



Building Permits & Inspection Division

General Information: (916) 875-5296
www.building.saccounty.net

Table with 2 columns: Service Center Name and Address/Hours. Includes Full Service Center, East Area Service Center, Bradshaw Center, and North Area Service Center.

COMMON RESIDENTIAL CODES

Project Description _____ Date _____ Case No. _____

These sheets, when attached to a set of plans, become part of those plans and must remain attached thereto. The approval of this plan and the specifications shall not be held to permit or approve the violation of any County ordinance or State or Federal law.

I have read and will comply with the items in this document and as marked on the plans. I am aware that the text and code sections referenced in this form may be appealed as per SCC 105.
Signature of: Owner [] Authorized Agent [] Contractor [] Architect/Engineer [] Date _____

BUILDING CODE REQUIREMENTS

Section R301 Design Criteria

- B-1 R301.1.1 Alternative provisions. Conventional Light-Frame Construction complying with the AF&PA (WFCM) is an acceptable alternative to this CRC provision, when addressing prescriptive framing requirements.
B-2 R301.1.3 Engineered Design. Where a building of otherwise Conventional Light Framed construction contains structural elements exceeding the limits of Section R301 or otherwise not conforming to this code, these elements shall be designed in accordance with accepted engineering practice.

Section R302 Fire-Resistant Construction

- B-3 R302.5.1 Opening protection. All private garages that open directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and the residence shall be equipped with solid wood doors not less than 1 3/8 inches in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches thick, or 20-minute fire-rated doors, equipped with a self-closing and self-latching device. Exception: Where the residence and private garage are protected by an automatic residential fire sprinkler system in accordance with Sections R309.6 and R313, other door openings between the garage and residence need only be self-closing and latching. Under no circumstance shall a private garage have any opening into a room used for sleeping purposes. When habitable rooms are above a garage or carport, the separate ceiling shall have not less than 5/8 inch Type X gypsum board or equivalent.
B-4 R302.11 and R302.12 Fireblocking and Draftstopping. Fire blocking and Draft stopping shall be installed according to the 2016 CRC Section provisions.
B-5 R302.5.2 Duct Penetration. Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gauge sheet steel or other approved material and shall not have openings into the garage.
B-6 R302.7 Under-stair protection. Enclosed accessible space under stairs shall have walls, under-stair surfaces, and any soffits protected on the enclosed side with 1/2 inch Gypsum board.

Section R303
Light, Ventilation and Heating

- B-7 **R303 Light, Ventilation and Heating.** Provide adequate natural light and ventilation for habitable rooms within a dwelling unit. The minimum openable area to the outdoors for natural ventilation shall not be less than 4 percent of the floor area being ventilated. The minimum aggregate glazing area for natural light shall not be less than 8 percent of such room.
Exception 1: The glazed areas need not be openable where the opening is not required by Section R310 and a whole-house mechanical ventilation system is installed and capable of producing 0.35 air change per hour in the room is installed or a whole-house mechanical ventilation system is installed capable of supplying outdoor ventilation air of 15 cubic feet per minute per occupant computed on the basis of two occupants for the first bedroom and one for each additional bedroom.
Exception 2: The glazed areas need not be installed in rooms where artificial light is provided capable of producing an average illumination of 6 footcandles over the area of the room at a height of 30" above the floor level.
- B-8 **R303.9 Required heating.** Where the design temperature in **Table R301.2(1)** is below 60 degree F, every dwelling unit shall be provided with heating facilities capable of maintaining a room temperature of not less than 68 degree F at a point 3 feet above the floor and 2 feet from the exterior walls in habitable rooms at the design temperature. The installation of one or more portable space heaters shall not be used to achieve compliance with this section.
- B-9 **R304.1 and R304.2 Minimum area and dimensions.** Habitable spaces within a dwelling unit, other than kitchens, shall not be less than 7-feet in any direction and have a minimum of 70 square feet of floor area (except kitchens).
- B-10 **R305.1 Minimum height.** Habitable space, hallways, bathrooms, toilet rooms, laundry rooms and portions of basements containing these spaces shall have a ceiling height of not less than 7-feet. Ceilings above fixtures in bathrooms or above shower heads may have a 6-foot 8 inch height.
- B-11 **R307.2 Bathtub and Shower spaces.** Bathtub and shower floors and walls above bathtubs with installed shower heads and in shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet above the floor.
- B-12 **R308.4 Hazardous locations.** Provide safety glazing for all glazing located in hazardous locations as specified in **Sections R308.4.1** through **R308.4.7**.

Section R310
Emergency Escape and Rescue Openings

- B-13 **R310.1 Emergency Escape and Rescue openings.** Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency escape and rescue shall be required in each sleeping room. Emergency escape and Rescue openings shall open directly into a public street, public way, or to a yard, or court that opens to a public way.
- B-14 **R310.2.1 Minimum opening area.** Escape or rescue windows shall have a minimum net clear openable area of 5.7 square feet unless located at grade level where it may be reduced to 5 square feet. The minimum net clear openable height dimension shall be 24 inches. The minimum net clear openable width dimension shall be 20 inches.
- B-15 **R310.2.2 Window sill height.** Where a window is provided as the emergency escape or rescue window opening it shall have the bottom of the clear opening not greater than 44 inches above the floor; where the sill height is below grade, it shall be provided with a window well in accordance with **Section R310.2.3**
- B-16 **R312.2 Window fall protection.** Window fall protection shall be provided in accordance with **Section R312.2.1** and **R312.2.2**.

Section R311 Means of Egress

- B-17 **R311.7 Stairways.** Private stairways and steps may be constructed with a 7 ¾-inch maximum rise, a 10-inch minimum run, and a 36-inch minimum width. The largest tread run and the greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8-inch. A nosing of not less than ¾-inch and not more than 1 ¼-inch shall be provided on stairways with solid risers. Stairways within dwelling units must have a handrail on at least one side unless there are less than 4 risers, where no handrail is required. The handgrip portion of handrails shall be not less than 1 ¼-inch or more than 2-inches in cross-sectional dimension and placed between 34-inches and 38-inches above the nosing of the treads. Non-circular handrails shall have dimensions not to exceed 2 ¼-inches in cross sectional area and a perimeter dimension of at least 4-inches but not to exceed 6 ¼-inches. Stairwells must maintain 80-inches of headroom clearance.
- B-18 **R311.7.6 Landings for stairways.** There shall be a floor or landing at the top and bottom of each stairway. The width perpendicular to the direction of travel shall not be less than the width of the flight served. Landings of shape other than square or rectangular shall be permitted provided that the depth at the walk line and the total area is not less than that of a quarter circles, with a radius equal to the required landing width. Where the stairway has a straight run, the depth in the direction of travel shall be not less than 36 inches.
Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided that a door does not swing over the stairs.
- B-19 **R311.3 Floor and landings at exterior doors.** There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a dimension of not less than 36 inches measured in the direction of travel. The slope at exterior landings shall not exceed ¼ units vertical in 12 units horizontal (2 percent).
Exception: Exterior balconies less than 60 square feet and only accessible from a door are permitted to have a landing less than 36 inches measured in the direction of travel.
- B-20 **R311.7.8 Handrails.** Handrails shall be provided on not less than one side of each continuous run of treads or flight with four or more risers.

Section R312 Guards and Window Fall Protection

- B-21 **R312.1.1 Guards and Window Fall Protection.** Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches horizontally to the edge of the open side.
- B-22 **R312.1.2 Height.** Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 42" inches in height as measured vertically above the adjacent walking surface or the line connecting the leading edges of the treads.
- B-23 **R312.1.3 Opening limitations.** Required guards shall not have openings from the walking surface to the required guard height that allows passage of a sphere 4" inches in diameter.
Exception: #2 Guards on the open side of stairs shall not have openings that allow passage of a sphere 4 3/8 inches in diameter.

Section R314 Smoke Alarms

- B-24 **R314.1 General.** Smoke alarms shall comply with **NFPA 72** and **Section R314**.
- B-25 **R314.1.1 Listings.** Smoke alarms shall be listed in accordance with **UL 217**. Combination smoke and carbon monoxide alarms shall be listed in accordance with **UL217 and UL 2034**.
- B-26 **R314.1 General.** Smoke alarms shall comply with **NFPA 72** and **Section R314**.

B-27 **R314.2.2 Alterations, repairs and additions.** (Where alterations, repairs or additions requiring a permit occur, where 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.

Exceptions: See **Section R314.6**

B-28 **R314.3 Location.** Smoke alarms shall be installed in the following locations:

1. in each sleeping room.
2. outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. on each additional story of the dwelling, including basements and habitable attic but not including crawl spaces and uninhabitable attics. In dwelling or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

When more than one smoke alarm is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit.

B-29 **R314.6 Power Source.** Smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms with integral strobes that are not equipped with battery backup shall be connected to an emergency electrical system. Smoke alarms shall emit a signal when the batteries are low.

Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exceptions:

1. Smoke alarms permitted to be solely battery operated in existing buildings where no construction is taking place.
2. Smoke alarms are permitted to be solely battery operated in buildings that are not served from a commercial power source.
3. Smoke alarms are permitted to be solely battery operated in existing areas of building undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for building wiring without the removal of interior finishes.
4. Smoke alarms are permitted to be solely battery operated where repairs or alterations are limited to the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
5. Smoke alarms are permitted to be solely battery operated when work is limited to the installation, alteration or repairs of plumbing or mechanical systems or the installation, alteration or repair of electrical systems which do not result in the removal of interior wall or ceiling finishes exposing the structure.

B-30 **R314.8.2 Existing Dwelling Units.** Except as otherwise provided in this section a smoke detector, approved and listed by the State Fire Marshal pursuant to **Section 13114**, shall be installed, in accordance with the manufacturer's instructions in each dwelling intended for human occupancy upon the owner's application on or after January 1, 1985, for a permit for alteration or addition, exceeding one thousand dollars (\$1000).

Section R315 Carbon Monoxide Alarms

B-31 **R315.1.1 Listings.** Carbon monoxide alarms shall be listed in accordance with **UL 2034**. Combination carbon monoxide and smoke alarms shall be listed in accordance with **UL 2034 and UL 217**.

B-32 **R315.2.1 Existing Buildings and New Construction.** For existing buildings and new construction, an approved carbon monoxide alarm shall be installed in dwelling units where either or both conditions exist.

1. The dwelling unit contains fuel-burning appliances or fireplace.
2. The dwelling unit has an attached garage with an opening that communicates with the dwelling unit.

B-33 **R315.2.2 Alterations, repairs and additions.** Where an addition is made to an existing dwelling or a fuel burning heater, appliance, or fireplace is added to an existing dwelling not previously required to be provided with carbon monoxide alarms, new carbon monoxide alarms shall be installed in accordance with **Section R315**.

B-34 **R315.3 Location.** Carbon monoxide alarms and carbon monoxide detectors shall be installed in accordance with this code, the current edition of **NFPA 720** "Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment" and the manufacturer's installation instructions. Other carbon monoxide alarm and detection devices as recognized in **NFPA 720** are also acceptable.

Carbon monoxide alarms required by **Section R315.1, R315.2** and **R315.2.2** shall be installed in the following locations:

1. Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s).
2. On every occupiable level of a dwelling unit including basements.

B-35 **R315.4 Combination alarms.** Combination carbon monoxide alarms and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms.

Combination carbon monoxide/smoke alarms shall comply with **Section R315** and all requirements for listing and approval by the Office of the State Fire Marshall, for smoke alarms.

When the valuation of an addition, alteration or repair to a Group R Occupancy exceeds \$1000 and a permit is required, or when one or more sleeping rooms are added or created in existing Group R Occupancies, smoke alarms shall be installed in accordance with **CRC Section R314.8.2**.

B-36 **R315.5 Power Source.** For existing buildings and new construction, carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall be equipped with a battery back-up. Alarm wiring shall be directly connected to the permanent building wiring without a disconnecting switch other than those required for overcurrent protection.

Exception:

1. Carbon monoxide alarms shall be permitted to be battery operated where installed in buildings without commercial power.
2. Carbon monoxide alarms installed in accordance with **Section R315.2.2** shall be permitted to be battery powered.
3. Carbon monoxide alarms in Group R occupancies shall be permitted to receive their primary power from other power sources recognized for use by **NFPA 720**.

B-37 **R315.7 Interconnection.** Where more than one carbon monoxide alarm is required to be installed within the dwelling unit or within a sleeping unit in Group R occupancies, the alarms shall be interconnected in a manner that activation of one alarm shall activate all of the alarms in the individual unit.

Exception:

Interconnection is not required in existing buildings built prior to January 1, 2011, under any of the following conditions:

1. Physical interconnection is not required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.
2. No construction is taking place.
3. Repairs or alterations do not result in the removal of interior wall and ceiling finishes exposing the structure in area/spaces where carbon monoxide alarms are required.

Section R317

Protection Of Wood And Wood-Based Products Against Decay

B-38 **R317.1 Location Required.** Protection of wood and wood-based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with **AWPA UI** for the species, product, preservative and end use. Preservatives shall be listed in **Section 4 of AWPA UI**.

Wood joists or the bottom of a wood structural floor when closer than 18" inches or wood girders when closer than 12" inches to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation. (Apply 2-7 if applicable), as well as all foundation sills, plates, sleepers, posts, and columns that rest on concrete or masonry must be naturally durable or preservative treated.

Section R408

Under-Floor Space

B-39 **R408.1 Under-Floor Space Ventilation.** The minimum net area of ventilation openings shall be not less than 1 square foot for each 150 square feet of under-floor space area, unless the ground surface is covered by a Class 1 vapor retarder material is used, the minimum net area of ventilation openings shall be not less

than 1 square foot for each 1,500 square feet of under-floor space area. One such ventilating opening shall be within 3 feet of each corner of the building.

- B-40 **R408.2 Openings for under-floor ventilation.** The minimum net area of ventilation openings shall not be less than 1 square foot for each 150 square feet of under-floor area. One ventilation opening shall be within 3 feet of each corner of the building. Ventilation openings shall be covered for the height and width with any of the following materials provided that the least dimension of the covering shall not exceed ¼ inch.
- B-41 **R408.4 Access.** Access shall be provided to all under-floor spaces. Access openings through the floor shall be a minimum of 18" inches by 24" inches. Openings through a perimeter wall shall be not less than 16" inches by 24" inches. Where any portion of the through-wall access is below grade, an areaway not less than 16" inches by 24" inches shall be provided.

Chapter 5 Floors

- B-42 **R502.9 Fastening.** Floor framing shall be nailed in accordance with **Table R602.3 (1)**. Where posts and beams or girder construction is used to support floor framing, positive connection shall be provided to ensure against uplift and lateral displacement.
- B-43 **R506.2.3 Vapor retarder.** A 6-mil polyethylene or approved vapor retarder with joints lapped not less than 6 inches shall be placed between the concrete floor slab and the base course or the prepared subgrade where no base course exists.

Section R602 Wood Wall Framing

- B-44 Wood framed studs shall be dimensioned as per the **CRC Table R602.3 (5)** for size, height, and spacing.
- B-45 **R602.6 Drilling and Notching of studs.** Drilling and Notching of studs shall be in accordance with the following:
Notching: Any stud in an exterior wall or bearing partition shall be permitted to be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions shall be permitted to be notched to a depth not to exceed 40 percent of a single stud width.
Drilling: Any stud shall be permitted to be bored or drilled, provided that the diameter of the resulting hole is not more than 60 percent of the stud width, the edge of the hole is not more than 5/8 inch to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall be doubled with not more than 2 successive doubled studs bored.
Exception: Use of approved stud shoes is permitted where they are installed in accordance with the manufacturer's recommendations.
- B-46 **R602.9 Cripple Walls.** Cripple Wall on a Conventional foundation shall be framed of studs not smaller than the studding above. When exceeding 4 feet in height, such walls shall be framed of studs having the size required for an additional story. Cripple walls with a stud height less than 14" inches shall be continuously sheathed on one side with wood structural panels fastened to both the top and bottom plates in accordance with **Table R602.3(1)**, or the cripple walls shall be constructed of solid blocking. Cripple Walls shall be supported on continuous foundations.
- B-47 **R602.10 Wall Bracing.** All Braced Wall lines shall consist of braced wall panels that meet the requirements for location, type, and amount of bracing specified in the **CRC, section R602.10** and are in line or offset from each other by not more than 4 feet from the designated brace wall line. Braced wall panel end distance requirements shall be per **Figure R602.10.1.1**. All braced wall panels shall be clearly identified on the plans as to their type, length and location as per **CRC Table R602.10.1.1 Through R602.10.5**.
- B-48 Note: 1" x 4" let-in braces are allowed in Seismic Category C only (See **Tables R602.10.4**)
- B-49 Alternate braced wall lengths shall be per **Table R602.10.6.1**
- B-50 **R602.11. 11.1 Wall anchorage for all buildings in Seismic Design Categories C, D0, D1 and D2.** Foundation plates or sills shall be bolted or anchored to the foundation or foundation wall with a minimum of two ½" diameter bolts with a minimum embedment depth of 7" into concrete or grouted cells. Anchor bolts

shall have properly sized steel plate washers on each bolt. A properly sized nut and washer shall be tightened on each bolt to plate (3-inch x 3-inch x .0229). Anchor bolts shall not be placed more than 6-feet on center or not more than 12-inches (or no less than seven bolt diameters) from each end of the plate section per **CRC Sections R403.1.6** and **R602.11.1**

- B-51 All bearing walls shall be supported on masonry, concrete, foundations, piles, or other approved foundation systems that will be of sufficient size to support all loads. Where a design is not provided, the minimum foundation requirements for stud bearing walls shall be as set forth in **CRC Table R403.1**.

Chapter 7 Wall Covering

- B-52 **2016 CRC Chapter 7.** All gypsum board, stucco, plaster, and lath shall be installed as per this chapter.
- B-53 **2016 CRC Section R703.** All exterior wall coverings shall be applied as per this section.

Section R802 Wood Roof Framing

- B-54 **R802.3 Framing details.** Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than 3 units vertical in 12 units horizontal (25 percent slope), structural members that support rafters and ceiling joists, such as ridge beams, hips and valleys, shall be designed as beams.
- B-55 **R802.3.1 Ceiling Joist and Rafter connections.** Where ceiling joists are not parallel to rafters, rafter ties shall be installed. Rafter ties shall not be less than 2" inches by 4" inches, installed in accordance with the connection requirements in **Table R802.5.1 (9)**, or connections of equivalent capacities shall be provided. Where ceiling joists or rafter ties are not provided the ridge formed by these rafters shall be supported by a wall or girder designed in accordance with accepted engineering practice. Collar ties or ridge straps to resist wind uplift shall be connected in the upper third of the attic space in accordance with **Table R602.30 (1)**. Collar ties shall be not less than 1" inch by 4" inches, spaced not more than 4'feet on center.
- B-56 **R806 Roof Ventilation.** Provide attic ventilation as per this **CRC Section and the California Energy Standards Commission**.

Section R807 Attic Access

- B-57 **R807.1 Attic access.** Buildings with combustible ceiling or roof construction shall have an attic access opening to attic areas that have a vertical height of 30 inches or greater over an area of not less than 30 square feet. The vertical height shall be measured from the top of the ceiling framing members to the underside of the roof framing members.
Note: The rough-framed opening shall not be less than 22" inches by 30" inches and shall be located in a hallway or other readily accessible location. In addition attics with a maximum vertical height of less than 30 inches and an area of 30 square feet or less need not be provided with access openings.
- B-58 Construction within Wildland Urban Interface areas shall comply with The Department of Forestry and Fire Protection. The Office of the State Fire Marshal in Sacramento can provide additional information. Please visit their web site at <http://www.fire.ca.gov/wildland.php>

Section R1001 Chimneys and Fireplaces

- B-59 **R1001.00 Fireplace clearance.** Wood beams, joists, studs and other combustible material shall have clearance of not less than 2" inches from the front faces and sides of masonry fireplaces and not less than 4" inches from the back faces of masonry fireplaces. The air space shall not be filled, except to provide fire blocking in accordance with **Section R1001.12**.
- B-60 **R1001 and R1003 Masonry Fireplaces and Chimneys.** Footing and foundations for masonry fireplaces and their chimneys shall be constructed of concrete or solid masonry not less than 12" inches thick and

shall extend not less than 6" inches beyond the face of the fireplace or foundation wall on all sides. Unless a specified design is provided, all fireplaces and chimneys shall be constructed, reinforced and anchored with this section and the applicable provisions of **Chapter 3 and 4**.

- B-61 **R1003.18 Chimney clearances.** Any portion of a masonry chimney located in the interior of the building or within the exterior wall of the building shall have a minimum airspace clearance to combustibles of 2" inches. Chimneys located entirely outside the exterior walls of the building, including chimneys that pass through the soffit or cornice, shall have a minimum airspace of 1" inch. The airspace shall not be filled, except to provide fire blocking in accordance with **Section R1003.19**.
- B-62 **R1004 and R1005 Factory-Built Fireplaces and Chimneys.** Factory-built fireplaces and Chimneys shall be listed and labeled and shall be installed in accordance with the conditions of the listing. Factory-built fireplaces shall be tested in accordance with **UL 127**. Chimneys shall be listed and labeled and shall be installed and terminated in accordance with the manufacturer's instructions.
Wood burning appliances within the Sacramento Metropolitan Air Quality Management District (SMAQMD) need approval from SMAQMD (916-874-4800).

2016 California Plumbing Code Requirements

Chapter 4

Plumbing Fixtures and Fixture Fittings

- P-1 **CPC Section 402.2 Joints.** Where a fixture comes in contact with the wall or floor, the joint between the fixture and the wall or floor shall be made watertight.
- P-2 **CPC Section 402.5 Setting.** Fixtures shall be set level and in proper alignment with reference to adjacent walls. No Water Closet or Bidet shall be set closer than 15" inches from its center to a side wall or obstruction, or closer than 30" inches center to center to a similar fixture. The clear space in front of the Water Closet, Lavatory, or Bidet shall be not less than 24" inches.
Exception: The installation of a paper dispenser or accessibility grab bar shall not be considered an obstruction.
- P-3 **CPC Section 408.3 Individual Shower and Tub-Shower Combination Control Valves.** Showers and tub-shower combinations shall be provided with individual control valves of the pressure balance, thermostatic, or combination pressure balance/thermostatic mixing valve type that provide scald and thermal shock protection for the rated flow rate of the installed showerhead. Handle position stops shall be provided on such valves and shall be adjusted per the manufacturer's instructions to deliver a maximum mixed water setting of 120 degrees F.

Chapter 5

Water Heaters

- P-4 **CPC Chapter 5.** All water heater installations shall be accessible for inspection, repair, or replacement as per the provisions of this Code and Sections thereafter.
- P-5 **CPC Table 501.1 (1).** The minimum capacity for water heaters shall be in accordance with the first hour rating as listed in this Chapter and code Section.
- P-6 **CPC Section 504 and 504.1 Water Heater Requirements and Location.** Water Heater installations in bedrooms and bathrooms shall be in accordance with one of the following [**NFPA 54:10.28.1**]:
 1. Fuel-burning water heaters shall be permitted to be installed in a closet located in the bedroom or bathroom provided the closet is equipped with a listed, gasketed door assembly and a listed self-closing device. The self-closing door assembly shall meet the requirements of **Section 504.1.1**. The door assembly shall be installed with a threshold and bottom door seal and shall meet the requirements of **Section 504.1.2**. Combustion air for such installations shall be obtained from the outdoors in accordance with **Section 506.4**. The closet shall be for the exclusive use of the water heater.
 2. Water heater shall be of the direct vent type. [**NFPA 54:10.28. [2]**]
- P-7 **CPC Section 504.6 Temperature, Pressure, and Vacuum relief Devices.** Temperature, Pressure, and Vacuum relief Devices or combinations thereof, and automatic gas shutoff devices, shall be installed in accordance with the terms of their listings and the manufacture's installation instructions. A shutoff valve

shall not be placed between the relief valve and the water heater or on discharge pipes between such valves and the atmosphere. The Hourly British thermal units (Btu) (kW*h) discharge capacity or the rated steam relief capacity of the device shall not be less than the input rating of the water heater.

- P-8 **CPC Section 506.1 Air for Combustion and Ventilation.** Air for combustion, ventilation, and dilution of flue gases for appliances installed in buildings shall be obtained by the application of one of the methods covered in Section 506.2 through **Section 506.7.3**. Where the requirements of Section 506.2 are not met, outdoor air shall be introduced in accordance with methods covered in **Section 506.4** through **Section 506.7.3**. [Water Heaters]
- P-9 **CPC Section 507.2 Seismic Provisions.** Water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one-third (1/3) and lower one-third (1/3) of its vertical dimensions. At the lower point, a minimum distance of 4" inches (101.6 mm) shall be maintained above the controls with the strapping
- P-10 **CPC Section 507.13 Installation in Garages.** Gas appliances in garages and in adjacent spaces that open to the garage and are not part of the living space of a dwelling unit shall be installed so that burner and burner- ignition devices are located not less than 18 inches above the floor unless listed as flammable vapor ignition resistant. [NFPA 54:9.1.10.1]

Chapter 6 Water Supply and Distribution

- P-11 **CPC Section 603.5.7 Outlets with Hose Attachments.** Potable water outlets with hose attachments, other than water heater drains, boiler drains, and clothes washer connections, shall be protected by a non-removable hose bib type backflow preventer, a non-removable hose bib type vacuum breaker, or by an atmospheric vacuum breaker installed not less than 6" inches above the highest point of usage located on the discharge side of the last valve.
- P-12 **CPC Section 608.5 Discharge Piping.** The discharge piping servicing a temperature relief valve, pressure relief valve, or combination of both shall have no valves, obstructions, or means of isolation and be provided with the following:
- 1: Equal to the size of the valve outlet and shall discharge full size to the flood level of the area receiving the discharge and pointing down
 - 2: Materials shall be rated not less than the operating temperature of the system and approved as such use.
 - 3: Discharge pipe shall discharge independently by gravity through an air gap into the drainage system of the building with the end of the pipe not exceeding 2 feet and not less than 6" inches above ground and pointing downwards.
 - 4: Discharge in such a manner that does not cause personal injury or structural damage.
 - 5: No part of such drainpipe shall be trapped or subject to freezing.
 - 6: The terminal end of the pipe shall be threaded.
 - 7: Discharge from a relief valve into a water heater pan shall be prohibited.

Chapter 7 Sanitary Drainage

- P-13 **CPC Sections 701.2 (2) (a) [HCD 1 & HCD 2], Material Uses.** ABS and PVC installations are limited to not more than two stories of areas of residential accommodation.
- P-14 **CPC Section 707.9 Clearances.** No under- floor cleanout shall be located more than 5 feet from an access door, trap door, or crawl hole.
- P-15 Shut off valves shall be installed in the fuel supply piping outside of each appliance as per **ANZI Z21.24** and **NFPA 54:9.6.1**
- P-16 Gas outlets located in a barbecue or fireplace shall be controlled by an approved operating valve located in the same room and outside the hearth but not more than 6-feet from such outlets as per **NFPA 5.5.4**.

Chapter 8 Indirect Wastes

- P-17 **CPC Section 807.3 Domestic Dishwashing Machines.** No domestic dishwashing machine shall be directly connected to a drainage system or food waste disposer without the use of an approved dishwasher air gap fitting on the discharge side of the dishwashing machine. Listed air gaps shall be installed with the flood-level (FL) marking at or above the flood level of the sink or drainboard, whichever is higher.
- P-18 **CPC Table 1216.2 (1).** Gas piping shall be sized as per this Table and Section.

2016 California Mechanical Code Requirements

Chapter 3 General Regulations

- M-1 **CMC Chapter 3.** Such listed and unlisted equipment or appliance shall comply with the provisions of this chapter.
- M-2 **CMC 304.4 Appliances in Attics and Under-Floor Spaces.** An attic or under-floor space in which an appliance is installed shall be accessible through an opening and passageway not less than the largest component of the appliance, and not less than 22" inches by 30" inches.
- M-3 **CMC 304.4.1 Length of Passageway.** Where the height of the passageway is less than 6' feet, the distance from the passageway access to the appliance shall not exceed 20' feet measured along the centerline of the passageway. **[NFPA 54:9.5.1.1]**
- M-4 **CMC 304.4.2 Width of Passageway.** The passageway shall be unobstructed and shall have solid flooring not less than 24" inches wide from the entrance opening to the appliance. **[NFPA 54:9.5.1.2]**
- M-5 **CMC 304.4.3 Work Platform.** A level working platform not less than 30" inches by 30" inches shall be provided in front of the service side of the appliance. **[NFPA 54:9.5.2]**
Exception: A working platform need not be provided where the furnace is capable of being serviced from the required access opening. The furnace service side shall not exceed 12" inches from the access opening.
- M-6 **CMC 304.4.4 Lighting and Convenience Outlet.** A permanent 120-volt receptacle outlet shall be installed near the appliance. The switch controlling the lighting fixture shall be located at the entrance to the passageway. **[NFPA 54:9.5.3]**
- M-7 **CMC Section 308.1.** Equipment covered by this code that is located in a garage and generates a glow, spark, or flame capable of igniting flammable vapors shall be installed on an enclosed platform with sources of ignition at least 18 inches above the floor level.

Chapter 5 Exhaust Systems

- M-8 **CMC Section 504.3.** Ducts used for domestic kitchen range ventilation shall be of metal and shall have smooth interior surfaces.
Exception: Ducts for domestic kitchen downdraft grill-range ventilation installed under a concrete slab floor shall be permitted to be of approved Schedule 40 PVC.
- M-9 **CMC Section 504.4 Clothes Dryers.** A clothes dryer exhaust duct shall not be connected to a vent connector, gas vent, chimney, and shall not terminate into a crawl space, attic, or other concealed space. Exhaust ducts shall not be assembled with screws or other fastening means that extend into the duct and that are capable of catching lint, and that reduce the efficiency of the exhaust system. Exhaust ducts shall be constructed of rigid metallic material. Transition ducts used to connect the dryer to the exhaust duct shall be listed for that application or installed in accordance with the clothes dryer manufactures installation instructions. Clothes dryer exhaust ducts shall terminate to the outside of the building in accordance with **Section 502.2.1** and shall be equipped with a backdraft damper.

- M-10 **CMC Section 504.4.1 Provisions for Make-Up Air.** Makeup air shall be provided for Type 1 clothes dryers in accordance with the manufacturer's instructions. **[NFPA 54:10.4.3.1].** Where a closet is designed for the installation of a clothes dryer, an opening of not less than 100 square inches for makeup air shall be provided in the door or by other approved means.
- M-11 **CMC Section 504.4.2 Domestic Clothes Dryers.** Where a compartment or space for a Type 1 clothes dryer is provided, not less than a 4" inch diameter exhaust duct of approved material shall be installed in accordance with **Section 504.0.** Type 1 clothes dryer exhaust ducts shall be of ridged metal and shall have smooth interior surfaces. The diameter shall not be less than 4" inches nominal and the thickness shall be not less than 0.016 of an inch.
- M-12 **CMC Section 504.4.2.1 Length Limitations.** Unless otherwise permitted or required by the dryer manufacturer's instructions and approved by the Authority Having Jurisdiction, domestic dryer moisture exhaust ducts shall not exceed a total combined horizontal and vertical length of 14' feet, including two 90 degree elbows. A length of 2' feet shall be deducted for each 90 degree elbow in excess of two.

Chapter 6 Duct Systems

- M-13 **CMC 601.2 Sizing Requirements.** Duct systems used with blower-type equipment that are portions of a heating, cooling, absorption, evaporative cooling, or outdoor-air ventilation system shall be sized in accordance with an approved standard listed in Table 1701.1 or by other approved methods.
Exception: [HCD 1 & HCD 2] Duct sizing calculations are not required for existing duct systems.

Chapter 7 Combustion Air

- M-14 **CMC Ch. 7.** Fuel burning equipment shall be assured a sufficient supply of combustion air as per the provisions of this Section.

Chapter 8 Chimneys and Vents

- M-15 **CMC Section 802.6.2 Termination Requirements.** Gas vents that are 12" inches or less in size and located not less than 8" feet from a vertical wall or similar obstruction shall terminate above the roof in accordance with Figure 802.6.2 and Table 802.6.2. Gas vents that are over 12" inches in size or are located less than 8' feet from a vertical wall or similar obstruction shall terminate not less than 2" feet above the highest point where they pass through the roof and not less than 2' feet above a portion of a building within 10' feet horizontally .
Note: Single wall metal vent connectors shall not originate in an unoccupied attic or concealed space and shall not pass through an attic, inside wall, or concealed space.

Chapter 9 Installation of Specific Appliances

- M-16 **CMC Section 916.2.1 Prohibited Installations.** Unless specifically permitted by the Authority Having Jurisdiction, unvented room heaters shall not be installed as primary heat sources. Unvented room heaters shall not be permitted in spaces that do not have the required volume of indoor air as defined in **Section 701.4.** **[HCD 1 & HCD 2]** Unvented fuel-burning room heaters shall not be installed, used, maintained, or permitted to exist in a Group R Occupancy.
- M-17 **CMC Section 921.3.2 (1, 2, 3, and 4) Vertical Clearance above Cooking Top.** House-hold cooking appliances shall have a vertical clearance above the cooking top of not less than 30" inches to combustible material or metal cabinets. A minimum clearance of 24" inches is permitted where a listed cooking appliance or microwave oven installed over a listed cooking appliance shall be in accordance with the terms of the upper appliance's listing and the manufacture's installation instructions. Microwave ovens shall comply with **UL 923.**

M-18 **CMC Chapter 9.** Vented decorative appliances, floor furnaces, vented wall furnaces, unit heaters and room heaters shall comply with the provisions of this chapter.

2016 California Electrical Code Requirements

- E-1 **CEC Article 110.12 and 110.3 (B) and 110.10.** Electrical equipment shall be installed in a neat and workmanlike manner. **(B)** Listed or labeled equipment shall be installed and used in accordance with any instructions included in the listing or labeling. **110.10** Components of an electrical circuit shall be selected and coordinated to permit the circuit protective devices used to clear a fault to do so without extensive damage to the components of the circuit.
- E-2 Contact SMUD's Customer Service Department for service location. Phone: **(916) 732-7683 or 1-888-742-7683.**
- E-3 **SCEC Chapter 16.28 Article 250.50 and CEC Article 250-52.** Provide a concrete encased grounding electrode (Ufer) and conductor.
- E-4 Branch circuits for lighting and for appliances, including motor-operated appliances, shall be provided to supply the loads computed in accordance with the **CEC Article 220.** In addition, branch circuits shall be provided where required elsewhere in this Code and for dwelling unit loads as specified in **Article 210.11(C).**
- E-5 In each attached garage and in each detached garage with electrical power the branch circuit supplying this receptacle(s) shall not supply outlets outside of the garage. At least 1 receptacle outlet shall be installed for each car space as per **CEC Article 210.52 (G) (1).**
- E-6 Provide two or more 20-amp small appliance branch circuits to serve all countertop, wall and floor receptacles in the kitchen, pantry, breakfast room, dining room, or similar areas of a dwelling unit. Receptacle outlets shall be installed at each wall, island and peninsular counter space in kitchens and dining rooms per the requirements found in the **CEC Article 210.52(A)(1) through (C)(5).** Such circuits shall have no other outlets.
- E-7 At least one 20-ampere branch circuit shall be dedicated to supply bathroom receptacles. At least one receptacle is required within 3 ft. of each basin or installed on the countertop, on the side or face of the basin cabinet not more than 12 inches below the countertop as per the **CEC Article 210.52 (D) and 406.5(E).** Where the 20-ampere circuit supplies a single bathroom, outlets for other equipment within the same bathroom shall be permitted to be supplied in accordance with the **CEC Article 210.23(A)(1) and (A)(2).**
- E-8 At least one additional 20-ampere branch circuit shall be provided to supply the laundry receptacle outlet(s) required by the **CEC Article 210.11(C) (2) and Article 210.52(F).** This circuit shall have no other outlets.
- E-9 All 125-volt, single –phase, 15- and 20- ampere receptacles installed in the locations specified in **CEC 210.8 (A) (1) through (10)** shall have ground-fault circuit interrupter protection for personnel.
- E-10 **Ground Fault circuit interrupter (GFCI)** protection is required on all receptacles within 6' feet of the outside edge of a bathtub or shower stall. This applies even if the bathtub or shower stall is not located in bathroom as per **Article 210.8(A) (9).**
- E-11 GFCI protection shall be provided for all outlets that supply dishwashers installed in dwelling units. **NOTE:** This would include a receptacle outlet or a direct-wired outlet for a dishwasher as per **Article 210.8 (D).**
- E-12 Hydro-massage bathtubs and their associated electrical components shall be on an individual branch circuits and protected by a readily accessible ground-fault circuit interrupter. All 125-volt single phase receptacles not exceeding 30 amperes and located within 6 feet of the inside walls of the tub, shall be protected by a ground-fault circuit interrupter as per the **CEC Article 680.71.**
- E-13 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. Receptacle outlets are required in walls 2 feet or greater. Hallways of 10 feet or more in length shall have at least one receptacle outlet as per the **CEC Article 210.52(A) and (H).**

- E-14 All 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit kitchen, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas or similar rooms or areas shall be protected by any means described in **210.12(A)(1)** through **(6)**.
- E-15 Electrical Vehicle charging circuits are now required to be dedicated circuits with no other outlets on that circuit as per **CEC Article 210.17**.
- E-16 Dwellings with direct grade level access shall have at least one receptacle outlet within 6 ½ ft. of grade level at the front and back of the dwelling. All 125 volt, 15 and 20 amp, receptacles installed outdoors shall be G.F.C.I. protected. Receptacles installed outdoors in an exterior wet location shall have an enclosure that is weatherproof whether or not the attachment plug cap is inserted as per the **CEC Articles 210.52(E)(1-3)** and **406.9(B)(1-2)**.
- E-17 For a one-family dwelling at least one receptacle outlet shall be installed in the area specified in **CEC Article 210.52(G) (1-3)**, these receptacles shall be in addition to receptacles required for specific equipment.
- E-18 At least one wall switch-controlled lighting outlet shall be installed in every habitable room and bathroom. At least one wall switch-controlled lighting outlet shall be installed in hallways, stairways, attached garages, detached garages with electric power, and at outdoor entrances or exits per the **CEC Article 210.70(A)(1-2)**.
- E-19 Location and installation requirements for Luminaires (Lighting Fixtures) shall comply with all applicable provisions of the **CEC Article 410**. Fixtures shall be securely supported. Fixtures installed in recessed cavities in walls or ceilings shall comply with the **CEC Article 410.115** through **410.122**.
- E-20 Luminaires and lampholders shall be securely supported. A luminaire that weighs more than 6 lbs. or exceeds 16" inches in any dimension shall not be supported by the screw shell of a lampholder as per the **CEC Article 410.30(A)**.
- E-21 Outlet boxes or outlet box systems used as the sole support of a ceiling-suspended (paddle) fan shall be listed, shall be marked by their manufacturer as suitable for this purpose, and shall not support ceiling-suspended (paddle) fans that weigh more than 70 lbs.. For outlet boxes or outlet box systems designed to support ceiling-suspended (paddle) fans that weigh more than 35 lbs., the required marking shall include the maximum weight to be supported as per the **CEC Articles 314.27(C)** and **422.18**.
- E-22 Electric water heaters, the branch-circuit switch or circuit breaker shall be permitted to serve as the disconnecting means where the switch or circuit breaker is within sight from the appliance or is lockable in accordance with **110.25** as per the **CEC Article 422.31(B)**.
- E-23 Provide a disconnecting means at air conditioning units and heat pumps within sight from and readily accessible as per the **CEC Article 440.14**. Provide fuses or approved circuit breakers to protect a/c equipment and the branch circuit serving such equipment as per the **CEC Article 440.52** and the unit nameplate ratings.
- E-24 A 125-volt, single phase, 15 or 20 ampere-rated receptacle outlet shall be installed at an accessible location for the servicing of heating, air-conditioning, and refrigeration equipment. The receptacle shall be located on the same level and within 25' feet of the heating, air-conditioning, and refrigeration equipment. The receptacle outlet shall not be connected to the load side of the equipment disconnecting means as per the **CEC Article 210.63**. Also see the **CEC Article 210.8** and **406.9 (B)** for Ground-Fault Circuit Interrupter and enclosure requirements.
- E-25 The interior of enclosures or raceways installed underground shall be considered to be a wet location. Insulated conductors and cables installed in these enclosures or raceways in underground installations shall be listed for use in wet locations and shall comply with **310.10(C)** as per the **CEC Article 300.5(B)**.
- E-26 Types NM and NMS cables shall not be permitted in wet or damp locations as per the **CEC Article 334.12(B) (4)**.
- E-27 Outlet boxes or fittings designed for the support of luminaires and lamp holders, and installed as required by **CEC Article 314.23**, shall be permitted to support a luminaire or lamp holder. At every outlet used

exclusively for lighting, the box shall be designed or installed so that a luminaire or lamp holder may be attached. Boxes shall be required to support a luminaire weighing a minimum of 50 lb. A luminaire that weighs more than 50 lbs. shall be supported independently of the outlet box, unless the outlet box is listed and marked on the interior box to indicate the maximum weight the box shall be permitted to support. **CEC Article 314.27(A).**

- E-28 Flexible Metal Conduit (FMC) is not permitted in a wet location as per the **CEC Article 348.12(1).**
- E-29 A receptacle installed outdoors in a location protected from the weather or in other damp locations shall have an enclosure for the receptacle that is weatherproof when the receptacle is covered (attachment plug cap not inserted and receptacle covers closed).
An installation suitable for wet locations shall also be considered suitable for damp locations.
A receptacle shall be considered to be in a location protected from the weather where located under roofed open porches, canopies, marquees, and the like, and will not be subjected to a beating rain or water runoff. All 15- and 20-ampere, 125- and 250-volt non-locking receptacles shall be a listed weather-resistant type as per the **CEC Article 406.9(A).**
- E-30 Receptacles of 15- and 20-amperes, 125- and 250-volt receptacles installed in a wet location shall have an enclosure that is weatherproof whether or not the attachment plug cap is inserted. An outlet box hood installed for this purpose shall be listed and shall be identified as "extra duty". All 15- and 20-ampere, 125- and 250-volt nonlocking-type receptacles shall be listed weather-resistant type as per the **CEC Article 406.9(B).**
- E-31 Tamper-Resistant Receptacles in Dwelling Units. In all areas specified in the **CEC Article 210.52**, all nonlocking-type 125-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles as per the **CEC Article 406.12 (A)** through **(C).**
- E-32 PV systems circuit installed on or in a building shall include a rapid shut down function that controls specific conductors in accordance with **CEC Article 690.12 (1)** through **(5).**

Sacramento County Code Requirements

- SCC-1 R-3 Occupancies with concrete floors bearing on the ground shall have provided below the concrete floor a minimum of 4-inches of clean, well graded crushed rock or gravel 3/8-inch minimum to 1 ½-inches maximum size.
- SCC-2 All buried ferrous piping shall be protectively coated and provided with cathodic protection as per **SCC 313.5.**
- SCC-3 All domestic solar water heating devices shall be provided with an over-temperature safety protection device, such as a tempering valve, constructed, listed, and installed with nationally recognized applicable standards as per **SCC 505.5**

2016 California Energy Standards Commission

- CESC-1 **CEC Section 150 (k) 1-6** in its entirety. All installed shall be high-efficacy in accordance with **Table 150.0-A.**
- CESC-2 Masonry and factory built fireplaces shall be installed with closeable metal or glass doors, outside combustion air intakes, and readily accessible flue dampers as per **CEC 150 (e) 1&2.**
- CESC-3 Bathrooms, toilet rooms and kitchens shall be provided with local ventilation fans.
- CESC-4 At least 1 fan in new buildings and additions over 1000sf shall provide 'whole building ventilation (constant on) per **CEC 150 (o).** Window operation and a central forced air system air handler are not permissible methods of providing the ventilation requirements.

2016 California Fire Code Requirements

- CFC-1 **CFC 505.1.** Approved numbers or addresses shall be posted and plainly visible and legible from the street or road fronting the property.

- CFC-2 **CFC 503.2.1.** Driveway widths for private roads shall not be less than 20 feet unless approved by the local fire district.
- CFC-3 **CFC 6104.** Liquefied Petroleum Gas storage tanks shall not be located within 5 feet of a building or property line unless approved by the local fire district.
- CFC-4 **CFC 6104 Table 6104.3.** A minimum of 10 feet of clearance to combustibles shall be maintained for LP-gas containers.
- CFC-5 **CFC 6107.4.** LP-gas containers shall be suitably protected from vehicular damage.

2016 California Green codes requirements

**Section 4.106
Site Development**

- CGC-1 **4.106.1 General.** Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.
- CGC-2 **4.106.2 Storm water drainage and retention during construction.** Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.
 1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
 2. Where storm water is conveyed to a public drainage system, collection point, gutter, or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
 3. Compliance with a lawfully enacted storm water management ordinance.
- CGC-3 **4.106.3 Surface drainage.** The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how the site grading or drainage system will manage surface water flows. Examples of methods to manage surface water include, but are not limited to the following:
 1. Swales
 2. Water collection and disposal systems
 3. French drains
 4. Water retention gardens
 5. Other water measures which keep surface water away from building and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

**Section 4.303
Indoor water use**

- CGC-4 **4.303.1 Water conserving plumbing fixtures and fittings.** Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
- CGC-5 **4.303.1.1 Water Closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specifications for Tank-type toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of 2 reduced flushes and 1 full flush.

Water closets < or equal to 1.28 gal/flush, Urinals, < or equal to 0.5 gal/flush, Single shower heads < or equal to 2.0 gpm @ 80psi, Lavatory Faucets < or equal to 1.5 gpm @ 60psi and > or equal to 0.8 gpm @ 20 psi, Kitchen Faucets a < or equal to 1.8 gpm. @ 60 psi.

**Section 4.304
Outdoor Water Use**

- CGC-6 **4.304.1 Outdoor potable water use in landscape areas.** After December 1, 2015, new residential developments with an aggregate landscape area equal to or greater than 500 square feet shall comply with 1 of the following options:
1. A local water efficient landscape ordinance or the current California Department of Water resources' Model Water Efficient Landscape Ordinance (MWELo), whichever is more stringent; or
 2. Projects with aggregate landscape areas less than 2,500 square feet may comply with the MWELo's Appendix D Prescriptive Compliance Option.

Notes:

1. The MWELo and supporting documents are available at:
<http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>
2. A water budget calculator is available at:
<http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>

**Section 4.406
Enhanced Durability and Reduced Maintenance**

- CGC-7 **4.406.1 Rodent Proofing.** Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

**Section 4.408
Construction Waste Reduction, Disposal and Recycling**

- CGC-8 **4.408.1 Construction waste reduction of at least 65 percent.** Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3, or meet a more stringent local construction ordinance.

Exceptions:

1. Excavated soil and land-clearing debris.
 2. Alternate waste reduction methods developed by working with local agencies. If diversion or recycle facilities capable of compliance with this item, do not exist or are not located reasonably close to the jobsite.
 3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.
- CGC-9 **4.408.2 Construction waste management plan.** Submit a construction waste management plan in conformance with Section 4808.2 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.
1. Identifies the materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
 2. Specifies if materials will be sorted on-site or mixed for transportation to a diversion facility.
 3. Identifies the diversion facility where the material collected will be taken.
 4. Identifies construction methods employed to reduce the amount of waste generated.
 5. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.

- CGC-10 Any gas fireplace shall be direct vent sealed combustion type. Any installed wood stove or pellet stove shall be EPA Phase II certified.

- CGC-11 Duct openings and mechanical appliances shall be kept covered or sealed until final start-up.

- CGC-12 Adhesives, Paints, Aerosols and Carpets shall meet all current Lo-VOC requirements.

- CGC-13 Whole house fans shall have insulated louvers or remote fans with insulated ducts.

- CGC-14 Heating and Air Conditioning systems shall be designed using heat loss and gain calculations, duct sizing design and systems capacity design compliant with ANSI/ ACCA Manuals J, D, and S, ASHRAE handbooks or other equivalent software or methods.