



# RESIDENTIAL CONSTRUCTION GUIDELINES

For

CLAY COUNTY, MISSOURI

Revised

December 9, 2011

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# CLAY COUNTY, MISSOURI PLANNING AND ZONING DEPARTMENT

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## INTRODUCTION

The following guidelines are provided to assist property owners and contractors with the orderly construction of residential structures and accessory buildings, in keeping with the provisions of the Clay County Building Codes, and Land Development Code. Please read these guidelines carefully and understand that they are **summarized** in the interest of simplicity.

On April 16, 2007 the County Commission of Clay County adopted: the 2006 International Building Code and the 2006 International Residential Code, the 2006 Uniform Plumbing Code; the 2006 Uniform Fire Code; the 2005 National Electric Code and the 2006 Uniform Mechanical Code. Please refer to the code reference books for detailed information.

## REQUIREMENTS, PERMITS AND FEES

Clay County requires permits and inspections for almost all types of construction. Please call **407-3388** to find out if your project requires a permit. Due to limited department staff and the frequency of scheduled inspections, ***appointments must be made with the Building Official to obtain permits.*** Drop-in permits, in most cases, are not possible.

*Please be aware that County Regulations prohibit anyone from living in an RV, mobile home, accessory building, or temporary structure on the home construction site prior to, during, or after home construction.*

Subsequent to a fire or other natural disaster that causes the destruction of the primary dwelling, and only in this circumstance, the County Commission may grant a temporary (up to 180 days) permit to put a mobile home on the property during reconstruction. This privilege is not automatic and requires a hearing before the County Commission to determine the existence of a hardship. Please contact the Building Official or Planning & Zoning Director for details (407-3388).

## New Residential Construction:

**To obtain a building permit for new residential construction, you will need to bring the following items to your appointment with the Building Official:**

**Call (407-3388) to schedule an appt.**

1. Two (2) sets of drawings of what you are going to construct. After plan review, one set with any written comments made by the Building Official will be returned to the applicant, and one will be retained for our files. The drawings should include floor plans, a foundation plan, building elevations and a building cross section. **Plans must be sealed by either a certified architect or a licensed engineer.**
2. A plot plan of the property **prepared by a registered land surveyor** showing the legal description, the property dimensions, all easements, existing and proposed buildings with their dimensions and distances between all structures and property lines.
3. If the structure is an earth contact home, it must be sealed by either a certified architect or a licensed engineer who is registered in the **State of Missouri**.
4. A receipt for the water meter or a letter from the pertinent public water supply district that serves your area, stating that arrangements have been made for the provision of water service. If you do not know what water district serves your area, contact the Planning and Zoning Department at **407-3380**.
5. A driveway permit from either the State of Missouri (Mr. Brandon Daniel, **mike.sanders@modot.mo.gov** or **607-2187**) or the Clay County Highway Department (Mr. Duane Jackson, **407-3300**) is required.
6. A septic system permit from the Environmental Division of the Clay County Health Department (**595-4200**).
7. All new single family construction in the Smithville Area Fire Protection district must have their construction plans reviewed and approved by that district. Prior to a Certificate of Occupancy being issued, a letter of compliance is required from that fire district.
8. Letter signed by owner that they do not want the sprinkler system in the house.

### **The building permit fee is determined as follows:**

First, calculate the home valuation by taking the number of square feet of finished living space and multiply that figure by \$100.00. The fee is \$12.00 for the first \$1,000.00 of home valuation as calculated above, plus \$9.00 for each additional \$1,000.00 of valuation, plus a fee for the required inspections at \$50.00 each. (Additional inspections and inspection fees are required in some special circumstances. See the Building Official for details).

*FOR EXAMPLE: 2000 square feet times \$100.00 equals a \$200,000.00 valuation. \$12.00 for the first \$1,000.00 of valuation plus \$9.00 for the remaining \$199,000.00 of valuation equals  $(199 \times \$9 + \$12) = \$1,803.00$ , plus \$150.00 for the three inspections equals \$1,953.00 building permit fee.*

## Permits for Additions to Residential Dwellings:

To obtain a building permit for additions to residential construction, you will need to bring the following items to your appointment with the Building Official **(407-3388)**:

1. Two (2) sets of drawings of the proposed construction (may be hand drawn).
2. If the exterior of a structure is being added to or expanded, a plot plan is required showing the exact location of the structure on the property including the area and dimensions of the expansion. A preexisting plot plan with the addition hand-drawn onto the structure is sufficient. **This must be approved by the Environmental Division of the Clay County Health Department (595-4200).**
3. A legal description of property with section, township and range or subdivision name and lot number.
4. A letter from Health Department for septic improvements, if adding bedrooms.
5. All new single family construction in the Smithville Area Fire Protection district must have their construction plans reviewed and approved by that district. Prior to a Certificate of Occupancy being issued, a letter of compliance is required from that fire district.
6. Permit fees are \$200.00 for minor improvements under \$1,000.00, or \$200.00 for improvements \$1,000.00 and over that do not expand the square footage of the home (For example, finishing an existing attic or basement with no bedrooms). Additions that create additional rooms or otherwise expand the roof and/or foundation area of the home are permitted using the same fee formula as new residential construction (see previous page).

Permits for Accessory Building, Residential Deck, Swimming Pool and Fence Construction:

**NOTE: An accessory building shall not be constructed prior to the principal structure (see Land Development Code, Sec. 6.3B51)**

To obtain a building permit, you will need to bring the following items to your **appointment** with the Building Official - **(407-3388)**:

1. Only fences over 6 feet in height and decks over 120 sq. ft. require a permit.
2. Two sets of drawings of the proposed construction (may be hand drawn or a photograph). The plans must show construction design and materials in sufficient detail to determine the structure meets the building code requirements of 90 mph. wind load and 20 lb. Per sq. Ft. snow load. For swimming pools you will need the motor, filter, and heater specifications.
3. A plot plan of the property to be built upon (may be hand drawn), showing the location of the new structure and any existing structures, and signed by an official of the **Environmental Division of the Clay County Health Department (phone 595-4200)**. The Health Department must OK the location of the new building on the property to assure it is not being constructed over an existing sewer line or septic field. Permit applications for fences require the plot plan but do not require Health Department review.
4. Legal description of the property to be built upon, delineated by either section, township and range; or subdivision name and lot number.
5. The established permit fees for accessory buildings, decks, swimming pools, and fences are as follows:
  - A. Accessory Buildings (Non-Farm)
    1. Type I                 \$200.00 (Includes footer/pad & final inspection)
    2. Type II                \$300.00 (Includes footer/pad, ground rough & final inspection)
  - B. Swimming Pools  
(with fence under 6 foot)   \$175.00 (Includes grounding inspection)
  - C. Subdivision Ponds         \$150.00 (Includes one inspection)
  - D. Fences (over 6 feet high) \$125.00 (Includes one inspection)
  - C. Decks (over 120 sq. ft.)   \$ 80.00 (No inspections required)

**Please be advised that many subdivisions in Clay County have covenants and restrictions that regulate construction specifications and types. These documents are filed with the County Recorder's office. We recommend that you review any that may pertain to your property before applying for a building permit.**

**Any excavation in a County road right-of-way requires a permit from the Clay County Highway Department. Bonding is also required. For details, please contact the Clay County Highway Department at 407-3300.**

## Inspections:

*The following inspections are performed prior to and during residential home construction.*

1. Driveway Inspection: An inspection is needed for driveway approaches to determine driveway location and construction requirements. This inspection will be conducted by the Clay County Highway Department and will be completed prior to issuance of the driveway permit.
2. Footing Inspection: A footing inspection is required after all steel is in place and before the concrete is poured. (Performed by the County Building Official)
3. Septic System Inspection: A septic system inspection is required by the Clay County Health Department from 2 feet outside the foundation through the on-site system. (Performed by the Clay County Health Department).
4. Sewer System Inspection: A “ground rough” inspection will be required.
5. Water Inspection: As per respective public water supply district (PWSD) requirements. (Performed by the PWSD or their designate)
6. Top Rough Inspection (Performed by the County Building Official):
  - a) Plumbing Inspection: All rough plumbing must be inspected when drain, waste, vent and water piping is roughed in and prior to insulating or drywall stocking.
  - b) Framing Inspection: Building framing must be inspected after all framing and furring is completed, prior to insulating or drywall stocking. This inspection includes fireplaces and egress.
  - c) Electrical Rough Inspection: The electrical wiring must be inspected after all wiring, boxes and recessed fixtures are installed. Boxes should be made up and home runs should extend to service location. The inspection must be approved prior to insulation or drywall stocking.
  - d) Mechanical Rough Inspection: Mechanical vents, ducts and return air spaces require inspection prior to insulating or drywall stocking.
  - e) Gas Inspection: All gas piping on the building side of the gas meter needs to be inspected after all piping is installed and before the gas company will install a gas meter. A 10 psi air test shall be witnessed by an inspector. A 60 psi air test is required for welded piping.

**NOTE:** *Top rough Plumbing, Framing, Electrical, Mechanical, and Gas inspections need to be called in by the builder to be inspected in one visit when **all** rough-ins are ready.*

7. Electrical Service Inspection: Electrical service inspection as per power company requirements. (Performed by the Electrical Utility).
8. Occupancy (Final) Inspection: An occupancy (final) inspection is required prior to any occupancy of a building or addition. All electrical connections, face

plates, panels and fixtures, mechanical equipment, final grade, driveways, guardrails, floor coverings and smoke detectors must be completed. (Performed by the County Building Official). **NOTE:** *The County Building Official may call for a second driveway inspection from the Highway Department if he determines that there is a potential problem with the driveway construction.*

**NOTE:** In accordance with Clay County Ordinance 2007-ORD-23, a fee of \$60.00 will be charged for each re-inspection. There are four (4) normal inspections included in the building permit fee, and one (1) re-inspection will usually be made free of charge. After one, however, the \$60.00 per re-inspection fee will be charged.

## FOOTINGS AND FOUNDATIONS

A footing inspection is required after the steel is in place, and before the concrete is poured.

The following guidelines are provided to assist in meeting the requirements of the 2006 International Residential Code for typical residential footings. The items in parentheses ( ) are specifications in the 2006 IRC book. Where the following guidelines are not specific or questions arise, please contact the Building Official.

1. When completed, the bottom of all footings must be thirty-six (36) inches below the ground surface adjoining it. (Fig. No. R403)
2. The minimum width of any footing is twelve (12) inches. (Fig. No. R403)
3. Footings supporting a two story structure must be at least fifteen (15) inches wide. (Fig. No. R-403.1)
4. Footings supporting a three story structure must be at least twenty three (23) inches wide.(Fig. No. R-403)
5. Concrete:
  - a) No less than 2,500 lb. concrete may be used for footings, basement slabs or interior slabs on grade, except garage floor slabs on grade. Except for garage floor slabs, 5% air entrainment is required if the concrete is exposed to freezing and thawing. (Table No. 402.2)
  - b) No less than 3,000 lb. air entrained concrete may be used for foundation walls. (Table No. 402.2)
  - c) No less than 3,000 lb. air entrained concrete may be used for concrete slabs exposed to the weather and 4000 lb. for garage floor slabs. (Table No. 402.2)
6. Pads under masonry fireplaces must be twelve (12) inches thick and extend six (6) inches on each side of the fireplace wall. (Sec. No. 1001.1.1)
7. Anchor bolts are required at six foot spacing intervals and within twelve (12) inches of the corners. (Fig. No. 403.1.6)

8. Drains shall be provided around foundations enclosing habitable or usable spaces located below grade and which are subject to groundwater conditions. Drains shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. (Sec. No. 405)
9. Exterior foundation walls of masonry construction enclosing basements shall be damp proofed. (Sec. No. 406)
10. Moisture barrier will be installed before basement floor is poured (prior to placing reinforcing).

## FRAMING GUIDELINES

A framing inspection will be done in conjunction with the plumbing, electrical, mechanical and gas inspections.

The following guidelines are provided to assist in meeting the requirements of the 2006 International Residential Code for Typical residential buildings. The items in parentheses ( ) are specifications in the 2006 IRC book. Where the guidelines are not specific or questions arise, please contact the Building Official.

1. Treated wood is needed for plates, columns or posts on concrete foundations or floors and for joist crawl spaces with less than 18 inches of clearance to ground level. (Sec. No. R319.1)
2. Washers and nuts shall be placed on all anchor bolts. (Sec. No. R403.1.6)
3. Joists under and parallel to bearing walls shall be doubled. (Sec. No. R502.4)
4. Six (6) inches of separation is required between finished grade and any untreated wood, framing or siding. (Sec. No. R404.1.6)
5. Wall Support:
  - a) 2x4 utility grade studs 16 inches on center shall support no more than a ceiling and a roof. (Table No. 602.3(5))
  - b) 2x6 studs 16 inches on center shall be used for support of buildings over two stories. (Table No. 602.3(5))
6. All headers in bearing walls see table R502.5(2).
7. Purlins may be used to extend the span of rafters. Supporting struts shall extend to bearing walls. (Tables 802.5.1(1) thru R802.5.1 (8))
8. When ceiling joists run in the opposite direction to rafters, rafter ties are needed 4'-0" on center. (Sec. No. 802.5.1)
9. Rafters shall be framed directly opposite each other at the ridge. The ridge board must be equal or greater in depth to the end cut of the rafter. (Sec. No. 802.5.1)
10. Joist framing from opposite sides of a beam shall overlap three (3) inches. (Sec. No. 502.6.1)

11. Holes bored in joist shall not be within 2 inches of the top or bottom. The diameter shall not exceed 1/3rd. of the depth of the joist. Notches in the top or bottom of joist shall not exceed 1/6th of the depth and shall not be located in the middle 1/3 rd. of the span. (Sec. No.602.6)
12. Top and bottom plates cut for plumbing or mechanical shall be strapped with 1/8th x 1-1/2 inch metal ties with 4-16d nails. (Sec. No. 602.6.1)
13. Firestopping must be provided to seal off all concealed draft openings between stories and between the top story and attic. (Sec. No. 602.8)
14. Access to each attic shall be provided by an opening at least 22 inches x 30 inches. Thirty (30) inches of head room is required above the opening. (Sec. No. 807)
15. One layer of 15 pound felt is required beneath all asphalt shingles. (Sec. 905)
16. Stairways may have a 7-3/4 inch maximum rise and a 10 inch minimum tread depth. (Sec. No. 314)
17. Stair winders must have 6 inch run at the most narrowest point. (Sec. No. 314.4)
18. 6'-8" headroom is required over all stairs. (Sec. No. 314.3)
19. Handrails are required for all stairways. Handrails shall be continuous the full length of the stairs. The top of the handrail shall be 30 to 38 inches above the nosing of the treads. (Sec. No. 315.1)
20. Guardrails shall be provided for stairs on deck, balconies and porches which are more than 30" above grade. Guardrails must be 36 inch high. Intermediate rails shall be placed so that a 4 inch ball cannot pass through. (Sec. No. 316)
21. The maximum spans of floor joists and rafters are shown in "Span Tables" (Sec. Nos. 502 & 802)
22. The fireplace chimney or metal vent opening must be 2 feet above any roof within ten (10) feet. (Table No. 1003.1)
23. All sleeping rooms in basements must have at least one operable door or window leading directly to the outside for emergency egress. Windows must have at least 5.7 square feet of net clear opening. The minimum net clear opening height is 24 inches and the minimum net clear opening width is 20 inches. The finished sill height shall be no more than 44 inches above the floor. (Sec. Nos. 310.1). Also any basement that is roughed in for a future bath or is to be finished in the future must have an egress to the direct outside.

# FIREPLACES

Metal fireplaces must be installed in strict accordance with listing and manufacturer's installation instructions. Clearance to adjoining combustibles, mantles, hearth trim and adjoining walls are specified in the instructions. A copy of the installation instructions shall be available to the Building Official at the time of the fireplace inspection. (Sec. No. 1001)

The following guidelines should assist when constructing masonry fireplaces and chimneys. The items in parentheses ( ) are specifications in the 2006 IRC book.

## ***Height:***

1. Chimneys shall extend at least two (2) feet higher than any portion of the building within ten (10) feet, but shall not be less than three (3) feet above the point where the chimney passes through the roof. (Sec. No. 1001)

## ***Loads on Chimney:***

1. A chimney shall not support any structural load other than its own weight. (Sec. No. 1001)

## ***Lining:***

1. Shall be as per R1001.

# PLUMBING GUIDELINES

The following guidelines are provided to assist in meeting the requirements of the 2006 uniform Plumbing Code for typical residential buildings. The items in parentheses ( ) are specifications in the 2006 IRC book. Where the guidelines are not specific, or when questions arise, please contact the Building Official.

**Note: All persons doing plumbing work in this jurisdiction for hire must be licensed either in Kansas City, Mo. or Liberty, Mo.**

*The following inspections are required at each dwelling:*

1. Sewer (Septic) Inspection
2. Water Inspection
3. Top Rough Inspection (Includes framing, electrical, mechanical, and gas)
4. Bottom Rough Inspection

***All plumbing for single family dwellings shall be as set forth in the Uniform Plumbing Codes with the following exceptions.***

1. Standpipes for automatic clothes washers shall extend a minimum of 30 inches and a maximum of 48 inches above the finished floor. The trap for a clothes washer standpipe shall be installed at a maximum of 12 inches above the finished floor. Access shall be provided to all standpipe traps and drains for rodding.
2. Every vent stack or stack vent shall extend outdoors and terminate to the open air.
3. A floor drain (where used as such) need not be vented, provided it is within 25 feet of a three inch stack or horizontal drain which has at least a three-inch diameter vent extension through the roof.
4. A standpipe for an automatic clothes washer need not be separately vented provided all of the following criteria apply.
  - a. The standpipe is used with an approved "P" trap.
  - b. The "P" trap is within 25 feet of a three-inch stack which extends through the roof.
5. Vents may terminate to an air admittance valve under the following conditions.
  - a. For sinks located where there is no wall accessible from the sink location or roof. Where access to the vent system would require notching or boring of studs in excess of the limitations of section R602.6.
  - b. In existing construction, where the existing vent system is not accessible to the fixture location without the removal of finished materials or other existing construction.
6. All air admittance valves shall be readily accessible. The valve shall be located in a ventilation space that allows air to enter the valve.
7. "S" traps are prohibited.
8. The text of the code takes precedence over the schematic.
9. The **installer** of flex stainless steel gas piping must be certified in the installation of the pipe being used.
10. No gas piping will be permitted in the HVAC cold air return areas.

# MECHANICAL GUIDELINES

The following guidelines are provided to assist in meeting the requirements of the 2006 Uniform Mechanical Code for typical residential buildings. The items in parentheses ( ) are specifications in the 2006 UMC book. Where the guidelines are not specific, please contact the Building Official.

**Note: All persons doing mechanical work in this jurisdiction for hire must be licensed either in Kansas City, Mo. or Liberty, Mo.**

A mechanical inspection will be conducted by the Building Official at the same time as the framing, electrical and plumbing inspections.

## ***Equipment:***

1. A range hood shall be vented to the outdoors by a single-wall duct constructed of galvanized steel, stainless steel or copper. Vents serving range hoods shall not terminate in an attic or crawl space or in any other area inside the building. Listed unvented hoods may be used when installed in accordance with the terms of their listing.
2. Ducts for exhausting moisture from clothes dryers shall not be constructed with sheet metal screws or other fastening means which extend into the duct. Moisture exhaust duct shall terminate outside the building. Max. length of a four (4) inch line is twenty five (25) feet.
3. Combustion air for appliances is required when the volume of room is less than 50 cubic feet per 1,000 Btu/h for all appliances in said room.
4. Rooms containing fuel-burning appliances and not having the volume required in Sec. 2001, shall be provided with 2 square inches of combustion air opening for each input of 1,000 Btu/h rating with a total of not less than 200 square inches. One square inch for each input of 1,000 Btu/h may be permitted provided the compartment floor area is not less than 100 square inches.

# ELECTRICAL GUIDELINES

The following guidelines are provided to assist in meeting the requirements of the 2005 National Electrical Code for typical residential buildings. The items in parentheses ( ) are specifications in the 2005 NEC Code books. Where the guidelines are not specific, please contact the Building Official.

**Note: All persons doing electrical work in this jurisdiction for hire must be licensed either in Liberty, Excelsior Springs or Kansas City, Mo.**

The following inspections are required at each dwelling:

1. Electrical Service Inspection as per electric company requirements.
2. Electrical Rough Inspection to be done with the framing, mechanical, plumbing, and gas top rough inspections.

## **Services:**

1. For a single family residence the main panel shall be grounded to a metal water line which is buried at least ten (10) feet and one eight (8) foot ground rod. If no metal water line is available then two (2) of the ground rods spaced ten (10) feet apart will be required. The ground on the water line shall be installed where it enters the structure and before the first soldered joint. The 2<sup>nd</sup> ground rod shall be placed away from the structure so it will pick up moisture.
2. In every kitchen, family room, dining room, living room, parlor, library, den, sunroom, bedroom, recreation room, guest room or other similar rooms of dwelling units, receptacle outlets shall be installed so that no point along the floor line in any wall space is more than 6 feet measured horizontally from an outlet in that space including any wall space 2 feet or more in width and the wall space occupied by sliding panels in exterior walls. The wall space afforded by fixed room dividers, such as free standing bar-type counters, shall be included in the 6 foot measurement. There should never be more than 12 feet between each receptacle on a continuous wall space. Walls constructed of open guardrails are included as wall space. Where floor receptacles are necessary, they shall be dust proof. For floor receptacles to count for wall space, they must be within 18 inches of the wall.
3. As used herein, a "Wall Space" shall be considered a wall unbroken along the floor line by doorways, fireplaces and similar openings. Each wall space 2' or more wide shall be treated individually and separately from other wall spaces within the room. A wall space shall be permitted to include 2 or more walls of a room (around corners) where unbroken at the floor line. Receptacle outlets, insofar as is practical, should be placed equal distances apart. (Sec. No. 210)

**Counter Tops:**

1. In kitchen and dining areas of dwelling units, a receptacle outlet shall be installed at each counter space wider than 12 inches. Counter tops separated by range tops, refrigerators or sinks shall be considered as separate counter space. Receptacles rendered inaccessible by appliances fastened in place or appliances occupying dedicated space shall not be considered as these required outlets. Island counters shall be required to have receptacle outlets as outlined above. All small appliance outlets in the kitchen shall be of the GFCI type.

**Bathrooms:**

1. In dwelling units, at least one wall receptacle outlet shall be installed adjacent to the basin location (GFCI required for bathrooms)
2. An exhaust fan, vented to outside air is required if there is no operable window in the bathroom.

**Arc-Fault:**

Dwelling unit bedrooms; all receptacles shall be arc-fault protected.

**Outdoor Outlets:**

1. For one and two family dwellings at least two receptacle outlets shall be installed outdoors, front and back, for each unit. Weatherproof covers are required. All outside outlets shall be GFCI type.

**Basements and Garages:**

1. For a dwelling unit, at least one receptacle outlet in addition to the outlet for laundry equipment shall be installed in each basement and one in each garage. Receptacles placed in a garage should be kept 18 inches above the floor surface. All receptacles in garage and unfinished basement areas shall be GFCI type unless the outlet is for a dedicated appliance.

**General:**

1. At least one wall switch controlled lighting outlet shall be installed in each habitable room, guest room, bathroom, stairway, hallway, and garage provided with electrical power and an outside egress.
2. At least one outlet shall be installed in an attic, under floor space, utility room and basement where these spaces are used for storage or contain equipment that might require service.
3. All receptacles which are installed in a flat (horizontal) position shall be equipped with an attached dust cover.

**Exceptions:**

1. In habitable rooms, other than kitchens, one or more receptacles controlled by a wall switch shall be permitted in lieu of lighting outlets.
2. In hallways, stairways and outdoor entrances; remote, central or automatic control of lighting shall be permitted.

***Appliances:***

1. Outlets for a specific appliance should have the circuit rating of the appliance served.

***Laundry:***

1. The laundry area shall have a 20 amp circuit. This circuit shall be exclusively for the laundry receptacles and shall not be used for any lighting in this area. **ALL** receptacles within (6) feet of a sink shall be GFCI protected.

***Clothes Closets:***

1. Lights in closets shall be installed with a minimum of 18 inch, clearance measured horizontally from the front of the top shelf.
2. Recessed fixtures with solid lenses or fluorescent fixtures may be installed with a minimum of 6 inch clearance measured horizontally from the front of the top shelf.

***Recessed Fixtures:***

1. All recessed fixtures shall have thermal protection and shall be identified as thermally protected.
2. Recessed fixtures installed in thermal insulation shall be identified with the listing label for installation within thermal insulation.

***Smoke Detectors:***

1. Smoke detectors shall receive their primary power from the building wiring and have a battery back-up. The wiring shall be permanent and without a disconnecting switch other than required for over current protection located at the main service.
2. All detectors shall be connected to a sounding device or other detectors to provide, when actuated, an alarm which will be audible in all sleeping areas.
3. In homes with more than one level and those with basements, an additional smoke detector shall be placed on each level and in the basement.
4. A battery powered smoke detector shall be installed in each attached or basement garage. An electric-battery back-up smoke detector shall be installed within 4 feet of any furnace. (County Ordinance)

# GROUND-FAULT PROTECTION FOR PERSONNEL

## ***Bathrooms:***

All 15 & 20 amp receptacles installed in bathrooms shall have ground-fault circuit interrupter (GFCI) protection for personnel. A bathroom is an area including a basin with one or more of the following: a toilet, a tub and or a shower. A GFCI for a bathroom can serve only bathrooms. It can not serve any other area.

**Exception:** Any receptacle which is not readily accessible or for appliances occupying dedicated space which are cord and plug connected (single purpose).

## ***Basement:***

At least one basement receptacle shall be ground-fault protected and identified as such.

## ***Outdoors:***

All 15 & 20 amp receptacles installed outdoors shall have GFCI protection for personnel. Weatherproof covers are required.

## ***Kitchens:***

All countertop receptacles for small appliances shall be GFCI protected and the GFCI protector can be used for the kitchen only.

## ***Spa or Hot Tub:***

Receptacles for spa or hot tub equipment, receptacles within 10 feet of water, and for lighting within 5 feet (measured horizontally) shall be GFCI protected. (Art. 680.5)

## ***Accessory Building:***

All 15 or 20 amp receptacles installed in outbuildings that are at grade level and used for storage or work areas require GFCI protection. (Sec. No. 210-8)

# UTILITIES AND SERVICES

Each cluster dwelling unit shall be served by separate heating, air conditioning, sewer, water, electric power, gas and other facility and utility services, wherever such utilities and services are provided. No cluster dwelling unit shall in any way be dependent upon such services or utility lines located within another cluster dwelling unit or cluster grouping except as may be installed in public easements.

# OCCUPANCY GUIDELINES

The following guidelines are provided to assist in meeting the requirements of the 2006 International Residential Code for an occupancy inspection of a typical residential building. Where the guidelines are not specific, please contact the Building Official.

An occupancy (final) inspection is required prior to the occupancy of all buildings. The Building Official will check the property and building for code compliance.

## **Site**

1. All public streets, water mains, sanitary and storm sewers must be completed.
2. Untreated wood must be separated from final grade by no less than 6 inches.
3. Final grade must drain away from the house 6 inches in 10 feet.
4. A one hour occupancy separation is required between a garage and a dwelling. The occupancy separation includes all garage walls and ceilings. Doors must be at least 1-3/8" solid core wood, a door with a 20 minute fire rating, or equivalent. Six panel doors are not acceptable. Mechanical ducts, furnace flues and plumbing needs are to be furred around so that dry wall can enclose the garage. *Register vents in the garage are allowed for supply air only if a fire damper is installed. **NO RETURN AIR IS ALLOWED! (duct work in the garage must be at least 26 gauge.)***
5. Each building must be posted with the proper address numbers so they are visible from the street.
6. Double keyed dead bolts are not permitted.
7. Electrical panels, switches, receptacles and lights must be completed.
8. The electrical service must be completed, with panel cover on and all circuits identified.
9. Electrical face-plates must be on.
10. Lights must be completed and in working condition.
11. Receptacles, smoke detectors, Arc Fault and ground-fault circuits will be tested.
12. Any unfinished wiring (for air conditioner, back-ordered fixtures, etc.) must end in a proper box with a disconnect switch with a cover. The air conditioner must be provided with a fuse breaker as required by the nameplate.

13. Plumbing fixtures must be properly connected.
14. Stubbed-in (future) plumbing must be capped off.
15. The building sewer clean-out must be accessible.
16. The water service shutoff valve must be accessible.
17. Perimeter drain tiles that are required around footings for control of surface water shall drain by gravity to grade, or under the footing, into a sump hole where a sump-pump shall eject the water to the outside of the dwelling. The sump-pump may not eject into the sanitary sewers.
18. Furnace rooms for gas fired equipment must be provided with properly sized combustion air openings.

## GENERAL REQUIREMENTS FOR RESIDENTIAL DECKS

Permits are required for the construction of all decks (over 120 sq. ft.). A set of building plans showing the following is required:

1. Pier locations, (depth & size);
2. Size and material of posts, beams and joists;
3. Size height and spacing of guardrails and spindles;
4. A site plan showing the location of the house and location of the new deck;  
**NOTE:** Both plans should be drawn to scale. 1/4" per foot for building plans and 1 inch = 20 feet or 1 inch = 30 feet for site plans are normal.
5. A legal description of the property with address, property dimensions, easements, location of any other permanent structures and distance from deck to property lines.

The following list includes most building code and land use regulations for decks:

1. Side and rear yard setbacks are to be no less than required by the Land Development Code.
2. Footings and piers must extend 36 inches below grade and bear on undisturbed soil.
3. Guardrails must extend 36 inches above the deck unless deck is less than 30 inches above grade. If so, no guardrail is required.
4. One square foot of footing or pier is necessary for each 50 square feet of deck.

Handrails and stairs railings shall have intermediate rails in an ornamental pattern so that a 4 inch sphere can not pass through. Handrails are required on at least one side of the stairs and at all openings. Structural requirements for decks are based upon loads of 40 pounds per square foot.