

# CITY OF MILPITAS

Building & Safety Department  
455 E. Calaveras Blvd.  
Milpitas, CA 95035  
408-586-3240  
[www.ci.milpitas.ca.gov](http://www.ci.milpitas.ca.gov)



## RESIDENTIAL GARAGE CONVERSION

A combination (building, mechanical, plumbing and electrical) permit is required for all residential garage conversions. Some projects may require a separate fire protection system permit from the Fire Department. In order to expedite the issuance of your permit, submit complete sets of plans, including all related disciplines. Incomplete submittals will cause delay in the approval of your project. If you have any questions, contact Building & Safety Department staff at City Hall or at the phone number listed above.

The following are guidelines for preparation and submittal of your plans. Specific plan requirements will depend largely upon the extent, nature and complexity of the work to be done. Some items listed below may not be required for your specific project. **BE SURE TO INCLUDE ALL OF THE PERTINENT INFORMATION AND DRAWINGS:**

**Home Owners Association:** If the property is regulated by a Home Owners Association, any exterior work must have approval of the Association. It is the property owner's responsibility to obtain the approval.

Before saw cutting or breaking a slab-on-grade, verify if it is a post tension slab. Cutting a tendon in these slabs can be very dangerous and expensive to repair.

Refer to "*Design Guidelines for Residential Garage Conversion*" for sample of the plans required for a residential garage conversion project.

### 1. PLAN REQUIREMENTS:

- ❑ **Plan Size:** Prepare plans on paper that is at least 17 inches x 11 inches in size.
- ❑ **Sets of Plans:** Submit four (4) complete sets of plans.
- ❑ **Clarity:** All plans shall be prepared to be sufficiently readable and clear for creating a digitized record. Plans shall be quality blue or black ink line drawings with uniform light (white) background color. Pencil drawings are not acceptable, but copies of pencil drawings can be submitted provided copies are readable with good contrast.
- ❑ **Dimensions:** Plot Plans, Floor Plans and other plan view drawings shall be fully dimensioned and shall have a north arrow.
- ❑ **Scale:** All drawings shall be drawn to an adequate scale with scale indicated. Recommended scales for drawings are:

Plot Plans:	1/8" = 1'-0", 1"=10' or 1"=20'	Floor and Roof Framing:	1/4" = 1'-0" or 1/8" = 1'-0"
Floor Plans:	1/4" = 1'-0"	Building Cross Sections:	1/4" = 1'-0" or 1/2" = 1'-0"
Foundation Plans:	1/4" = 1'-0" or 1/8" = 1'-0"	Exterior Elevations:	1/8" = 1'-0" or 1/4" = 1'-0"
- ❑ **Existing (E) and New (N) Construction:** Throughout the plans, be sure to label all new (N) and existing (E) construction, components and fixtures to distinguish between new work to be done and the existing work.
- ❑ **Completeness:** Please remember, the more complete and accurate the drawings and submittal documents, the sooner your permits can be issued.

- ❑ **Signature:** The person who prepared the plans must sign each sheet. If any of the plan sheets are prepared by a licensed architect or registered engineer, that individual must stamp and sign at least two copies of each of the sheets he or she has prepared in accordance with the California Business and Professions Code prior to plan approval. Plans for elements of the structure designed by others must be reviewed and signed by the Engineer or Architect of record. (California Business and Professional Code 5536.1, 6735)

2. **PROJECT INFORMATION** - On the first sheet of the plans, provide the following information:

- ❑ **Name of Architect, Engineer or Designer:** The printed name, address and telephone number of the person who prepared the plans.
- ❑ **Address and Owner:** List the street address of the property and the name of the legal owner of the property.
- ❑ **An Index of the Drawings:** List each sheet number and a description in an Index of the Drawings.
- ❑ **Scope of Work:** State the complete scope of work to be performed under this permit.
- ❑ **Building Area:** State the area in square feet of the existing house, the garage to be converted and the total of the existing and new areas.
- ❑ **Building Codes:** All work must comply with the 2013 California Residential Code (CRC) or 2013 California Building Code, 2013 California Electrical Code (CEC), 2013 California Mechanical Code (CMC), 2013 California Plumbing Code (CPC), 2013 California Energy Code, 2013 California Green Building Code and 2014 Milpitas Municipal Code (MMC).

3. **ARCHITECTURAL PLANS** - The following are minimum architectural plan requirements for most projects based on CRC:

- ❑ **Site (Plot) Plan:** Show the location of existing buildings, other structures on the site, property lines and locations of adjacent streets or alleys.
  - Show dimensions between existing garage walls and property lines.
  - Show the direction of true North.
  - Show the existing and any proposed new parking. **NOTE:** Planning requires the following off-street parking:
    - 3 bedrooms or less – 2 parking spaces.
    - 4 or more bedrooms – 3 parking spaces plus 1 space for each additional bedroom exceeding 4.
- ❑ **Floor Plan:** The Floor Plan must show all existing rooms in the house and new rooms in the converted garage. Label the use of each room. Provide all information necessary to explain what, where and how the work will be done. Refer to the "Bathroom Remodel" handout for detailed information pertaining to new bathrooms.
  - Provide a minimum of 7 ft dimension (in any direction) in all habitable rooms other than kitchen (CRC R304.3). Habitable rooms shall have a minimum of 70 sq. ft. (CRC R304.2).
  - There shall be a floor or landing on each side of a door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 2% slope. (CRC R311.3)
  - The floor or landing shall be provided on each side of the exterior door at maximum 1.5" below the top of threshold for egress doors and maximum 7 ¾" for non-egress doors, except: (CRC R311.3)
    - Exterior egress doors may have exterior landing not more than 7 ¾" below the top of the threshold provided the door does not swing over the landing, except storm and screen doors.
  - A landing is not required where a stairway of two or fewer rises is located on the exterior side of the non-egress door, provided that the door does not swing over the stairway.

- Each bedroom shall have an emergency egress and rescue window or door with a clear net opening of 5.0 square feet if located on a floor at grade level, and 5.7 square feet on all other floors. The window or door shall have a minimum clear opening height of 24", a minimum clear opening width of 20" and shall be installed so the bottom of the clear opening is not greater than 44" above the finished floor. (CRC R310.1)
  - Bars, grilles, grates or similar devices installed on rescue windows, window wells or exits shall be equipped with approved release mechanisms in compliance with CRC Section R310.4.
  - For all occupied spaces, provide exterior openings for natural light (8% of floor area) (CRC R303.1).
  - Artificial lighting may be provided in-lieu of natural lighting to provide average of 6 foot-candles over the area of the room at a height of 30" above floor level (CRC R303.1 Exception 2).
  - An artificial light source shall be provided in the immediate vicinity of each landing of interior stairways and at top landing of exterior stairways (CRC R303.7).
  - Provide natural ventilation (4% of floor area) or a mechanical system for all habitable rooms (CRC R303.1).
  - Private garages shall be separated from the dwelling unit and its attic area by a minimum of ½" gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8" Type X gypsum board. Door openings between a private garage and the dwelling unit shall be equipped with either solid wood doors or solid or honeycomb core steel doors not less than 1 3/8" inches thick. Doors shall be self-closing and self-latching. Doors between a sleeping room and a garage are not permitted. CRC Section R302.5 & R302.6.
- **Ceiling Plan:** Either on the Floor Plan or a separate Ceiling Plan should show all ceiling heights, finishes, electrical and mechanical.
- Minimum ceiling height is 7'-0" in habitable spaces, hallways, bathrooms, toilet rooms, laundry rooms (CRC R305.1).
  - Provide attic accesses with a minimum of 22"x30" opening and minimum 30" clear headroom (CRC R807.1).
- **Roof Plan:**
- Enclosed attic & enclosed rafter spaces shall have cross ventilation not be less than 1/150 of the area of the ventilated space (CRC R806.2). A minimum of 1" airspace shall be provided between insulation and the roof sheathing (CRC R806.3). Where vapor retarder is used to reduce the ventilating area to 1/300 of ventilated space, indicate on the building section that the location of vapor retarder to be on the warm side of the attic insulation. The ventilating area may also be reduced to 1/300 provided 50%-80% is provided by ventilators installed at least 3 ft. above eave or cornice vents with the balance of the required area provided by eave or cornice vents.
  - Show the location and construction details of all skylights. Construction shall comply with CRC R308.6. Include skylights in the Title 24 Energy Compliance Reports. Refer to the "Residential Skylights" handout for additional information.
  - When the value of the work exceeds \$1,000, a spark arrester must be installed on fireplace chimneys if one does not exist per MMC Section II-3-2.06. Spark arresters shall be constructed in conformance with CRC Section R1003.9.2.
- **Elevations:** Show exterior elevations or views of all sides of the building that will have new doors, windows, siding or other new construction.
- **Details and Notes:** Include all details necessary to show the construction including changes in floor elevation (raised floor) or change from concrete to wood floor, filling in of the existing garage door, and new windows and doors in existing walls.
- Sleepers and sill plates on concrete or masonry in direct contact with the earth shall be of naturally durable or preservative-treated wood per CRC R317.3.

- Wood framing members, including wood sheathing, that rest on exterior foundation walls and are less than 8 inches from exposed earth shall be of naturally durable or preservative-treated wood (CRC R317.1).
- If a raised floor is proposed, comply with the following:
  - When the crawl space houses utilities such as plumbing, electrical conduits, etc., the minimum clearance between the bottom of wood joists or the bottom of a wood structural floor without joists to the exposed ground or slab shall be 18", or 12" to the bottom of wood girders.
  - When the crawl space does not house utilities such as plumbing, electrical conduits, etc., the floor assembly (including posts, girders, joists and subfloor) shall be naturally durable or preservative-treated wood, where bottom of wood joists are closer than 18", or wood girders are closer than 12", to the exposed ground or slab.
  - In a garage conversion, the requirement of minimum clearance may be waived provided the minimum under floor ventilation as required by CRC R408.1 is met and floor joists, sleepers or sill plates and interior partitions sill plates are naturally durable or preservative-treated wood.
  - The space underneath the floor joists shall be ventilated as required by CRC R408.1. The net area of ventilation openings shall not be less than 1 square foot for each 150 square feet of crawl-space area. The total area of ventilation openings may be reduced to 1/1500 where the ground surface is treated with an approved vapor retarder material and the required openings are placed to provide cross ventilation. Openings shall be covered with corrosion-resistant wire mesh, with the least dimension not exceeding 1/8 inch, or one of the other methods in accordance with CRC R408.2.
  - If the minimum distance between the joists and the ground has not been reduced, indicate the location of crawl space access with a minimum of 18"x24" opening per CRC R408.4.
- To fill in the existing garage door opening, between driveway and Garage, follow the detail included in the Design Guideline for Garage conversions or provide structural details of an alternate design.
- Show new ceiling joist size and spacing.

#### 4. **ELECTRICAL, MECHANICAL and PLUMBING:**

Plans shall include all information necessary to show how the space is to be heated, cooled and ventilated, how the plumbing fixtures are connected to plumbing systems and how the electrical energy is distributed and connected to the building power system. This can be done on the architectural drawings or on separate plans.

Specific mechanical, plumbing and electrical plan requirements will depend largely upon the extent, nature and complexity of the work to be done. The following are general guidelines for preparation and submittal of these plans.

- **Mechanical Plans:** Show on the plans the installation of all new mechanical work and existing mechanical in the converted garage. NOTE: All new equipment weighing more than 400 pounds requires structural calculations.
  - If existing ducts will be extended into the garage to serve the converted space, ducts must be a minimum 8" diameter back to the furnace.
  - If existing furnace is to remain in the converted garage, show how outdoor combustion air will be provided through openings to the outdoors per CMC Section 701.5.
  - All habitable rooms must have a heating system capable of maintaining a room temperature of 68° F at a location of 3 feet above the floor and 2 feet from exterior walls. Portable heaters shall not be used for compliance. Indicate on the plans the heating system or method to be used. CRC Section R303.9.
  - Show the location of all new HVAC equipment. Provide a one-line layout of the proposed duct and register system. Include duct length, size, register/boot size, and cold air return location.
  - Whole-Building ventilation for Indoor Air Quality shall be provided for additions over 1,000 square feet per CEnC section 150(o).
  - If existing equipment will serve the new Conditioned Floor Area (CFA), and the new CFA is more than 20% of the existing CFA, provide Performance Title 24 Calculations to show the existing equipment is adequate.
  - Provide an equipment schedule with all specifications noted.

- Specify and note how condensate drains are routed and discharged via an indirect waste pipe to an approved location.
  - For attic installed equipment, provide a section through the attic showing the location, size and weight of all equipment, details of equipment anchorage, how equipment is being supported, size and location of access opening, distance from opening to equipment, size and location of platforms and walkways, and required headroom and clearances.
  - The walkway to attic appliance shall not exceed 20 ft unless the attic height exceeds 6 ft and it shall have solid flooring not less than 24" wide. There shall be a 30"x30" minimum working platform in front of the service side of the appliance per CMC Section 904.10. There shall be a 120 volt receptacle outlet and a light fixture installed near the appliance and the light switch shall be near the attic access entrance.
  - Ducts in a private garage and ducts penetrating the walls or ceilings separating the dwelling unit from the garage shall be constructed of a minimum 0.019 inch (no. 26 gage) sheet steel and shall have no openings into the garage per CRC Section R302.5.2.
  - Provide aggregate glazing area in windows of at least 3 sq ft, ½ of which must be openable in bathrooms, water closet compartment and other similar rooms per CRC Section R303.3, unless exhaust fan directly vented to outside is provided. When exhaust fan is provide, provide fan location, and size fan a minimum of 20 cfm for continuous system operation with a maximum of 1 sone per CEnC. For intermittent bath fan operation, provide minimum ventilation airflow of 50 cfm and maximum of 3.0 sone rating per CEnC.
  - Provide dryer duct layout, size and length. If duct size or length does not comply with minimum code requirements (CMC Section 504.3.1), provide booster fan or engineering justification.
  - Factory-built fireplaces shall be installed in accordance with their listing and the manufacturer's installation instructions. Chimneys shall extend a minimum of 3 feet above the highest point where it passes through a roof and at least 2 feet higher than any portion of a building within a horizontal distance of 10 feet per CMC Section 802.5.4. The manufacturer's instructions must be present on the job site for the installer and the inspector.
  - Refer to the "*Air-conditioning & Furnace*" handouts for more information.
- **Electrical Plans:** Show on the plans the installation of all new electrical work and existing electrical in the converted garage. Refer to the "*Lighting, Switches and Receptacles*" handout for more information.
- Show on the plans the size and location of electrical service, any other panels, all switches, lights, receptacles, smoke detectors, and any equipment requiring electrical connections (ranges, furnaces, etc.).
  - Provide panel schedules and load calculations to verify service is adequate for the loads.
  - New electrical panels shall be installed in accordance with CEC Article 230.70, Article 240.24, and MMC Section II-6-2.03. Refer to the "*Electrical Panel*" handout for more information.
  - Grounding electrode systems in all new buildings shall be an electrode encased by at least two inches of concrete located within and near the bottom of a concrete foundation or footing that is in direct contact with earth. The electrode shall consist of at least 20 feet of one or more steel reinforcing bars or rods, of not less than ½ inch diameter. The connection side of this concrete-encased electrode shall be located remotely away from the main electrical service equipment per MMC Section II-6-2.04.
  - Provide drawing showing branch circuit layout.
  - Note when receptacles are Ground-Fault Circuit-Interrupter (GFCI). GFCI protected receptacles shall be installed in bathrooms, garages, outdoors, crawl spaces, kitchen, unfinished basements and receptacles within 6 ft of the outside edge of laundry, utility and wet sinks. (CEC 210.8).
  - Where branch-circuit wiring supplying 120-volt 15 and 20-ampere outlets in family rooms, dining rooms, living rooms, parlors, libraries, dens bedrooms, sunrooms, recreation rooms, closets, hallways or similar rooms is modified, replaced or extended, the branch circuit shall be protected as per CEC 210.12(B) by:
    - 1) A listed combination AFCI located at the origin of the branch circuit, or
    - 2) A listed outlet branch-circuit AFCI located at the first receptacle outlet of the existing branch circuit
  - Receptacles install outdoors shall have a listed weatherproof cover.
  - All 120-volt, 15 and 20 amp receptacles shall be listed tamper-resistant.

- Every room, kitchen and living space of dwelling units shall be provided with receptacle outlets installed so that no point along the floor line in any wall space is more than 6 ft from a receptacle outlet per CEC Section 210.52. Refer to the “*Kitchen Remodel*” and “*Bathroom*” handouts for additional requirements.
  - Provide a wall switch controlling exterior light at all exterior entrances or exits per CEC 210.70. Exterior lights shall be high efficacy (fluorescent or LED) or controlled by a motion sensor in addition to one of the following: a photocontrol, astronomical time clock or Energy management control system (EMCS). Photocontrol, astronomical clock and EMCS shall not have an override or bypass switch (CEnC sec.150 (k)).
  - Lighting installed in bedrooms, living rooms, home offices, dining rooms & nooks (if switched separately from kitchens), hallways, attic spaces and closets 70 sf and larger shall be high-efficacy or low-efficacy controlled by a vacancy sensor or low-efficacy controlled by a dimmer switch. These options may be used in combination with one another, for example high-efficacy downlights and dimmable low-efficacy track lights.
  - All lighting must have readily accessible manual controls, allowing occupants easy control of lighting in the space. (CEnC 150.0(k)2)
  - High-efficacy lighting must be switched separately from low-efficacy lighting. Additionally, each lighting layer that serves a unique function should operate independently. (CEnC 150.0(k)2)
  - Lighting that is integral to ceiling fans must be separately switched from the exhaust fan (CEnC 150.0(k)2).
  - Lighting installed in garages, laundry rooms and utility rooms are required to be high-efficacy and controlled by a vacancy sensor
  - Lighting integral to garage door openers do not have to be high-efficacy when there are no more than two screw-base sockets and the lights automatically turn ON and OFF.
  - Fixtures recessed into ceilings shall be listed for zero clearance insulation contact (IC), have a label that certifies that the fixture is airtight with air leakage less than 2.0 CFM at 75 Pascal’s (AT), be sealed with a gasket or caulk between the luminaire housing and ceiling, and shall have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk (CEnC 150.0(k)8).
  - A list of High efficacy lighting certified as meeting the requirements of the Energy Code is available at [www.appliances.energy.ca.gov](http://www.appliances.energy.ca.gov).
- **Plumbing Plans:** Show on the plans the installation of all new plumbing work and existing in the converted garage.
- Show on the plans the location of all plumbing fixtures, hose bibbs and water heaters.
  - Include a complete list of fixtures and their gas/water demands. Refer to the “*Kitchen Remodel*” and “*Bathroom Remodel*” handouts for maximum flow rates for fixtures.
  - Provide one line layout drawing for the proposed waste (drain) and vent system, including fixture count, pipe size and length, fixture location, clean-out locations, slope and connection to existing lateral location. Justify size of drainage piping as per CPC Section 703.
  - Provide one line layout drawing for the proposed water system, including total developed length (meter to most remote fixture), service and meter size, branch lengths, total fixture units, branch fixture units, pipe size and length, and indicate method used for sizing (CPC 610.0).
  - Provide one line layout drawing of the proposed gas piping system, including total developed length, total demand (BTU & CFH), appliance location with BTU/CFH listed for each appliance, and branch length and pipe size, and indicate method used for sizing (CPC 1216.0). If the new gas piping is not installed back to the meter, include all existing appliances and pipe length and sizes.
  - Show the location, materials and installation requirements of all piping located outside the building.
  - Note the dimensions where minimums must be met at fixtures (toilets, lavatories, shower stalls, etc.).
  - Detail the installation of the water heater including seismic bracing. Refer to the “*Residential Water Heater*” handout for more information.
  - If existing water heater is to remain in the converted garage, show how outdoor combustion air will be provided through openings to the outdoors per CMC Section 701.5.
  - If existing temperature & pressure (T&P) valve terminates inside the garage, it must be extended to the exterior of the building. Piping must slope to drain and terminate facing towards the ground.

- Show the requirement for installation of gas seismic and excess flow shut-off devices. Refer to the “*Natural Gas Line*” handout for more information.
- Where a toilet is installed on a floor level that is lower than the next upstream manhole cover of the public sewer, or the building cleanout, an approved type of backwater valve shall be installed.

## 5. ENERGY REQUIREMENTS:

- ❑ **Insulation:** Indicate on the plans the exterior wall, ceiling and under floor insulation type and thickness. Minimum insulation required:
  - 2x4 walls in additions 700 sf and smaller requires a U factor of 0.102 or R-13 insulation.
  - 2x6 walls in additions 700 sf and smaller requires a U factor of 0.074 or R-19 insulation.
  - Walls in additions greater than 700 sf requires a U factor of 0.065 or R-15 +4 or R-13 +5. The + number represents continuous insulation (R-4 or R-5) usually furnished by installing ridged insulation on outside face of walls. The minimum U factor can be met with cavity insulation along, continuous insulation alone or any combination of the two.
  - Roofs/ceilings requires a U factor of 0.031 or R-30 insulation.
  - Raised wood floors requires a U factor of 0.037 or R-19 insulation.
  - Raised concrete floors requires a U factor of 0.269.
- ❑ **Radiant Barrier:** A radiant barrier above the attic space is required for all additions and whenever existing roof sheathing is removed.
- ❑ **Windows:** Indicate the size and type of all new windows and note the U-factor and SHGC ratings. Maximum U-factor is 0.32 and maximum SHGC is 0.25.
  - Additions 400 sf or less are allowed a total glazing area up to 75 sf or 30% of the CFA, whichever is greater, and have up to 60 sf west-facing glazing. (CEnC 150.2(a)1B)
  - Additions greater than 400 sf and no more than 700 sf are allowed a total glazing area up to 120 sf or 25% of the CFA, whichever is greater, and have up to 60 sf of west-facing glazing. (CEnC 150.2(a)1B)
  - Additions greater than 700 sf and less than 1,000 sf are allowed a total glazing area up to 175 sf or 20% of the CFA, whichever is greater, and have up to 70 sf or 0.5% of the CFA of west-facing glazing, whichever is greater. (CEnC 150.2(a)1A)
  - Note none of the above options allows credit for glazing when removed to make way for the addition.
  - Note the total allowed fenestration and west-facing glazing include skylights.
- ❑ **Water Piping:** All new hot water piping must be insulated per CEnC Section 150.0(j)2. See “*Water Piping*” handout for specific requirements.
- ❑ **Lighting:** See Electrical Plans above for lighting and switching requirements.
- ❑ **Equipment:** Equipment shall meet California Energy Code requirements. A list of equipment certified as meeting the requirements of the Energy Code is available at [www.appliances.energy.ca.gov](http://www.appliances.energy.ca.gov). Indicate on the mechanical drawings the AFUE or HSPF ratings of heating equipment and SEER or EER rating of cooling equipment.
  - Minimum 78% AFUE (Annual Fuel Utilization Efficiency) for all new weatherized gas fueled furnaces and 80% for all new non-weatherized gas fuel furnaces with output capacity less than 225,000 Btu/hr (except wall and floor furnaces and room heaters).
  - Minimum 8.2 HSPF (Heating Seasonal Performance Factor) for split heat pumps less than 65,000 kBtu/h.
  - Minimum 8.0 HSPF for packaged heat pumps less than 65,000 kBtu/h.
  - Minimum 14 SEER/12.2 EER for split system central air conditioners less than 45,000 kBtu/h.

- Minimum 14 SEER/11.7 EER for split system central air conditioners greater than 45,000 kBtuh.
  - Minimum 14 SEER/11.0 EER for packaged systems.
  - Note: See tables 110.2 for other equipment types.
- ❑ **Thermostat:** Setback thermostats that comply with CEnC 110.2(c) (programmable for 4 periods within 24 hours) shall be installed with all new or modified space heating systems.
  - ❑ **Load calculations:** Load calculations per ASHRAE SMACNA or ACCA is required whenever heating/cooling equipment or area of conditioned spaced served is changed.
  - ❑ **Ventilation:** Additions greater than 1,000 sf must meet Package A whole house fan requirements [CEnC 150.2(a)].
  - ❑ **Ducts:** Indicate on the mechanical drawings the duct insulation type and thickness, and if HERS testing of the duct sealing is required. Minimum duct insulation is R-6. HERS testing is required any time more than 40 lf of duct is added or replaced. [CEnC 150.0(m)11].
  - ❑ **Title 24 Energy Compliance Reports:** Provide all appropriate Compliance Forms. Forms may be obtained at [www.energy.ca.gov/title24/2013standards/](http://www.energy.ca.gov/title24/2013standards/).

The following Prescriptive Compliance forms may be required at time of permit application:

- CF1R-NCB-01-E Newly Constructed Buildings, also for additions over 1,000 sq. ft.
- CF1R-ADD-01-E Additions 1,000 sq. ft. or Less.
- CF1R-ALT-01-E Residential Alterations.
- CF1R-ALT-02-E Alterations to Space Conditioning Systems.

The following Installation forms may be required to be completed and presented to the Building Inspector at time of final inspection:

- CF2R-ENV-01-E Fenestration Installation.
- CF2R-ENV-02-E Envelope Air Sealing.
- CF2R-ENV-03-E Insulation Installation.
- CF2R-ENV-04-E Roofing-Radiant Barrier.
- CF2R-LTG-01-E Lighting-Single Family Dwellings.
- CF2R-MCH-01-E Space Conditioning Systems Ducts and Fans.
- CF2R-PLB-02-E Single Dwelling Unit Hot Water System Distribution.

## **6. SMOKE ALARMS, CARBON MONOXIDE ALARMS & SPARK ARRESTERS:**

- ❑ In single family and multi-family residences (including townhomes, condominiums and apartments), installation of smoke alarms, carbon monoxide alarms and spark arresters on all chimneys is required prior to the final inspection. Refer to the “*Smoke Alarm, Carbon Monoxide Alarm and Spark Arrester Certificate*” attached for detailed information.

## **7. OTHER APPROVALS:**

- ❑ **Engineering Department:** If the property is located in the special flood hazard area contact Engineering at (408) 586-3329 prior to beginning plan preparation.



- ❑ **Planning Department:** Prior to completion of any plans, the Planning Department should be contacted at (408) 586-3279 to find out the requirements due to the location and type of the proposed project, and off-street parking requirements.
- ❑ **Fire Department:** Fire protection systems for homes in “Hillside Areas” and all homes provided with fire sprinklers or fire alarms shall have separate approval by the Fire Department. Contact the Fire Department for more information at (408) 586-3365.
- ❑ **Home Owners Association:** If the property is regulated by a Home Owners Association, any exterior work must have written approval of the Association and the written approval must be submitted to the City at time of permit application.

**NOTES:**

- ❑ **Revisions:** Once the permit has been issued, any changes in the design must be approved by the City. Submittal documents shall be reviewed by the Architect or Engineer of record with a notation indicating that the changes have been reviewed and are in general conformance with the design of the building prior to being submitted to the City for approval. Additional fees will be due for each revision at time of submittal.



# EPA Renovation, Repair and Painting Rule

## Does the RRP Rule apply to you?

The rule applies to all jobs in pre-1978 housing (i.e. "Target Housing") and child occupied facilities where more than 6 square feet per room or 20 square feet outside will be "disturbed" by worker(s) being compensated for the job. This includes landlords.

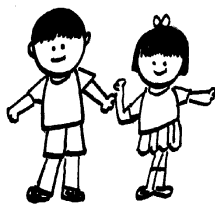
## Where does the RRP Rule Apply?

The rule applies in Target Housing and Child-Occupied Facilities\*



**Target Housing** - A house or apartment (including mobile homes) built before January 1, 1978 except for:

- 1) 0-bedroom units (like dorm rooms or studio apartments)
- 2) housing that is officially designated for the elderly or the handicapped
- 3) housing that has been tested by a State Certified Lead Inspector and found to be free of lead based paint.



**Child Occupied Facility** - A building, or portion of a building, constructed prior to 1978, visited by the same child, 6 years of age or under, on at least 2 different days within any week, provided that each day's visit lasts at least 3 hours, the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Such facilities may include, but are not limited to, day-care centers, preschools and kindergarten classrooms.

## What does the RRP Rule Require? \*California Law requires lead-safe work practices for all pre-1978 buildings.

1. **Pamphlet Distribution**—Contractors must give clients a pamphlet called "Renovate Right" and get a signed receipt before beginning a job.
2. **Individual Certification**—At least one RRP Certified Renovator is required at each job site. Certification involves taking a 1-day class from an EPA Accredited Training Provider.
3. **Firm Certification**—In addition to individual certification, each firm, agency or non-profit must also become RRP certified.
4. **On-the-Job-Training**—RRP Certified Renovators are required to train all non-certified people at the job site. Note: Contractors who work on buildings receiving Federal assistance, including Section 8, must have everyone trained in the classroom, or have a state-certified lead in construction supervisor present.
5. **Paint Testing**—The rule requires contractors to either test paint they will disturb BEFORE beginning a job, or assume that it is lead-based. In California contractors may not test paint. Instead, current law requires that they must assume that all surfaces in all structures built before 1978 contain lead based paint. The only people who can test for lead-based paint in California are State Certified Lead Inspectors/Risk Assessors.
6. **Use Lead Safe Work Practices**—The RRP Rule requires that "Lead Safe Work Practices" be used when disturbing more than six (6) square feet per room inside or more than twenty (20) square feet of painted surfaces outside.
7. **Cleaning Verification**—At the end of each job, contractors are required to do a "cleaning verification" to make sure they cleaned up properly.

**FOR ADDITIONAL INFORMATION, VISIT**  
**The Environmental Protection Agency [www.epa.gov/getleadsafe](http://www.epa.gov/getleadsafe)**  
**Get the Lead Out Coalition [www.getleadout.org](http://www.getleadout.org)**



# WATER CONSERVING CERTIFICATE OF COMPLIANCE

Project Address: \_\_\_\_\_ Permit Number: \_\_\_\_\_

If the Building Inspector cannot physically inspect all plumbing fixtures in the building or cannot verify compliance due to lack of product markings or data, this Certificate of Compliance may be signed by the property owner(s) and given to the Building Inspector. The Building Inspector must inspect and verify all plumbing fixtures or receive this Certificate prior to final inspection.

**This law applies only to properties built and available for use or occupancy on or before January 1, 1994.**

As of January 1, 2014, the State of California per Civil Code Section 1101.4, applicants seeking to obtain permits for additions, alterations or improvements for any **one and two family** residential building *requires non-compliant plumbing fixtures to be replaced* throughout the building with water-conserving plumbing fixtures prior to final permit approval.

As of January 1, 2014 per Civil Code Section 1101.5, *all non-compliant plumbing fixtures* in any **multi-family** (more than two units) residential building and any **commercial** building *shall be replaced* with water-conserving plumbing fixtures in the following circumstances:

1. Additions, if the sum of concurrent building permits by the same permit applicant would increase the floor area of the building by more than 10%, all non-compliant fixtures must be upgraded throughout the building. This includes all common area plumbing fixtures as well as fixtures in private individual units or tenant unit owned by the same owner.
2. Alterations or improvements, if total construction cost in the building permit exceeds \$150,000, all non-compliant fixtures that service the specific area of the alteration or improvement will be required to be upgraded.
3. Any alteration to a room that contains non-compliant plumbing fixtures will require all fixtures in that room to be upgraded.

On or before January 1, 2017, for any **one and two family** residential building and on or before January 1, 2019, for any **multi-family** (more than two units) residential building and any **commercial** building *all non-compliant plumbing fixtures shall be replaced* with water-conserving plumbing fixtures (regardless of whether property undergoes alterations or improvement).

Per Civil Code Sections 1101.2, 1101.6 & 1101.7 the requirements of this law shall not apply to any of the following:

1. The requirements of this law shall be postponed one year from the date of issuance of a demolition permit for the building. If the building is not demolished after one year, the provision of this law shall apply even though the demolition permit is still in effect or a new demolition permit has been issued.
2. Registered historical sites.
3. Real property for which a licensed plumber certifies in writing that, due to the age or configuration of the property or its plumbing, installation of water-conserving plumbing fixtures is not technically feasible.
4. A building for which water service is permanently disconnected.
5. My property was built and available for use or occupancy after January 1, 1994.

I/We, the owner(s) of this property, certify under penalty of perjury:

- All existing plumbing fixtures meet the minimum requirements of water-conserving as noted below.
- All non-compliant plumbing fixtures have been replaced with water-conserving plumbing fixtures in accordance with Civil Code Sections 1101.1 through 1101.8, the current California Plumbing Code and California Green Building Standards Code, and manufacturer's installation requirements, and that the water-conserving plumbing fixtures comply with the requirements as noted below.
- I/We are exempt for reason # \_\_\_\_ listed above. If for reason #3, attached is a letter from a licensed plumber.

\_\_\_\_\_  
Signature of Property Owner(s)

\_\_\_\_\_  
Print Name(s)

Date: \_\_\_\_\_

The following non-compliant fixtures shall be replaced with water-conserving fixtures as noted: (CGBC 4.303 & 5.303)

- Existing water closets that exceed 1.6 gallons per flush shall be replaced with one that has an effective flush volume not to exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type toilets. The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.
- Existing urinals that exceed 1.0 gallons per flush shall be replaced with one that uses not more than 0.5 gallons per flush.
- Existing single shower heads that exceed 2.5 gallons per minute shall be replaced with one that has a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Shower heads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.
- When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. A hand-held shower shall be considered a showerhead.
- Existing residential lavatory faucets that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed 1.5 gallons per minute at 60 psi. The minimum flow rate shall not be less than 0.8 gallons per minute at 20 psi.
- Existing lavatory faucets in common and public use areas of multifamily residential & in commercial areas that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed 0.5 gallons per minute at 60 psi.
  - Metering faucets shall have a maximum flow rate of 0.20 gallons per cycle commercial or 0.25 residential.
- Existing kitchen faucets that exceed 2.2 gallons per minute shall be replaced with one that has a maximum flow rate not to exceed 1.8 gallons per minute at 60 psi. Residential kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.
  - Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.



## SMOKE ALARM, CARBON MONOXIDE ALARM and SPARK ARRESTER CERTIFICATE

This "Certificate" can be signed by the property owner and provided to the Building Inspector prior to final inspection if access to the interior of the dwelling for inspection of the smoke and carbon monoxide alarms is not possible and the permitted work being performed is exterior only (such as re-roofing, re-siding, patio covers, swimming pools and the like).

In single family and multi-family residences (including townhomes, condominiums and apartments), installation of smoke alarms, carbon monoxide alarms and spark arresters is required prior to the final inspection as follows:

**Smoke Alarms** shall be listed and labeled in accordance with UL 217 and installed in accordance with the provisions of the code and the household fire warning equipment provisions of NFPA 72. Systems and components shall be California State Fire Marshal listed and approved. Alarms shall be tested and maintained in accordance with the manufacturer's instructions. Alarms that no longer function shall be replaced. Conventional ionization smoke alarms that are solely battery powered shall be equipped with a ten-year battery and have a silence feature. **Alarms installed in one and two-family dwellings shall be replaced after 10 years from the date of manufacture marked on the unit, or if the date of manufacture cannot be determined.** (CRC R314)

**Smoke detection systems.** Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required for smoke alarms. Where a household fire warning system is installed using a combination of smoke detector and audible notification device(s), it shall become a permanent fixture of the occupancy and owned by the homeowner. The system shall be monitored by an approved supervising station and be maintained in accordance with NFPA 72.

**Location. Smoke alarms shall be installed in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedrooms and on each story of the dwelling.** In dwellings 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. Apartment complexes and other multiple-dwelling complexes shall have a smoke detector installed in the common stairwells. For R-3.1 occupancies (Residential Care Facilities), refer to CBC Section 907.2.11.2. The installation of smoke alarms and smoke detectors shall also comply with the following requirements:

1. Smoke alarms shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
2. Smoke alarms shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40°F or exceed 100°F.
3. Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, alarms shall be mounted on an inside wall.
4. Smoke alarms shall be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance, except Ionization smoke alarms with an alarm-silencing switch or Photoelectric smoke alarms shall be permitted to be installed 10 feet or greater from a permanently installed cooking appliance and Photoelectric smoke alarms shall be permitted to be installed greater than 6 feet from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 foot distances would prohibit the placement of a required smoke alarm or smoke detector. Smoke alarms listed for use in close proximity to a permanently installed cooking appliance can be installed in accordance with their listing.
5. Smoke alarms shall be installed not less than a 3 foot horizontal distance from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by the code.
6. Smoke alarms shall not be installed within a 36 inch horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.
7. Smoke alarms shall not be installed within a 36 inch horizontal path from the tip of the blade of a ceiling-suspended (paddle) fan.
8. Where stairs lead to other occupied levels, alarm shall be located so that smoke rising in the stairway cannot be prevented from reaching the alarm by an intervening door or obstruction.

9. For stairways leading up from a basement, alarms shall be located on the basement ceiling near the entry to the stairs.
10. For tray-shaped ceilings (coffered ceilings), alarms shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 inch vertically down from the highest point.
11. Smoke alarms installed in rooms with joists or beams shall comply with the requirements of NFPA 72, Section 17.7.3.2.4.
12. Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of NFPA 72, Section 17.6.3.

**Carbon Monoxide Alarms:** An approved carbon monoxide alarm listed as complying with UL 2034, approved and listed by the California State Fire Marshal, installed and maintained in accordance with NFPA 720 and the manufacturer's instructions shall be installed if they do not already exist in existing dwellings or sleeping units having a fossil fuel-burning heater or appliance, fireplace or an attached garage as follows: **outside each separate dwelling unit sleeping area in the immediate vicinity of bedroom(s) and on every level of dwelling unit.** Carbon monoxide detection systems that include carbon monoxide detectors and audible notification appliances, installed and maintained as required for carbon monoxide alarms and NFPA 720 shall be permitted. The carbon monoxide detectors shall be listed as complying with UL 2075. (CRC R315)

**Power supply:** Smoke and carbon monoxide alarms shall receive their primary power from the building wiring and shall be equipped with a battery back-up. 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. Smoke and carbon monoxide alarm wiring shall be directly connected to the permanent building wiring without a disconnecting switch other than as required for overcurrent protection. Smoke and carbon monoxide alarms are permitted to be solely battery operated (carbon monoxide alarms can also be plug-in with battery back-up) in existing buildings where no construction is taking place; in existing areas of buildings 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 or crawl space available which could provide access for building wiring without the removal of interior finishes; 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; or 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; and, for carbon monoxide alarms, when other power sources recognized for use by NFPA 720 are used.

**Interconnection:** Where more than one smoke or carbon monoxide alarm is required to be installed within an individual dwelling or sleeping unit, the alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit, except interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind; where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure unless there is an attic or crawl space available which could provide access for interconnection without the removal of interior finishes and no previous method for interconnection existed; 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; or 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. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

**Spark arresters:** When a permit has been issued and the value of the work exceeds \$1,000, a spark arrester must be installed on all fireplace chimneys, if one does not already exist, per MMC Section II-3-2.06. Spark arresters shall be constructed in conformance with CRC Section 1003.9.2.

**\* CERTIFICATION \***

**I understand the above requirements and certify that I now have smoke alarms, carbon monoxide alarms and spark arrestors installed as required above.**

HOMEOWNERS NAME (please print): \_\_\_\_\_

ADDRESS: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_ PERMIT NO. \_\_\_\_\_