

Residential – Accessory Structures & Room Additions

Planning and Development Services Department

www.opkansas.org

This covers the basic requirements for accessory structures and room additions for residential one- and two-family dwellings. This should not be considered as a complete list of code requirements. Complete information is available in the codes and ordinances adopted by the City. Code books are available for review at City Hall, the local public library and can be purchased at the ICC Book Store. Some materials and construction methods may require the use of an architect or other design professional.

PERMITS AND PLANS REQUIRED

- A permit is required for all additions to dwellings and for accessory structure exceeding 200 square feet. If the property is in a Planned Zoning District, special conditions may apply regarding accessory structures. Contact the Planner of the Day at (913) 895-6217.
- Application form - The city permit application form is required.
- Plot plan - Provide a plot plan showing streets, property lines, lot dimensions, setbacks, new and existing structures and drives (drawn to scale). Plot plans are available on file with the City.
- Construction drawings - Provide elevations, floor plan, framing plan, foundation plan, use of each area or space (sealed drawings are not generally required unless non-conventional construction is used or new loads are applied to existing structural members, sealed drawings may be required if unusual situations are identified at the time of the plan review).
- Any electrical wiring to an accessory structure requires a permit regardless of the size.

HOME OCCUPATIONS

Some business uses (known as home occupations) are permitted within dwellings with limitations; however, home occupations are never allowed in accessory buildings. A separate brochure is available explaining home occupations and non-residential uses permitted within dwellings. Consult with the Planner of the Day at (913) 895-6217 prior to establishing any home occupation.

ACCESSORY STRUCTURES - YARD AREAS, SETBACKS AND SIZE LIMITATIONS

(Detached garages, carports, sheds, etc.)

- **Building area**
 - a) Maximum of 250 square feet of detached garage or carport space is permitted for each 3,000 square feet of lot area.
 - b) Maximum area of detached garage or carport is 1,200 square feet.
 - c) Not more than 50% of the dwelling area (includes attached garage area but does not include the basement area).
- **Building height** - Maximum one story in height. Height cannot exceed the height of the main structure or 20 feet. Height measured from grade to the average height between the plate line and the peak.
- **Number of accessory structures**
 - a) Maximum of two detached accessory structures permitted on any lot.
 - b) Maximum one detached garage or covered carport per one- or two- family dwelling

- **Setbacks** – Measured from the property lines
 - a) Minimum 5 feet separation between the main structure and accessory structures. Accessory structures within five feet of the main building must comply with the setback requirements for the main structure.
 - b) No buildings are permitted in the required front yard or side yard.
 - c) Side yard setback - Interior side yards, minimum 7 feet. Side yards adjacent to the street, minimum 15 feet setback from the property line.
 - d) In most cases, the front property line is approximately 11 feet behind the curb and/or 25 feet from the curb and/or 25 feet from the centerline of the street.
 - e) Rear yard setback - Minimum of 3 feet for buildings and a minimum of 1/3 the height for other structures. Building over utility easements is not recommended without consulting with the utility companies whose lines are involved. Where the side of the rear yard adjoins a street, the setback is the same as for side yards. The ground area of all detached accessory structures shall not exceed 30% of the total land area in the rear yard setback.
 - f) Eave overhangs - Eaves may project into the required setback a maximum of 30 inches.
 - g) No accessory structure shall be built in a platted landscape easement.
- **Room additions to main dwelling** - Setbacks for room additions must comply with the setback requirements for the main structure. Main dwelling setbacks below are for the R-1 and R-2 zoning district only.
 - a) Front yard setback – 30 feet.
 - b) Rear yard setback – 25 feet.
 - c) Side yard setback – minimum 7 feet; minimum 15 feet for yards adjacent to a street with exceptions. The total of both side yards shall not be less than 20% of the width of the lot.
- **Open porches** - Open porches (without enclosed walls, glass or screens) having a roof area not exceeding 60 square feet may project into the required front or rear yard setback of the main structure, a maximum of 6 feet.
- **Arbors** - Arbors (not attached to the main dwelling) shall comply with the setbacks for accessory structures.
- **Driveways and approaches**
 - a) No driveway shall be located within 2 feet of an adjoining lot line except for a driveway serving two properties.
 - b) Paved parking areas and driveways shall not cover more than 35% of the minimum required front yard area with exceptions. In R-1 zoning districts the minimum required yard area is the area from the property line to the minimum front yard-zoning setback (30-foot setback).
 - c) The minimum driveway thickness shall be four inches (4”) and shall have a constant slope so as to avoid ponding of water.
 - d) A right-of-way work permit is required for paving or re-paving in the city right-of-way. Call (913) 895-6189 for information.
- **Patios** - At grade patios, slabs, etc. shall have a minimum setback of 3 feet from property lines. For decks, see the “*Residential Decks*” handout.

CONSTRUCTION STANDARDS

- **Appearance** - Exterior appearance shall be compatible with residential construction. Pre-engineered metal buildings are not generally considered compatible with residential construction.
- **Framing systems** - Framing plans shall be drawn to scale and identify all materials used in the construction as to size and grade. All floor and ceiling joists and rafters shall indicate the spacing. Spans shall be indicated for all horizontal members. See included span tables and bracing diagram.
- **Foundation systems**
 - a) Basement foundations shall comply with the handout “*Residential Basement Foundation One- and Two-Family Dwellings*” or in accordance with the IRC – Section R401.
 - b) Foundations shall extend below the frost line to a minimum of 36 inches below grade measured to the bottom of the footing.

Exception – Light frame structures less than 600 square feet do not require a footing to the frost line.
 - c) Footings for single story structures shall be at least 16 inches wide per handout “*Residential Basement Foundation One- and Two-Family Dwellings*”.
 - d) Structures shall be bolted to the foundation with minimum 1/2-inch diameter anchor bolts embedded at least 7 inches into the concrete (10-inch long bolts) at 6 feet on-center (3 feet on center for basement walls) with a bolt within 12 inches, and not closer than 7 bolt diameters, of the end of each corner.

Span Tables:

| Floor Joists – 40# LL & 10 #DL All Rooms Except Sleeping Areas and Decks | | | |
|---|---------------|----------|-----------|
| Member | Species/grade | Spacing | Max. span |
| 2x10 | DF#2 | 16” o.c. | 15’ 5” |
| 2x10 | SPF#2 | 16” o.c. | 15’ 5” |
| 2x10 | HF#2 | 16” o.c. | 15’ 2” |
| 2x10 | DF#2 | 12” o.c. | 17’ 9” |
| (2)-2x10 | DF#2 | 16” o.c. | 20’ 4” |

| Floor Joists – 30# LL & 10 #DL Sleeping Areas | | | |
|--|---------------|----------|-----------|
| Member | Species/grade | Spacing | Max. span |
| 2x10 | DF#2 | 16” o.c. | 17’ 2” |
| 2x10 | SPF#2 | 16” o.c. | 17’ 2” |
| 2x10 | HF#2 | 16” o.c. | 16’ 10” |
| 2x10 | DF#2 | 12” o.c. | 19’ 10” |
| (2) 2x10 | DF#2 | 16” o.c. | 22’ 4” |

| Ceiling Joists - 20# LL & 10 #DL Limited Attic Storage | | | |
|---|---------------|----------|-----------|
| Member | Species/grade | Spacing | Max. span |
| 2x6 | HF#2 | 16” o.c. | 12’ 8” |
| 2x6 | DF#2 or SPF#2 | 16” o.c. | 12’ 10” |
| 2x8 | HF#2 | 16” o.c. | 16’ 0” |
| 2x8 | DF#2 or SPF#2 | 16” o.c. | 16’ 3” |

| Ceiling Joists - 10# LL & 5 #DL No Attic Storage | | | |
|---|---------------|----------|-----------|
| Member | Species/grade | Spacing | Max. span |
| 2x6 | HF#2 | 16” o.c. | 16’ 6” |
| 2x6 | DF#2 | 16” o.c. | 17’ 8” |
| 2x8 | HF#2 | 16” o.c. | 21’ 9” |
| 2x8 | DF#2 | 16” o.c. | 23’ 0” |

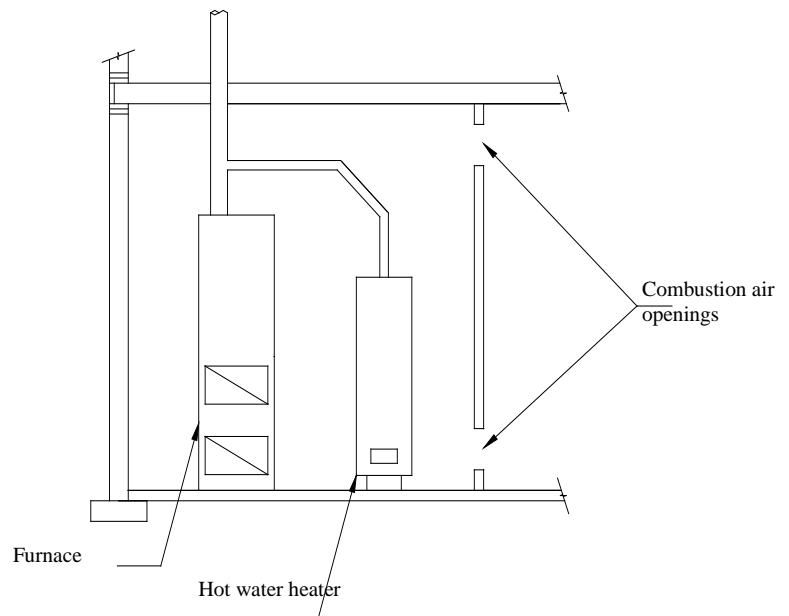
| Rafters – 20#LL & 10#DL Ceiling Attached to Rafters 11 – 14” Minimum Joist Depth or Equivalent Required to Meet Minimum R-38 Ceiling | | | |
|---|---------------|----------|-----------|
| Member | Species/grade | Spacing | Max. span |
| 2x8 | HF#2 | 16” o.c. | 17’ 3” |
| 2x8 | HF#2 | 24” o.c. | 14’ 8” |
| 2x8 | DF#2 | 16” o.c. | 18’ 2” |
| 2x8 | DF#2 | 24” o.c. | 14’ 10” |
| 2x8 | SPF#2 | 16” o.c. | 17’ 9” |
| 2x10 | HF#2 | 16” o.c. | 21’ 11” |
| 2x10 | HF#2 | 24” o.c. | 17’ 10” |
| 2x10 | DF#2 | 24” o.c. | 18’ 2” |

| Rafters – 20# LL & 10#DL No Ceiling Attached to Rafters | | | |
|--|----------------|----------|-----------|
| Member | Species/grade | Spacing | Max. span |
| 2x6 | HF#2 | 16” o.c. | 14’ 2” |
| 2x6 | DF#2 or SPF #2 | 16” o.c. | 14’ 4” |
| 2x6 | DF#2 or SPF #2 | 12” o.c. | 16’ 7” |
| 2x8 | HF #2 | 16” o.c. | 17’ 11” |
| 2x8 | DF#2 or SPF#2 | 16” o.c. | 18’ 2” |
| 2x8 | DF#2 or SPF#2 | 12” o.c. | 21’ 0” |

MECHANICAL SYSTEMS

Access must be maintained to unions in the ceiling or walls and to any gas valves such as valves to fireplaces on the first floor. Providing an identified access door or removable panel is acceptable. If walls are to be placed around the furnace and hot water heater areas, adequate combustion air must be maintained to the appliance for proper operation.

- Inside combustion air** - The space in the adjoining room plus the space in the equipment room must have a volume equal to at least 50 cubic feet for each 1,000 Btu/hr of aggregate input rating of the appliances. Where the volume of the space in which fuel-burning appliances are installed is less than 50 cubic feet per 1,000Btu/hr of total Btu/hr input rating. Two permanent openings to adjacent spaces shall be provided. One opening shall be within 12 inches (305 mm) of the top and one within 12 inches (305 mm) of the bottom of the space. Each opening shall have a free area equal to a minimum of 1 square inch per 1,000 Btu/hr input rating of all appliances installed within the space, but not less than 100 square inches. The net free opening shall be reduced by 25% where metal louvered covers are used and by 75% where wood louvered covers or doors are used.
- Outside combustion air** - The opening area depends on the method used - consult the Plans Examiner of the Day at (913) 895-6225 for specific sizing information.



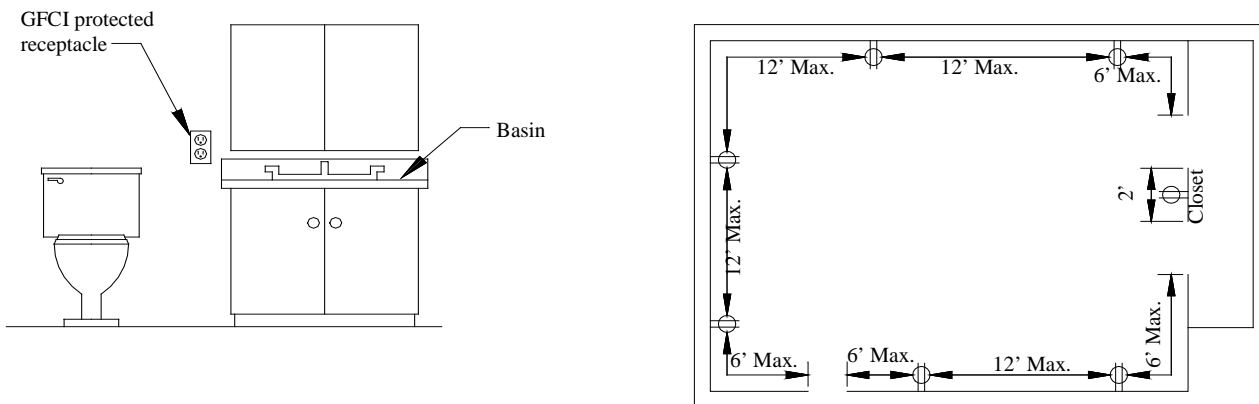
PLUMBING

All plumbing fixtures shall be provided with approved drains and vents. Approved water piping materials include welded or seamless copper tubing (K, WK, L, WL, M or WM), chlorinated polyvinyl chloride (CPVC), polyethylene (PE), polypropylene (PP), Cross-linked polyethylene (PEX) and other materials as

listed in the code. Underground building drain and vent piping may be ABS plastic, polyvinyl chloride (PVC) and other materials as listed in the code. Above ground sanitary drains and vent piping may be ABS plastic, polyvinyl chloride (PVC) and other materials as listed in the code. Approved gas piping includes copper (Type K or L) steel and wrought iron pipe, corrugated stainless steel tubing or other materials as listed in the code. All piping materials shall be labeled with the manufacturer's mark or name and the quality or grade of the product. Maintain access to plumbing drain clean-outs and floor drains.

ELECTRICAL

All electrical work shall comply with the 2011 National Electrical Code (NEC). All junction boxes shall remain accessible and shall not be concealed within walls or ceilings. Receptacles shall be provided for all unbroken wall spaces over 2 feet wide. Receptacles shall be located so that no point on the floor line is more than 6 feet measured horizontally from an outlet. All receptacles shall be of the grounding type. Receptacles in bathrooms or within 6 feet of sinks shall be GFCI protected. At least one wall switch controlled lighting outlet shall be provided in each finished room and hallway. All 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit bedrooms shall be protected by a listed arc-fault circuit interrupter, combination type installed to provide protection of the branch circuit.



SMOKE DETECTORS

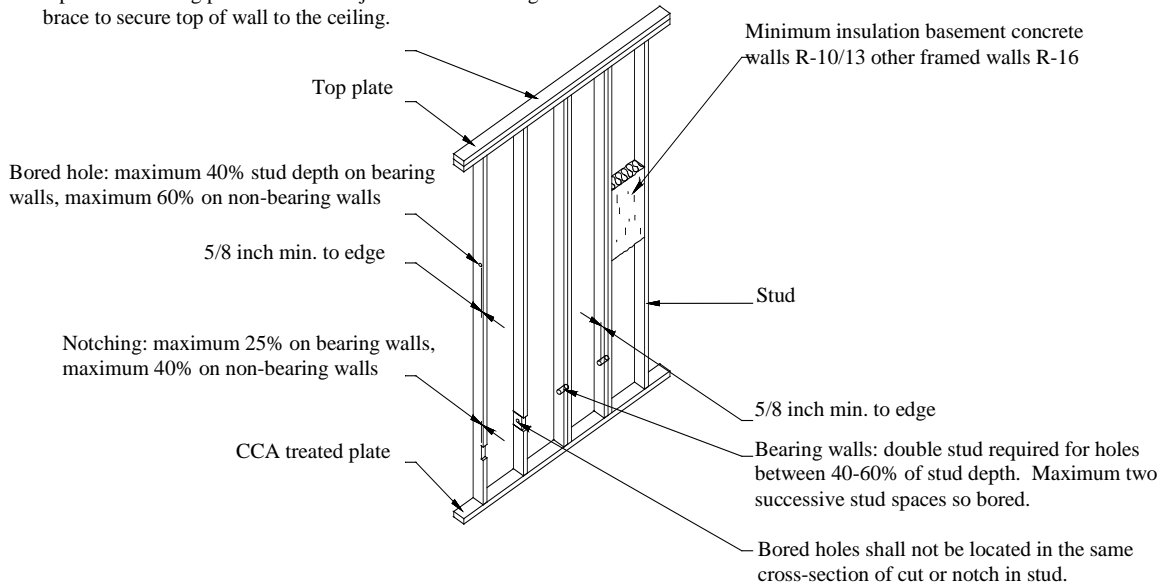
Smoke detectors are required outside each sleeping area, in each sleeping room and on each floor level of the dwelling. A smoke detector is required in the basement of the dwelling and should be interconnected with detectors on the upper floors where possible. Detectors shall receive their primary power from the building wiring and shall be provided with battery backup.

CARBON MONOXIDE ALARMS

For new construction, an approved 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.

NOTCHING AND BORED HOLE LIMITATIONS

Approximately 1-inch expansion joint required between the top of non-bearing partitions and the joist above. Use angle brace to secure top of wall to the ceiling.



FRAMING AND FINISHING

All stud wall bottom plates in contact with the floor slab shall be CCA/ACQ treated or another wood approved for ground contact. Notching and boring in studs of bearing and non-bearing walls shall not exceed the limitations noted in the diagram above. Non-bearing walls, except for the perimeter walls, shall not be constructed tight between the slab and the floor framing. An expansion joint of approximately 1 inch shall be provided to allow for possible movement of the floor slab due to expansion and contraction of the supporting soil over time. Hallways shall have a minimum clear width of 3 feet. Enclosed useable space under stairways shall be protected by 1/2-inch gypsum board on the enclosed side.

Table N1102.1.1 - Insulation and Fenestration Requirements by Component

| Thermal Component | Minimum Insulating Value |
|-------------------------------|--------------------------|
| Ceiling R-value | R-49 |
| Cathedral Ceiling R-value | R-30 |
| Floor over unheated space | R-19 |
| Floor over outside air | R-30 (?) |
| Basement wall ^a | 10/13 |
| Crawl Space wall ^a | 10/13 |
| Exterior Wall | R-13 |
| Glazing ^b | $U \leq 0.35$ |
| Glazing ^b | $SHGC \leq 0.40$ |

^a "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.

^b The default U-factor for fixed windows (Patio Glass) with double panes, argon-filled and with low-e-treatment shall be 0.40. Skylights shall have a maximum U-factor of 0.55.

WALL BRACING

Walls shall be braced to resist wind and seismic forces. Bracing shall be done in accordance with **IRC Section R602.10 Wall Bracing** or **Section R602.12 Simplified Wall Bracing** or by **Section R301.1 Engineered Design**

Some accepted bracing methods include but are not limited to the following:

- a) Let in nominal 1x4 bracing with an angle from the horizontal of between 45 and 60 degrees with 2-8d nails at each plate and stud (not permitted in first story of two or three story structure).
- b) Minimum 48 inches structural panels 5/16-inches thick from the sill plate to the top plate with minimum 6d weather resistant common nails at 12 inches on-center (4x8 and 4x9 panels shall be applied vertically).
- c) Minimum 48-inch hardboard panels 7/16 inches thick installed vertically with edges blocked. Minimum 6d weather resistant common nails at 6 inches on-center (o.c.) at edges and 12 inches on-center at interior supports.

Where the braced wall length at corners is less than 48 inches in width (such as at next to windows or garage doors) an alternate braced wall panel design or portal frame design can be used as is described in IRC Section R602.10.6.

Emergency Escape and Rescue Opening

In new single-family dwellings and basement finishes in existing single-family dwellings, a secondary means of egress from the basement will be required. The secondary egress may be a door or a window meeting the minimum requirements for a bedroom egress window:

Note: On existing homes built prior to January 1, 2001, Overland Park does not require the emergency escape/egress opening unless a bedroom is currently in place or being constructed in the basement. The basement bedroom would be required to have the emergency egress opening. See OPMC 16.110.R310.1.

- a) A minimum 5.7 square feet of openable area with a minimum width of 21 inches and a minimum height of 24 inches. Where a window well is provided it shall comply with the requirements noted below.
- b) Basement finishes adjacent to engineered swales or the FEMA floodplain may require a water-resistant window well.

Contact the Engineer of the Day at (913) 895-6223 to determine if your lot must comply with these criteria

