



Code Administrators, Inc.

Plan Review ~ Code Inspection ~ Code Consulting ~ Code Education ~ Code Development
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KITCHEN ALTERATION SUBMITTAL GUIDELINES

The following information is provided to assist permit applicants with the requirements of performing kitchen alterations to a dwelling. These items are not inclusive and if there are questions regarding the code applicability to a specific project, a preliminary inspection with a construction code official should be scheduled with our office.

PLUMBING

P2502.2 Additions, alterations or repairs. Additions, alterations, renovations or repairs to any plumbing system shall conform to that required for a new plumbing system without requiring the existing plumbing system to comply with all the requirements of this code. Additions, alterations or repairs shall not cause an existing system to become unsafe, unsanitary or overloaded.

Minor additions, alterations, renovations and repairs to existing plumbing systems shall be permitted in the same manner and arrangement as in the existing system, provided that such repairs or replacement are not hazardous and are approved.

P2503.1 Inspection required. New plumbing work and parts of existing systems affected by new work or alterations shall be inspected by the building official to ensure compliance with the requirements of this code.

P2706.2 Standpipes. Standpipes shall extend a minimum of 18 inches (457 mm) and a maximum of 42 inches (1067 mm) above the trap weir. Access shall be provided to all standpipe traps and drains for rodding.

P2706.2.1 Laundry tray connection. A laundry tray waste line is permitted to connect into a standpipe for the automatic clothes washer drain. The standpipes shall not be less than 30 inches (762 mm) as measured from the crown weir. The outlet of the laundry tray shall be a maximum horizontal distance of 30 inches (762 mm) from the standpipe trap.

P2714.1 Sink waste outlets. Sinks shall be provided with waste outlets not less than 1.5 inches (38 mm) in diameter. A strainer, crossbar or other device shall be provided to restrict the clear opening of the waste outlet.

P2715.1 Laundry tub waste outlet. Each compartment of a laundry tub shall be provided with a waste outlet not less than 1.5 inches (38 mm) in diameter and a strainer or crossbar to restrict the clear opening of the waste outlet.

P2716.1 Food waste grinder waste outlets. Food waste grind-ers shall be connected to a drain of not less than 1.5 inches (38 mm) in diameter.

P2716.2 Water supply required. Food waste grinders shall be provided with an adequate supply of water at a sufficient flow rate to ensure proper functioning of the unit.

P2717.2 Sink and dishwasher. A sink and dishwasher are permitted to discharge through a single 1.5-inch (38mm) trap. The discharge pipe from the dishwasher shall be increased to a minimum of 0.75 inch (19.1 mm) in diameter and shall be connected with a wye fitting to the sink tailpiece. The dishwasher waste line shall rise and be securely fastened to the underside of the counter before connecting to the sink tailpiece.



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PLUMBING - CONTINUED

P2717.3 Sink, dishwasher and food grinder. The combined discharge from a sink, dishwasher, and waste grinder is permitted to discharge through a single 1.5 inch (38 mm) trap. The discharge pipe from the dishwasher shall be increased to a minimum of 0.75 inch (19.1 mm) in diameter and shall connect with a wye fitting between the discharge of the food-waste grinder and the trap inlet or to the head of the food grinder. The dishwasher waste line shall rise and be securely fastened to the underside of the counter before connecting to sink tail piece or food grinder.

P2903.9.3 Valve requirements. Valves serving individual fixtures, appliances, risers and branches shall be provided with access. An individual shutoff valve shall be required on the fixture supply pipe to each plumbing fixture other than bathtubs and showers.

P2904.5.1 Under concrete slabs. Inaccessible water distribution piping under slabs shall be copper water tube minimum Type M, brass, ductile iron pressure pipe, cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pressure pipe, chlorinated polyvinyl chloride (CPVC) or polybutylene (PB) or cross-linked polyethylene (PEX) plastic pipe or tubing, all to be installed with approved fittings or bends. The minimum pressure rating for plastic pipe or tubing installed under slabs shall be 100 psi at 180_F (689 kPa at 82_C).

P3201.5 Prohibited trap designs. The following types of traps are prohibited:

1. Bell traps.
2. Separate fixture traps with interior partitions, except those lavatory traps made of plastic, stainless steel or other corrosion-resistant material.
3. S. traps
4. Drum traps.
5. Trap designs with moving parts.



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ELECTRICAL

E3603.2 Kitchen and dining area receptacles. A minimum of two 20-ampere-rated branch circuits shall be provided to serve receptacles located in the kitchen, pantry, breakfast area, dining area or similar area of a dwelling. The kitchen countertop receptacles shall be served by a minimum of two 20-ampere-rated branch circuits, either or both of which shall also be permitted to supply other receptacle outlets in the kitchen, pantry, breakfast and dining area including receptacle outlets for refrigeration appliances.

E3603.3 Laundry circuit. A minimum of one 20-ampere-rated branch circuit shall be provided for receptacles located in the laundry area and shall serve only receptacle outlets located in the laundry area.

E3603.4 Bathroom branch circuits. A minimum of one 20-ampere branch circuit shall be provided to supply the bathroom receptacle outlet(s). Such circuits shall have no other outlets.

TABLE E3605.5.3

OVERCURRENT-PROTECTION RATING

COPPER Wire Size (AWG)	Maximum overcurrent protection device ratings (amps)
14	15
12	20
10	30

E3702.3.2 Protection from physical damage. Where subject to physical damage, cables shall be protected by conduit, electrical metallic tubing, Schedule 80 PVC rigid non-metallic conduit, pipe, guard strips or other approved means. Where passing through a floor, the cable shall be enclosed in rigid metal conduit, intermediate metal conduit, electrical metallic tubing, Schedule 80 PVC rigid nonmetallic conduit or other metal pipe extending not less than 6 inches (152 mm) above the floor.

E3801.3 Small appliance receptacles. In the kitchen, pantry, breakfast room, dining room, or similar area of a dwelling unit, the two or more 20-ampere small-appliance branch circuits required by Section E3603.2, shall serve all receptacle outlets covered by Sections E3801.2 and E3801.4 and those receptacle outlets provided for refrigeration appliances.

Exceptions:

1. In addition to the required receptacles specified by Sections E3801.1 and E3801.2, switched receptacles supplied from a general-purpose branch circuit as defined in Section E3803.2, Exception 1, shall be permitted.
2. The receptacle outlet for refrigeration appliances shall be permitted to be supplied from an individual branch circuit rated at 15 amperes or greater.

E3801.3.1 Other outlets prohibited. The two or more small-appliance branch circuits specified in Section 3801.3 shall serve no other outlets.

Exceptions:

1. A receptacle installed solely for the electrical supply to and support of an electric clock in any of the rooms specified in Section E3801.3.
2. Receptacles installed to provide power for supplemental equipment and lighting on gas-fired ranges, ovens, and counter-mounted cooking units.



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KITCHEN ALTERATION SUBMITTAL GUIDELINES

ELECTRICAL – CONTINUED

E3801.3.2 Limitations. Receptacles installed in a kitchen to serve countertop surfaces shall be supplied by not less than two small-appliance branch circuits, either or both of which shall also be permitted to supply receptacle outlets in the same kitchen and in other rooms specified in Section E3801.3. Additional small-appliance branch circuits shall be permitted to supply receptacle outlets in the kitchen and other rooms specified in Section E3801.3. A small-appliance branch circuit shall not serve more than one kitchen.

E3801.4 Countertop receptacles. In kitchens and dining rooms of dwelling units, receptacle outlets for counter spaces shall be installed in accordance with Sections E3801.4.1 through E3801.4.5.

E3801.4.1 Wall counter space. A receptacle outlet shall be installed at each wall counter space 12 inches (305 mm) or wider. Receptacle outlets shall be installed so that no point along the wall line is more than 24 inches (610 mm), measured horizontally from a receptacle outlet in that space.

E3801.4.2 Island counter spaces. At least one receptacle outlet shall be installed at each island counter space with a long dimension of 24 inches (610mm) or greater and a short dimension of 12 inches (305 mm) or greater. Where a rangetop or sink is installed in an island counter and the width of the counter behind the rangetop or sink is less than 12 inches (300 mm), the rangetop or sink has divided the island into two separate countertop spaces as defined in Section E3801.4.4.

E3801.4.3 Peninsular counter space. At least one receptacle outlet shall be installed at each peninsular counter space with a long dimension of 24 inches (610 mm) or greater and a short dimension of 12 inches (305 mm) or greater. A peninsular countertop is measured from the connecting edge.

E3801.4.4 Separate spaces. Countertop spaces separated by range tops, refrigerators, or sinks shall be considered as separate countertop spaces in applying the requirements of Sections E3801.4.1, E3801.4.2 and E3801.4.3.

E3801.4.5 Receptacle outlet location. Receptacle outlets shall be located not more than 20 inches (508 mm) above the countertop. Receptacle outlets shall not be installed in a face-up position in the work surfaces or countertops. Receptacle outlets rendered not readily accessible by appliances fastened in place or appliances occupying dedicated space shall not be considered as these required outlets.

Exception: Receptacle outlets shall be permitted to be mounted not more than 12 inches (305 mm) below the countertop in construction designed for the physically impaired and for island and peninsular countertops where the countertop is flat across its entire surface and there are no means to mount a receptacle within 20 inches (508 mm) above the countertop, such as in an overhead cabinet. Receptacles mounted below the countertop in accordance with this exception shall not be located where the countertop extends more than 6 inches (152 mm) beyond its support base.

E3801.5 Appliance outlets. Appliance receptacle outlets installed for specific appliances, such as laundry equipment, shall be installed within 6 feet (1829 mm) of the intended location of the appliance.



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KITCHEN ALTERATION SUBMITTAL GUIDELINES

ELECTRICAL – CONTINUED

E3802.6 Kitchen receptacles. All 125-volt, single-phase, 15- and 20-ampere receptacles that serve countertop surfaces shall have ground-fault circuit-interrupter protection for personnel.

E3802.7 Laundry, Utility and Bar sink receptacles. All 125-volt, single-phase, 15- and 20-ampere receptacles that serve a countertop surface, and are located within 6 feet (1829 mm) of the outside edge of a laundry, utility or wet bar sink shall have ground-fault circuit-interrupter protection for personnel. Receptacle outlets shall not be installed in a face-up position in the work surfaces or countertops.

E3803.2 Habitable rooms. At least one wall switch-controlled lighting outlet shall be installed in every habitable room and bathroom.

E3803.3 Additional locations. At least one wall switch-controlled lighting outlet shall be installed in hallways, stairways, attached garages, and detached garages with electric power. At least one wall-switch-controlled lighting outlet shall be installed to provide illumination on the exterior side of each outdoor egress door having grade level access. A vehicle door in a garage shall not be considered as an outdoor egress door. Where lighting outlets are installed in interior stairways, there shall be a wall switch at each floor level to control the lighting outlet where the stairway has six or more risers.

E3805.1 Box, conduit body or fitting, where required. A box or conduit body shall be installed at each conductor splice point, outlet, switch point, junction point and pull point except as otherwise permitted in Sections E3805.1.1 through E3805.1.7. Fittings and connectors shall be used only with the specific wiring methods for which they are designed and listed.

E3805.3 Nonmetallic boxes. Nonmetallic boxes shall be used only with nonmetallic-sheathed cable, cabled wiring methods, flexible cords and nonmetallic raceways.

E3805.3.1 Nonmetallic-sheathed cable and nonmetallic boxes. Where nonmetallic-sheathed cable is used, the cable assembly, including the sheath, shall extend into the box not less than 1/4 inch (6.4 mm) through a nonmetallic-sheathed cable knockout opening.

E3805.9 Boxes at fan outlets. Outlet boxes shall not be depended on as the sole support for ceiling (paddle) fans except where such boxes are listed for that application.

E3805.12.2 Box fill calculations. The volumes in Section E3805.12.2.1 through Section E3805.12.2.5, as applicable, shall be added together. No allowance shall be required for small fittings such as locknuts and bushings.

E3805.12.2.1 Conductor fill. Each conductor that originates outside the box and terminates or is spliced within the box shall be counted once, and each conductor that passes through the box without splice or termination shall be counted once. The conductor fill, in cubic inches, shall be computed using Table E3805.12.2.1. A conductor, no part of which leaves the box, shall not be counted.



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ELECTRICAL – CONTINUED

E3806.5 In wall or ceiling. In walls or ceilings of concrete, tile or other noncombustible material, boxes shall be installed so that the front edge of the box will not be set back from the finished surface more than 0.25 inch (6.4 mm). In walls and ceilings constructed of wood or other combustible material, outlet boxes shall be flush with the finished surface or project therefrom.

E3807.4 Unused openings. Unused openings in cabinets and panelboards shall be effectively closed to afford protection equivalent to that of the wall of the cabinet. Metal plugs or plates used with nonmetallic cabinets shall be recessed at least 0.25 inch (6.4 mm) from the outer surface.

E3808.1 Metal enclosures. Metal enclosures of conductors, devices and equipment shall be grounded.

E3808.15 Metal boxes. A connection shall be made between the one or more equipment grounding conductors and a metal box by means of a grounding screw that shall be used for no other purpose, or by means of a listed grounding device. Sheet-metal screws shall not be used to connect grounding conductors to boxes.

E3808.16 Nonmetallic boxes. One or more equipment grounding conductors brought into a nonmetallic outlet box shall be arranged to allow connection to fittings or devices installed in that box.

E4001.3 Flexible cords. Cord- and plug-connected appliances shall use cords suitable for the environment and physical conditions likely to be encountered. Flexible cords shall only be used where the appliance is listed to be connected with a flexible cord. Specific appliances have additional requirements as specified in Table E4001.3. (See Section E3809.)

TABLE E4001.3 FLEXIBLE CORD LENGTH

APPLIANCE	MINIMUM CORD LENGTH (inches)	MAXIMUM CORD LENGTH (inches)
Kitchen waste disposal	18	36
Built-in dishwasher	36	48
Trash compactor	36	48



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BUILDING

R502.8 Drilling and notching. Structural floor members shall not be cut, bored or notched in excess of the limitations specified in this section. See Figure R502.8.

R502.8.1 Sawn lumber. Notches in solid lumber joists, rafters and beams shall not exceed one-sixth of the depth of the member, shall not be longer than one-third of the depth of the member and shall not be located in the middle one-third of the span. Notches at the ends of the member shall not exceed one-fourth the depth of the member. The tension side of members 4 inches (102 mm) or greater in nominal thickness shall not be notched except at the ends of the members. The diameter of holes bored or cut into members shall not exceed one-third the depth of the member. Holes shall not be closer than 2 inches (51 mm) to the top or bottom of the member, or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches (51 mm) to the notch.

R602.6 Drilling and notching studs. Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40 percent of a single stud width. Any stud may be bored or drilled, provided that the diameter of the resulting hole is no greater than 40 percent of the stud width, the edge of the hole is no closer than 5/8 inch (15.9 mm) to the edge of the stud, and the hole is not located in the same section as a cut or notch. See Figures R602.6(1) and R602.6(2).

Exceptions:

1. A stud may be bored to a diameter not exceeding 60 percent of its width, provided that such studs located in exterior walls or bearing partitions are doubled and that not more than two successive studs are bored.
2. Approved stud shoes may be used when installed in accordance with the manufacturer's recommendation.

R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie of not less than 0.054 inches thick (1.37mm) (16ga) and 1 1/2 inches (38mm) wide shall be fastened to each plate across and to each side of the opening with not less than eight 16d nails at each side or equivalent. See Figure R602.6.1. **Exception:** When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.



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KITCHEN ALTERATION SUBMITTAL GUIDELINES

BUILDING – CONTINUED

R602.8 Fireblocking required. Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space. Fireblocking shall be provided in wood-frame construction in the following locations.

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs; as follows:
 - 1.1. Vertically at the ceiling and floor levels.
 - 1.2. Horizontally at intervals not exceeding 10 feet (3048 mm).
2. At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R311.2.2.
4. At openings around vents, pipes, and ducts at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion.
5. For the fireblocking of chimneys and fireplaces, see Section R1001.16.
6. Fireblocking of cornices of a two-family dwelling is required at the line of dwelling unit separation.

R602.8.1 Materials. Except as provided in Section R602.8, Item 4, fireblocking shall consist of 2-inch (51 mm) nominal lumber, or two thicknesses of 1-inch (25.4 mm) nominal lumber with broken lap joints, or one thickness of 23/32-inch (19.8 mm) wood structural panels with joints backed by 23/32-inch (19.8 mm) wood structural panels or one thickness of 3/4-inch (19.1 mm) particleboard with joints backed by 3/4-inch (19.1 mm) particleboard, 1/2-inch (12.7 mm) gypsum board, or 1/4-inch (6.4 mm) cement-based millboard. Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place shall be permitted as an acceptable fire block. Batts or blankets of mineral or glass fiber or other approved non-rigid materials shall be permitted for compliance with the 10 foot horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs. Loose-fill insulation material shall not be used as a fire block unless specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.

R602.8.1.1 Unfaced fiberglass. Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross-section of the wall cavity to a minimum height of 16 inches (406mm) measured vertically. When piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction.