DEPARTMENT of COMMUNITY DEVELOPMENT
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RESIDENTIAL KITCHEN REMODEL/RENOVATION

INTRODUCTION

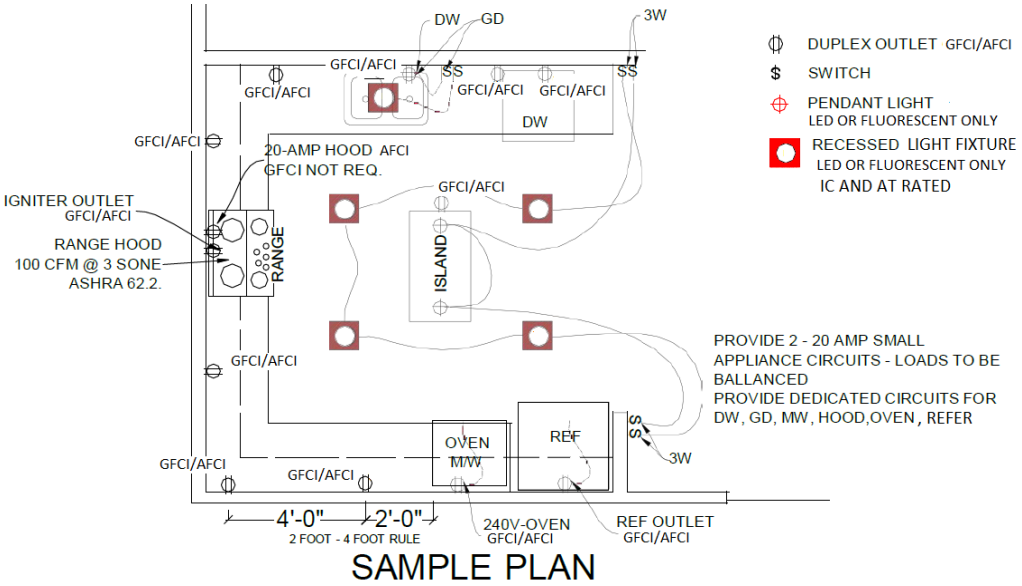
Kitchen additions, alterations or renovations require a Building Permit. At a minimum, a legible floor plan drawing is required for permitting. The following information can be used as a guideline for the minimum requirements for a kitchen renovation projects.

Additions, alterations or renovations require compliance with the:

2019 California Residential Code (CRC);
2019 California Plumbing Code (CPC);
2019 California Mechanical Code (CMC);
2019 California Electric Code (CEC);
2019 California Energy Efficiency Standards (CEES);
2019 California Green Building Standards (CGBSC); and
The City of Gardena Municipal Codes.

A kitchen renovation includes, but is not limited to, the removal, replacement or relocation of base cabinets, counter tops, sinks, dishwasher, installed appliances, changes to the lighting, removal & replacement of any drywall, modifications to the structural elements of the dwelling and changes to the electrical, mechanical and plumbing systems. Removal and replacement of the base cabinets and counter top will require compliance with the electrical outlet location requirements of the code.

Submittal Requirements: Non-structural kitchen renovations can generally be reviewed and permitted over the counter; however, projects which propose the removal or relocation of walls, adding beams or other structural changes will be subject to standard plan review. Changes to the exterior of the house will also be subject to additional requirements and approval by the Planning Department.



SAMPLE PLAN

The following are the minimum requirements for the kitchen electrical, mechanical and plumbing systems.

ELECTRICAL

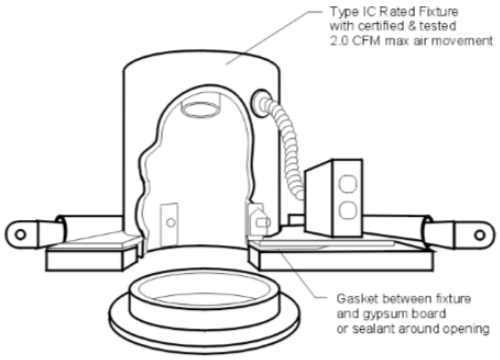
- All kitchen countertop outlets shall be GFCI protected. CEC 210.8(A)(6). The GFCI shall be installed in a readily accessible location.
- All kitchen outlets shall also be Arc-fault protected. CEC 210.12(A). The AFCI shall be installed in a readily accessible location.
- All accessible Receptacles shall be listed as tamper-resistant. CEC 210.52(C). including but not limited to, counter outlets and outlets under sinks.
- All kitchen countertops, 12-inches or wider, require an outlet. CEC 210.52(C)(1)
- Outlets are required within 24-inches of any location along the countertop. CEC 210.52(C)(1)
- Kitchen outlets positioned a maximum 20-inches above counter top. CEC 210.52(C)(5)
- Outlets in appliance garages, or cabinets are not counted as a required countertop outlet. CEC 210.52(C)(5)E
- Built-in Appliances and sinks break up the countertop run, requiring each side to comply individually. CEC 210.52(C)
- The electrical outlet requirements include islands, peninsulas, kitchen desktops, wet bars, and serving bars. A large window across the back of a sink or lack of a back splash does not exempt the countertop from the outlet requirements. These outlets may be in a drop front cabinet face, under cabinet plug strip, pop up or tombstone type receptacle. CEC 210.52(C)(2), (3), (4)
- Two (2) small appliance outlet circuits, 20 amps each are required for kitchens. Circuits shall be balanced and have no other outlets. CEC 210.52(B)(1), (2)
- Individual dedicated circuits are required for all major appliances. CEC 210.11(C)(1) & CEC 422.10(A)
- Individual 20 amp circuits are required for all major appliances.
- 220V Range/cook tops require separate circuits. (If gas, 110V outlet for igniters may be tied to a convenience outlet circuit
- Garbage disposal cord and plug connected 18” to 36” long maximum. CEC 422.16(B)(1)
- Dishwasher cord 36” to 48” long maximum. Romex installed with a plug is not an approved flexible cord. CEC 422.16(B)(2)
- A Minimum 15-amp circuit shall be provided for the dishwasher and a 15-amp circuit for the disposal. CEC 210.23(A)
- Garbage disposal cord shall be 18" to 36" long and shall be terminated with a grounding-type attachment plug. CEC 422.16(B)(1)
- Dishwasher cord shall be 36” to 48” long and shall be terminated with a grounding-type attachment plug. Romex installed with a plug is not an approved flexible cord. CEC 422.16(B)(2)

- Cord-and-plug-connected equipment shall not exceed 80% of the circuit amp rating (e.g. 12 amp maximum rated equipment on a 15 amp circuit). CEC 210.23(A)(1)
- If using a split outlet (2 circuits on the same yolk) for dishwasher/disposal, provide a listed handle tie at the 2 circuit breakers at the panel. CEC210.7(B)
- Residential Kitchen Lighting is required to meet the 2019 CA Energy Efficiency Standards. This requires all kitchen lighting to be high efficacy luminaries, LED or Fluorescent. Incandescent screw type base are not approved.
- IC (direct contact) and AT (airtight) rated cans are required for recessed lighting if installed in an insulated ceiling. For occupancies with a horizontal (floor/ceiling assembly) rated separation, the recessed fixtures shall be protected to the rating of the separation (1-hour) or be listed for the required protection. This generally applies to residential condominium construction where units are above or below other units.
- Task lighting and general lighting shall be on separate switches. General Lighting shall be on a dimmer or vacancy sensor switch. CEES 150(K)2
- Under-cabinet lighting switched separately all other lighting. CEES 150
- Vacancy Sensor: A manual-on/automatic-off lighting control, which includes a manual-off option
- Recessed Downlight Luminaires in Ceilings: Luminaires recessed into ceilings must not contain screw base sockets and must meet the following requirements:
    - Be defined in Section 100.1 for zero clearance insulation contact, IC-rated.
    - Have a label that certified it is airtight with air leakage less than 2.0 CFM at 75 Pascals, be sealed with a gasket or caulk between the luminaire housing and ceiling, AT Rated.
    - Have all air leaks paths between conditioned and unconditioned spaces sealed with
    - a gasket or caulk
    - Allow ballast or driver maintenance and replacement to be readily accessible from below the ceiling for luminaires with hardwired ballasts or drivers
    - Contain light sources that comply with JA8 Bulbs.
- Electronic Ballasts: Ballasts for fluorescent lamps 13 watts and greater shall be electronic with an output frequency ≥ 20 kHAll
- No limit to number of watts, but must be at least 100% high efficacy, dimmable or on a vacancy sensor.

Luminaires recessed in insulated ceilings must meet three requirements.

1. They must be listed as defined in the Article 100 of the California Electric Code for zero clearance insulation contact (IC) by Underwriters Laboratories or other testing/rating laboratories recognized by the International Code Council (ICC). This enables insulation to be in direct contact with the luminaire.
2. The luminaire must have a label certified as per §150.0(k)1Cii for airtight (AT) construction. Airtight construction means that leakage through the luminaire will not exceed 2.0 cfm when exposed to a 75 Pa pressure difference, when tested in accordance with ASTM E283.
3. The luminaire must be sealed with a gasket or caulk between the housing and ceiling.

Figure 3-21: IC-Rated Luminaire (Light Fixture)



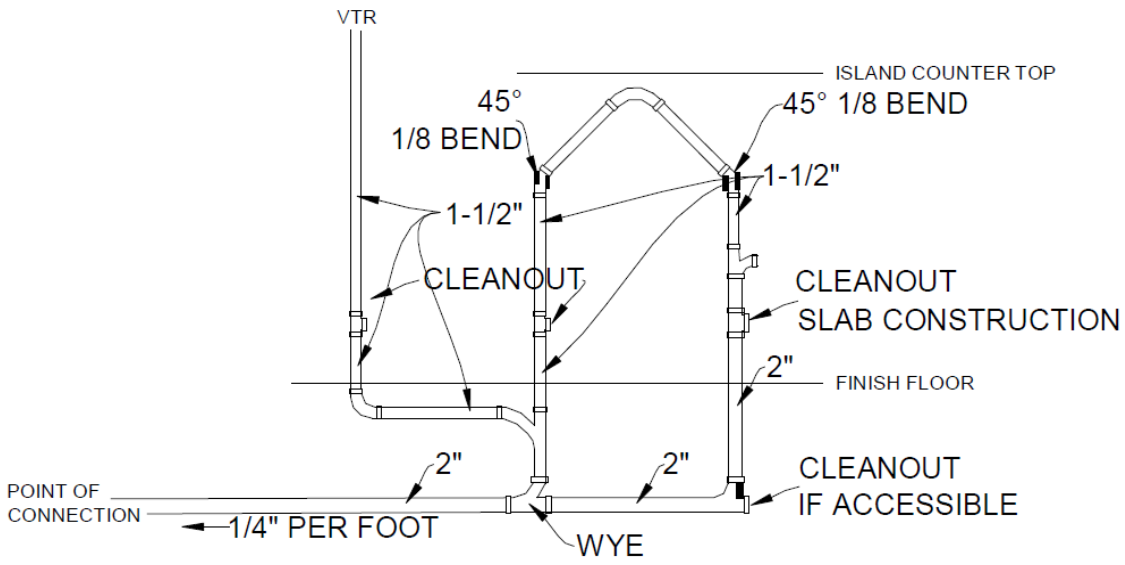
Source: California Energy Commission

MECHANICAL

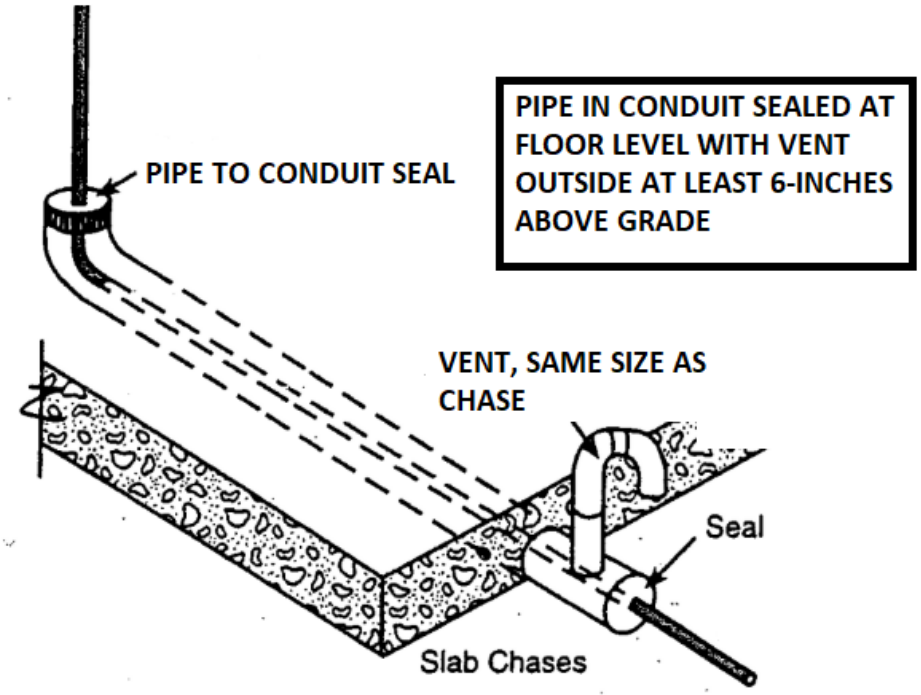
- Kitchen exhaust ventilation requires a minimum rate of 100 Cfm meeting the requirements of ASHRA 62.2. This includes a maximum sound rating of 3 Sone @ 100 Cfm. The 2019 code has kitchen hood requirements for CFM rate, and sound level (to be HERS verified). CEES §150.0(o)
  - Certified to the home ventilation institute (HVI) CEES §120.1(b)2
- A ducted residential exhaust hood is required. A metal, smooth interior surface duct required on vent hood or down draft exhaust vent. Aluminum flex duct not approved. Provide back draft damper. CMC 504.3
- A Minimum 30" vertical clearance to combustibles (Cabinets) from cook top surface. CMC 916.3.2
- Continuous Local Ventilation Exhaust Airflow Rates 5 air changes per hour, based on kitchen volume
- Vented range hood (including appliance-range hood combinations): 100 CFM.
  • Other kitchen exhaust fans, including downdraft: 300 CFM.
- The size and length of the ducting, if greater than 14-feet, must be detailed on the plan.
- Provide installation instructions for all listed equipment and appliances, to field inspector at time of inspection [CMC 303.1]
- Termination of environmental air ducts shall be a minimum of 3' from property lines or other openings into building (i.e., dryers, bath and utility fans, etc., and must be 3' away from doors, windows, opening skylights or attic vents) [CMC 502.2.1]

PLUMBING

- Kitchen faucets shall have a maximum flow rate of 1.8 gallons per minute at 60 PSI. California Green Building Code 4.303.1.4.4. SB 407 Requirements-All plumbing fixtures for all residential buildings built and available for use on or before January 1, 1994 must be replaced with water conserving plumbing fixtures. California Civil Code 1101.4(a)
- An accessible shutoff valve shall be installed outside each appliance and ahead of the union connected thereto and in addition to any valve on the appliance. CPC 1212.5
- Appliance gas flexible connectors shall be list and of minimum length but not to exceed 6 feet. CPC 1212.3
- An approved air gap fitting on the discharge side of the dishwasher is required. CPC 807.3
- A gas test is required on piping modifications (10 PSI for 15 minutes). A maximum 15-PSI gauge is required for the gas test. A lower gas pressure test may be performs when using a recording test gauge. As provided for in CPC section 1213.0
- Insulate all Hot water pipes, from hot water heater to kitchen faucet. CPC 609.11.2. Pipe Insulation Wall Thickness: Hot water pipe insulation shall have a minimum wall thickness of not less than the diameter of the pipe for a pipe up to 2 inches in diameter.
    - EXCEPTIONS:
        - Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration.
        - Hot water piping between the fixture control valve or supply stop and the fixture or appliance shall not be required to be insulated.
- A Provide and show on the plans, all domestic hot water pipes that are buried below grade must be installed in a waterproof and non-crushable casing or sleeve that allows for installation, removal and/or replacement of the enclosed pipe and insulation.
- The hot water valve shall be installed on the left side where two separate handles control are provided. [CPC 417.5]
- Traps for island sinks shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drain board height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. [909]
- An accessible shutoff valve shall be installed outside each appliance and ahead of the union connected thereto and in addition to any valve on the appliance. CPC 1210.9.1.1
- Provide maximum 6’ long listed gas flexible connector and shut off to free standing range. CPC 1211.5
- The maximum flow rate for the sink faucets is 1.8 Gallons per minute @ 60 psi. CGC 2019 A Kitchen faucets may temporarily increase the flow above the maximum rate but not to exceed 2.2 gallons per minute @ 60 psi and must default to a maximum flow rate of 1.8 gallons per minute @ 60 psi.
- Sink hose attachments require vacuum breaker [603.3.3]
- A listed air gap is required for the dishwasher drain. CPC 807.3 a loop provided inside the cabinet is not approved in Gardena. CPC 603.3.1. Per the CA Plumbing Code, an air admittance valve is not approved for installation or use inside the dwelling. Contact the Building Official.



ISLAND VENT



GAS LINE- UNDER SLAB

UNDER SLAB GAS LINE - CPC 1211.1.6

- Gas lines that run under a slab shall run through an approved, vented, gas tight conduit. CPC 1210
    - No gas piping shall be installed in or on the ground under any building or structure unless installed/sleeved in gas and watertight conduit, and all exposed gas piping shall be kept at least 6" inches above grade or structure. The term "building or structure" shall include structures such as porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, pool equipment pad, covered walks, covered driveways, and similar structures or appurtenances. The conduit shall be of material approved for installation underground beneath building and not less than Schedule 40 pipe. The interior diameter of the conduit shall be not less than ½" larger than the outside diameter of the gas piping.
- The conduit shall extend to a point at least 12" beyond any area where it is required to be installed or to the outside wall of a building, and the outer ends shall not be sealed. Where the conduit terminates within a building, it shall be readily accessible and the space between the conduit and the gas piping shall be sealed to prevent leakage of gas into the building.
- Sleeving conduit shall be arranged so that internal gas piping system can be removed and replaced.
- Corrugated Stainless Steel Tubing (CSST) flexible gas piping material can be installed only by a Qualified Installer who has been certified by the manufacture of the product used. Installer shall show inspector current certificate.

Framing:

- All exterior walls exposed during construction shall be insulated with min. R-15. [CEES 150.2(b), 150.0(c)]
- All roof/ceilings exposed during construction shall be insulated with min. R-30. [CEES 150.2(b), 150.0(a)1]
- All Wood Floors exposed during construction shall be insulated with min. R-19. [CEES 150.2(b), 150.0]
- All accessible joints, penetrations, and other openings in the building envelope about the area of work shall be caulked, gasketed, weather stripped, or otherwise sealed. [CEES 110.7]
- Upper cabinets shall be a minimum of 30" above cooking surface. Cabinets and kitchen range hood shall be installed with the minimum clearances as required by the range/cooktop manufacturer's installation instructions. [CMC 921.3.2]

Smoke Detectors:

- Kitchen renovations will require the smoke and carbon monoxide alarms for the dwelling to meet the current code. CRC Sections R314 and R315, Smoke alarms are required in all sleeping rooms, outside each sleeping area in the immediate vicinity of the bedrooms, (within 10 feet of bedroom doors and greater than three feet of bathroom doors), on each floor level including basements and habitable attics, but no including crawl spaces and uninhabitable attics.
    - Carbon Monoxide alarms are required in dwelling units and sleeping units when fuel-burning appliances are installed and/or dwelling units have attached garages. Either condition requires the alarms.

- When more than one alarm of either type is required to be installed within an individual dwelling unit, the alarm devices shall be interconnected in such a manner that activation of one alarm will activate all the other alarms.
- In existing conditions, if there is no attic access, alarms may be battery operated when the repairs or alterations do not result in the removal of the wall and ceiling finishes.
- Multipurpose alarms that combine both a smoke alarm and carbon monoxide alarm shall comply with all applicable standards of both CRC Sections R314 and R315 and be listed by the Office of the State Fire Marshal.

Green Building Standards

- Adhesives, sealants, caulks, paints, & coatings shall comply with the VOC limits. [CalGreen 4.504.2.1 & 4.504.2.2]
- Aerosol paints & coatings shall meet the Product-Weighted MIR Limits for ROC. [CalGreen 4.504.2.3]
- Minimum 80% of the installed resilient flooring shall comply with one or more certified products per CalGreen 4.504.4.
- Interior use of hardwood plywood, particleboard, and medium density fiberboard composite wood products shall comply with the formaldehyde limits per CalGreen Table 4.504.5.
- New framing shall not be enclosed when the framing members have a moisture context exceeding 19%. [CalGreen 4.505.3]