed/approved by the Engineering Department) Transitional lot construction projects will be forwarded from this office to the Engineering Department for review. The transitional plot plan shall be approved by the Engineering Department prior to the issuance of any building or foundation permit.

2.) A plot plan is required for new single family construction, additions, decks, covered porches, accessory structures, garages, pools, spas, gazebos, fence, play structures or any other proposed building expansion on the property. Plot plan to be scaled 1"= 20' for lots less than 1 acre or 1"= 30' for lots greater than 1 acre

Provide / Include:

- Lot square footage
- Property boundaries
- Building setback lines
- **Location(s) of retaining walls and abrupt elevation changes (Note: abrupt elevation changes are areas on an improved parcel of property that do not fall under the requirements of Section R312.1 but require fall protection.) Heavy shrubbery or a permanent guardrail can be used when the abrupt grade elevation change is more than 30" but less than 60". Grade elevation changes exceeding 60" would require a permanent guardrail designed in accordance to Section R312.1. [Adopted Ordinance]**
- Maximum lot coverage of all residential structures on any residential zoned property cannot exceed 25% building coverage. Calculation to be identified on submitted plot plan.
- House shall face front setback per recorded plat
- Corner lots-minimum setbacks on front & side boundaries
- All public utility and drainage easements
- Location of structure(s) within building envelope
- Actual distance of structure(s) from set-back lines and property boundaries. **A foundation survey is required prior to vertical construction.**
- Driveway with curb cut location. **Note: 30' deep driveway required from garage door(s), maximum width at curb is 20' and maximum slope is 20%. [Code of Ordinances-Article 7-Construction Standards 7.7.(1) B&D, 78-486] Double access driveways require Planning Department approval. Driveways "proposed" in a P.U.D.E. or closer than 5' to the property line require Engineering Department approval.**
- Identify all existing structures
- Location of debris dumpster **[Code of Ordinances-78-20 (3) D]**
- Location of grinder pump (if applicable) Include location of disconnect on construction drawings
- Proposed fencing

3.) Construction drawings to be scaled ¼" = 1' or greater. If applicable, drawings to include:

- Footing locations and a cross section identifying depth, width and rebar locations**[R403]**
- Transitional lots require a Tennessee Professional Engineer or Architect to design. Documentation to be stamped and signed by the design professional in accordance with the Tennessee Board of Architectural and Engineering Examiners. www.tn.gov/commerce/boards/aece.aeboard@tn.gov
- Foundation details including material to be used, wall thickness, height, rebar and type and location of anchor bolts**.[R404]**
- Provide waterproofing and drainage details around perimeter of building**[R405 & R406]**
- Front, rear, left-side, ride-side elevations. Basement Houses: If elevation drawings are not clear as to defining the 50%-50% coverage requirement of basement walls, provide lineal feet of coverage to lineal perimeter feet of daylight. **[Code of Ordinances-Chapter 78]**
- **Maximum residential building height is 52' (except OSRD-IP=40')**
- Stud walls in basement and all floors above (2x4, 2x6, height of wall) **[Walls-Chapter6]**
- **Wall Bracing: Buildings shall be braced in accordance with this section. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in this section, those portions shall be designed in accordance with Section R301.1 (Consult with design professional) [R602.10]**
- **Provide detail(s) of flashing at window & door openings [R703.8] Corrosion-resistant flashing shall be applied in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. [R703.8] Any one of the following criteria may apply for flashing at window and door openings: The fenestration manufacturer's installation and flashing instructions, the flashing manufacturer's instructions, pan flashings required when instructions not provided, design or method of a registered design professional**
- **Stone & Masonry Veneer- Openings & Maximum Heights [R703.7]**
- Basement floor plan (if applicable)
- First floor plan (if applicable) **[Floors-Chapter 5]**
- 2nd floor plan (if applicable)
- **Identify all bedrooms on all floors; including basements and attic area if applicable**
- Deck assemblies (provide structural details and materials to be used for each individual deck assembly; including method for attaching to main building) (wood composite plastic) **[R507]**
- **Roof & Ceiling Construction details [Chapter 8] Ceiling Joist Spans [R802.4], Purlins [R802.5.1], Rafter Spans [R802.5], Bearing [802.6], Wood Truss Design, Uplift Resistance [R802.11],**
- **Roof Assemblies [Chapter 9] Identify roof Ventilation Details [R806] Provide details on proposed materials, underlayment [R905.2.7], base, cap & sidewall flashing [R905.2.8] Re-roofing projects shall comply to [R907]**
- Cross Section detail(s) from foundation to roof cross section; include lumber type, grade, size, room heights, etc.
- Directional layout of framing members (floor, ceiling joist, rafters, trusses, etc.)
- Engineered lumber layout sheets and calculations for all engineered lumber (LVL's, I-Joist, beams, floor joist, floor trusses,
- **Identify types (masonry, factory-built, gas, wood burning, gas log-lighter, etc) and locations of chimney and fireplaces. Provide manufacturer's specifications.**
- Provide stairs, handrail and guardrail details **[R311 & R312]**
- **Attic layout including proposed storage, finished habitable space or future space; include square footage and location(s) of attic access. (if applicable)**
  [Attic space or concealed roof space exceeding 2,000 square feet requires 2 attic access points installed remotely and shall be placed a distance apart not less than one-half of the length of the maximum overall diagonal dimension of the attic area] A minimum of one pull-down stairs shall be installed. (25"x 54"rated for 350lbs+] [Code of Ordinances-Chapter 14]
- Elevator details including manufacturer's specifications. (If applicable) **[R321]**

- **Identify safety glazing locations on drawings [R308]**

4.) Egress Requirements:

- Emergency escape and rescue require from basements, habitable attics and all sleeping rooms. **Identify size & location(s) of emergency escape and rescue openings for all bedrooms AND basement. [R310] See additional window well requirements and window fall protection requirements. [R310.2, R310.2.1 & R312.2]**
- Identify location of "means of egress" door (32" clear width and 78" in height) **[R311]**
- Minimum "36" width hallway required **[R311.7]**
- Minimum "36" width stairway with 80" headroom; vertical rise less than 12' for flight of stairs
- Stairway Construction **[R311.7]**
- Ramps **[R311.8.1]**
- Window fall protection is required on operable windows when located more than 72" above the finished grade or surface below **and** the lowest part of the clear opening of window is **less than 24" above the finished floor.** Review exceptions-approved window fall preventing device conforming to ASTM F 2090. **[R312.2.]**

5.) Smoke Alarm Requirements: [R314] All new construction and when alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings**.**

- Location(s): each sleeping room, outside each separate sleeping area, each additional story, including basements and habitable attic spaces. **Identify location of smoke detectors and carbon monoxide alarms [R314 & R315] Smoke detectors and carbon monoxide alarms are required for alterations, repairs and additions. (Review exceptions)**
- 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 system shall become a permanent fixture of the occupancy.(not leased)**
- Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over-current protection.
- Interconnection: The alarm devices shall be interconnected in such a manner that the actuation of one alarm will activated all of the alarms in the individual unit.

6.) Carbon Monoxide Alarm Requirements: [R315] All new construction and where work requiring a permit occurs in existing dwellings that have attached garages or in existing dwellings within which fuel-fired appliances exist.

- Location(s): A carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages. **Identify location of smoke detectors and carbon monoxide alarms [R314 & R315] Smoke detectors and carbon monoxide alarms are required for alterations, repairs and additions. (Review exceptions)**
- Carbon monoxide detection systems that include carbon monoxide detectors and audible notification appliances, installed and maintained in accordance with this section for carbon monoxide alarms and NFPA 720 shall be permitted.
- Where a housed hold carbon monoxide detection system is installed, **it shall become a permanent fixture of the occupancy, owned by the homeowner and shall be monitored.**

7.) Foam Plastic Requirements: [R316]

- Labeling & Identification (provide documentation)
- Surface burning characteristics (provide documentation)
- Thermal barrier requirements (provide documentation)
- Specific requirements (provide documentation)
- Installation in attic spaces (provide documentation) (storage, equipment)
- Installation in crawl spaces (provide documentation (equipment)
- **SPECIFIC APPROVALS [R316.6] (ES-Reports)**

8.) Protection of Wood: [R317] Protection of wood and wood based products from decay shall be provided in the following locations:

- Wood joist or the bottom of a wood structural floor when closer than 18"
- Wood girders when closer than 12 inches to the exposed ground….
- All wood framing members that rest on concrete or masonry exterior foundation walls AND are less than 8" from the exposed ground
- Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6" from the ground or less than 2" measured vertically from concrete steps, porch slabs, patio slabs, etc.
- See additional requirements

9.) Flood Resistant Construction: Properties located in the floodplain will require a Tennessee licensed surveyor to provide stamped and signed drawings showing the base flood elevation, the 100 year flood, an its relationship to all existing and proposed improvements. All improvements in the floodplain shall comply with Chapter 56, Article II of the Municipal Code. For additional information and guidance contact City Planner-Todd Petrowski. (615) 371-2204.

10.) Provide documentation that structure is compliant to the 2009 Energy Conservation Code. Additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building systems to comply with this code. **[101.5 & 104.4.3]**

Projects shall comply with sections identified as mandatory and with sections identified as either prescriptive or the performance approach in section 401.2 and 405.

- A permanent certificate shall be completed and posted on or in the electrical panel **[IECC 401.3]**
- **Building thermal envelope- The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour. Testing shall be conducted with a blower door at a pressure of 50 pascals (1 psf). The Building Official can require third-party testing agency. Written report to be submitted by the party conducting testing. [402.4.] (AIR LEAKAGE TEST REQUIRED)**
- Recessed lighting shall be sealed to limit air leakage. **[402.4.]**
- Thermostats shall be provide for each HVAC system **[403]**
- Ducts, air handlers, and filter boxes shall be sealed. **[403.2]**
- Building framing cavities shall not be used as ducts or plenums **[R403.2.3]**
- Mechanical system piping capable of carrying fluids above 105 degrees or below 55 degrees shall be insulated to a minimum R-3 **[403.3]**
- Circulating hot water systems shall be provided with an automatic or readily accessible manual switch that can turn off the hot-water circulation pump when system is not in use. **[403.4.]**
- Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating. **[403.5]**

- **Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved calculation methodologies. Calculations to be provided/submitted at plan review stage. [403.6]**
- Pools and permanently installed spas-heaters and time switches **[403.9]**
- A minimum of 50% of the permanently installed lighting fixtures shall be high-efficacy lamps. **[R404]**

11.) Mechanical System Requirements [Chapters 12 through 24]

- **Identify type and location(s) of equipment (natural gas, propane, electric, geo-thermal, solar, radiant heat, etc.) [M1403]**
- **Identify appliance access for inspection, service, repair and REPLACEMENT. [M1305]**
- Elevation of ignition source: 18 inches above the floor in garages; exception **[M1307.3]**
- Protection from impact **[M1307.3]**
- **Identify combustion air source for gas-fired equipment (natural, louvers and grilles, mechanical)**
- **Identify clothes dryer exhaust routing [M1502]**
- **Mechanical ventilation rates to comply with [M1507] (ENERGY CODE DOCUMENTATION**
- **Duct systems to comply with [M1601.3 & M1601.4] (ENERGY CODE DOCUMENTATION)**
- **Return air systems to comply with [M1602] (ENERGY CODE DOCUMENTATION)**
- **Gas piping systems require electrical bonding [G2411 & G2412] Identify piping material (metallic, copper, CSST, polyethylene plastic pipe, etc.) (VERIFY DURING INSPECTIONS)**
- **Gas appliance shut-off valves. Shut-off valve shall be located in the same room as the appliance; within 6 feet. [G2420.5] (VERIFY DURING INSPECTIONS)**
- **Sediment trap & Sloped Piping [G2419] (VERIFY DURING INSPECTIONS)**
- **Appliance connections shall be connected to the piping systems by one of the following: [G2422] (VERIFY DURING INSPECTIONS)**
- **PERMANENTLY FIXED-IN-PLACE OUTDOOR DECORATIVE APPLIANCES SHALL BE TESTED IN ACCORDANCE WITH ANSI-Z21.97 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTUER'S INSTRUCTIONS. [G2454.1]**

12.) Plumbing System Requirements [Chapters 25 through 33]

- **Drain, Waist and Vent piping SHALL NOT be tested with air [P2503.5.1]**
- **Reduced pressure principle , double check, double check detector and pressure vacuum breaker backflow preventer assemblies shall be tested at the time of installation, immediately after repairs or relocation and at least annually [P2503.8.2] (irrigation systems, residential fire suppression systems,**
- **Pipes through foundation walls [P2603.5] "The requirement for a pipe sleeve or a relieving arch for pipes <u>passing under</u> a footing was removed because the footer acts as the relieving arch for the pipe below." (Not to be incorporated into footing-pour)**
- **Identify location and type of <u>internal sump and ejector pump</u> [P3007]**
- **Identify location of exterior grinder pump [Contact W&S Department for guidance]** *

13.) Additional Comments

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