DEPARTMENT of COMMUNITY DEVELOPMENT
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RESIDENTIAL BATHROOM RENOVATION

Bathroom renovations require a Building permits. The following information can be used as a guideline for the bathroom requirements. Bathroom 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 Code.

A bathroom renovation includes the removal and/or relocation of vanity cabinets, sinks, water closet, tub & showers, replacement/changes to the lighting or removal & replacement of the wall board.

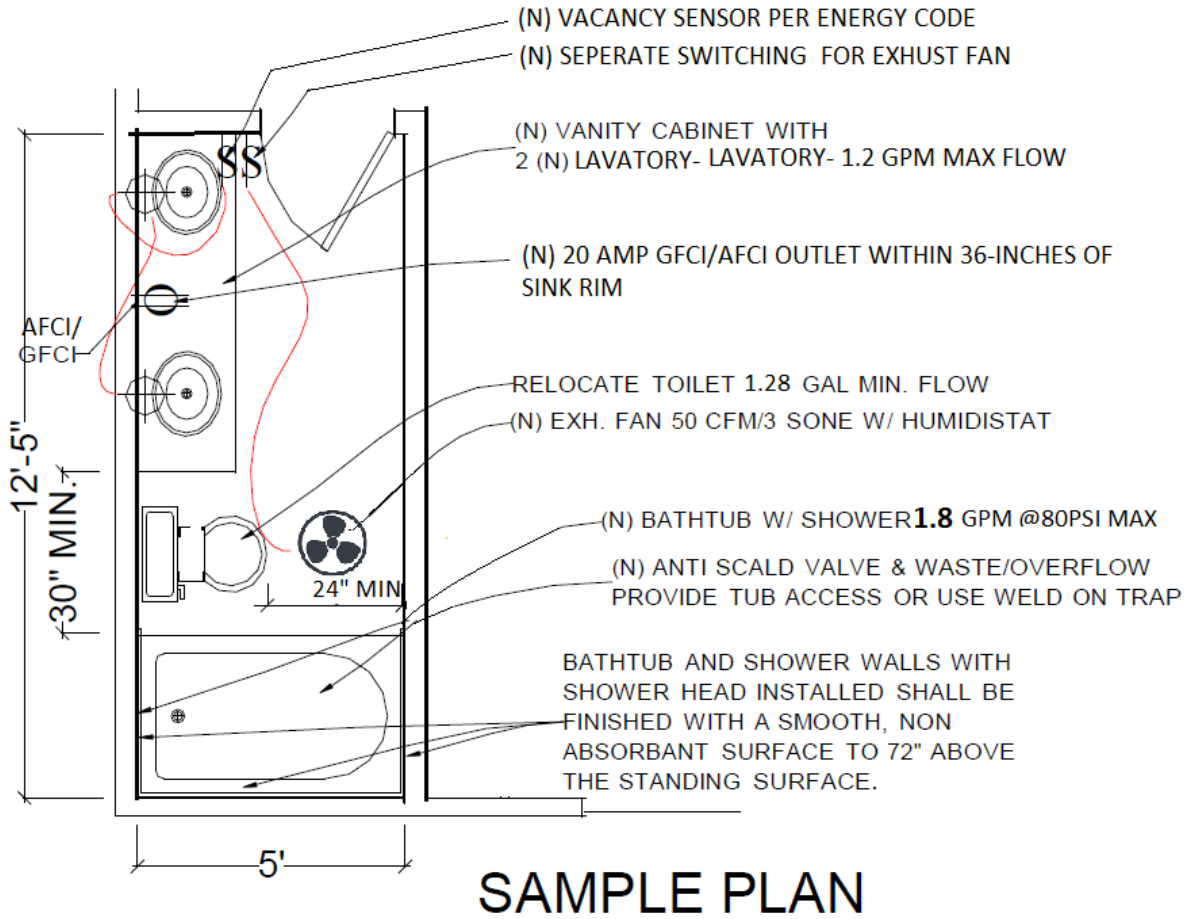
Replacement of the towel bars, mirrors, paint and non-shower floor coverings, where no other work is included is considered a maintenance item and no permit is required.

The following details the minimum requirements of the bathroom renovation including the electrical, mechanical and plumbing systems:

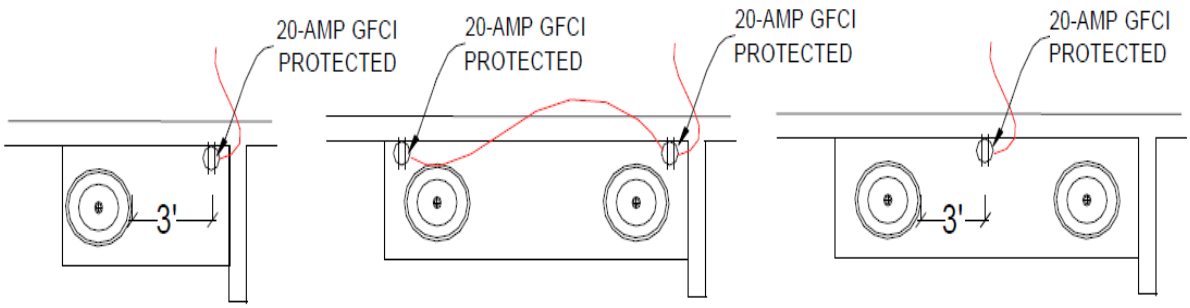
ELECTRICAL

- Provide a 20 AMP GFCI and AFCI protected electrical outlet within 3’ of the outside edge of each bathroom sink basin. Outlet shall be located on a wall or partition that is adjacent to the basin or installed on the side or face of the basin cabinet not more than 12” below the countertop. Such circuits shall have no other outlets. This circuit may serve more than one bathroom. CEC 210.11(C)(3)
- No light fixture, Outlet, Switches or Lighting Controls shall be located within a zone 3’ horizontally and 8’ vertically from the top of the bathtub rim or shower. CEC 410.10(D) No cord connected or hanging pendant, track light or suspended ceiling fan fixtures in zone 3’ away from the edge of the tub/shower and/or 8’ above the bathtub or shower flood level. This is the Electrical Exclusion Zone.
- Luminaires located within the actual outside dimension of the tub or shower, up to 8 feet vertically from the top of the bathtub rim or shower threshold, shall be marked for a damp locations, provided with a solid lens and be GFCI protected.
- Bathroom lighting shall be high efficacy luminaries (LED or Fluorescent). Lighting and fans shall be switched separately.

- 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. Recessed luminaries installed in an insulated ceiling shall be IC rated (Insulated Ceiling –zero clearance) and AT rated (airtight) and shall be sealed and/or gasketed between ceiling and housing. 150.0(K)1C 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.
- Provide a Vacancy Sensor on general bathroom lighting. Manual-on, Auto off, not required on task lighting, unless the task lighting is the general lighting.
- Light fixtures in wet locations shall be protected by GFCI circuit CEC 410.4 (A)(D) (Per the manufacturer's installation instructions)
- Separate circuits for lights & receptacle outlets. CEC 210-11 (c)(3)



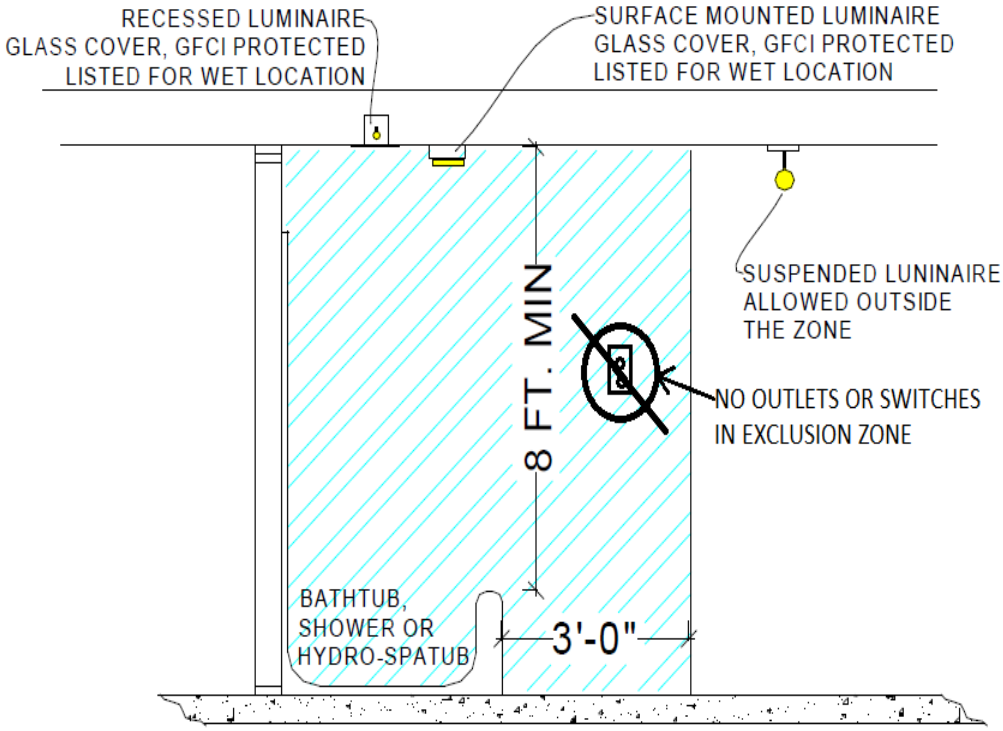
SAMPLE PLAN



RECEPTACLE WITHIN 36"
1 DEVICE - 1 SINK

RECEPTACLE WITHIN 36"
1 DEVICE FOR EACH SINK

RECEPTACLE WITHIN 36"
1 DEVICE USED FOR BOTH SINKS



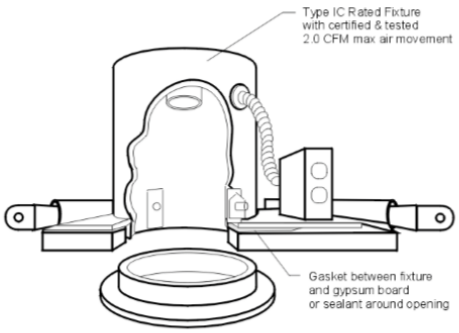
DESIGNATED ZONE

CHAIN, CABLE OR CORD SUSPENDED LUMINAIRES, CORD CONNECTED LUMINAIRES, TRACK LIGHTING, PENDANTS AND/OR CEILING-SUSPENDED FANS ARE NOT PERMITTED WITHIN THE ZONE

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

- A bath exhaust fan w/ back draft damper is required regardless of the presence of a window. Exhaust must vent to outdoors in an approved duct. Terminate the outlet a minimum of 3' from an opening or property line. CMC 402.5. A minimum rate of 50 cfm and a maximum of 3 sone rating are required.
- Bathroom fan exhaust shall terminate a min. of 3' from property line & 3' from any openings into a building. CMC 504.3.
- Exhaust fans shall be energy star compliant. Unless the bathroom exhaust fan is part of the Whole House Ventilation System, fans must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between the relative humidity ranges of 50 to 80 percent. A humidity control may be a separate component to the exhaust fan. For the purpose of this section, a bathroom is a room that contains a bathtub, shower, or tub/shower combination. CGBS4506.1
- In-line booster fans are considered an Alternate Method & shall be pre-approved by the City of Gardena prior to installation. This method is discouraged because of accessibility & maintenance issues. (Not allowed in under floor/crawlspace areas.)
- Exhaust fans over showers shall be listed for wet location & shall be GFCI protected.

PLUMBING

- Bathtub/whirlpool & shower valves shall be approved pressure-balanced or thermostatic mixing type adjusted to a maximum of 120 degrees. CPC 418, 414
- Fixtures shall meet the following maximum flow rates:
  Water Closets = 1.28 GPM - Shower Heads = 1.8 GPM - Bath Sink Faucets = 1.2 GPM.
- The hot water valve shall be installed on the left side. CPC 417.5 Where two separate handles control the hot & cold water, the left-hand faucet shall control hot water. CPC 415.0
- A minimum 12" x 12" access panel is required when a slip joint p-trap waste & overflow is provided.

- Air admittance valves are not allowed per CA Plumbing Code.
- Air-gap (Sink & Tub). A minimum 1" air-gap separation between the flood level of sink & tub & the water supply outlet. CPC 603.2.1, Table 6-3
- Testing piping system: Drain, waste, & vent (DWV) system shall be tested with no less than 10' of head water above the system for 15 minutes OR 5 psi air test for 15 minutes. *Cannot use an air test on plastic Drainage, Waste, & Vent (DWV) piping. CPC 712.2 , CPC 723
- Tub test: Fill water slightly above overflow. (fill tubs prior to inspection)
- Waste vents shall terminate vertically not less than 6" above roof, nor less than 1' from any vertical surface & 10' from or 3' above any opening such as windows, doors, air intake, nor less than 3' from any lot line. Sidewall vent may not terminate under vented soffit. CPC 906.1, 2
- ABS piping vent pipes above the roof shall be UV protected with latex paint. Verify new penetrations at roof are properly sealed & flashed & painted.
- Provide a min. 12" access door for fixtures with concealed slip joint connections. CPC 404.2

TUB

- Tub waste openings in framed construction to crawl spaces shall be protected from rodent intrusion with no openings greater than ½" inch. CPC 313.12.4

TOILET

- Provide caulking at the bottom of the toilet, between toilet and floor. CPC 407.2
- Toilet spaces shall be at least 30 inches wide; 15" min. from wall or other obstruction to center of toilet nor closer than 30" center to center to any similar fixture, with at least 24 inches clear in front of the toilet. CPC 407.6
- When additional water closets (toilets) are installed, a maximum of 3 water closets are allowed on a 3" waste line.

SHOWER

- Multiple showerheads serving one shower, the combined flow rate of all the showerheads shall not exceed the maximum flow rate specified in the 20% reduction column contained in CGBS 4.303 or the shower shall be designed to allow one showerhead to be in operation at a time.
- All shower compartments, regardless of shape, shall have a minimum finished interior of 1024 square inches and shall also be capable of encompassing a 30" inch circle. Exception: Where existing bathtub is replaced by a shower receptor having min. overall dimensions of 30" wide by 60" long. CPC 411.7 and exception no. 2
- Site built shower stalls shall comply with CPC 408.6
- Vacuum breakers are required for handheld shower heads. CPC 603.0
- Shower door or rod shall be installed prior to final.
- On-site built-up shower receptors: All lining, hot-mopped or other approved materials shall be pitched one-quarter (1/4) inch per foot to weep holes in the sub drain of a smooth and solidly formed sub-base. All such lining materials shall extend upward on the rough jambs of the shower opening to a point no less than three (3) inches above the top of the finished dam or threshold and shall extend outward over the top of the rough

threshold and be turned over and fastened on the outside face of both the rough threshold and the jambs. no perforations/nails lower than 1" above dam. CPC 411.8

- Factory built shower receptors: No shower receptor shall be installed unless it conforms to acceptable standards/ listed as referenced in CPC table 14-1. The flange shall be watertight and extend vertically a min. of (1") above top of the sides of the receptor. CPC 411.6
- Floor drains shall be considered plumbing fixtures and each such drain shall be provided with an approved type strainer. Floor drains, floor receptors, and shower drains shall be of an approved type, suitably flanged to provide a watertight joint in the floor. CPC 411.1 and 404.1
- Linings shall be fastened to an approved backing and shall not be nailed or perforated at any point which may be less than one (1) inch above the finished dam or threshold. CPC 411.8 (1) (2)
- All showers, in all occupancies, shall have a smooth, hard, nonabsorbent surface to a height of not less than 72" inches above the drain inlet. Materials other than structural elements used in such walls shall be of a type that is not adversely affected by moisture. Wood windows installed less than 72" above the drain inlet are not allowed. CRC R307.2, CBC 1210.3
- Thresholds shall be of sufficient width to accommodate a minimum 22" door. CPC 411.6
- Curbless shower pan: Refer to Building Services for installation requirements. Extend approved water proofing material a min. of 4' beyond threshold and maintain a ¼" fall per foot for 4' to drain. Note: Recommend extending water proofing over entire bathroom area.

WHIRLPOOL/SPA

- Whirlpool (spa) bathtubs shall have a readily accessible access panel. CPC 409.6 Motors shall be accessible, on a dedicated circuit with their own GFCI circuit & bonded with min. 8 AWG copper wire. Provide access for the motor (CPC 414), GFCI receptacle (CEC 680.70) & bond motor (see listing) & any metal parts in contact with circulating water. Provide separate circuits for motor & heater if required. CEC 680.72 & 74, CPC 414.1.
- The circulation pump shall be located above the crown weir of the trap. CPC 409.6
- The pump and the circulation piping shall be self-draining to minimize water retention. CPC 409.6
- Suction fittings on whirlpool bathtubs shall comply with the listed manufacturer's spec's CPC 409.6
- The maximum hot water temperature discharging from the bathtub filler is limited to 120° by a device that conforms to ASSE 1070 or CSA B125.3. The water heater thermostat shall not be considered a control for meeting this provision. CPC 409.4
- Accessible disconnects and GFCI protection is required for the whirlpool (spa) pump, aerator and heater. CEC 210.8

BIDETS

- The water supply shall be protected with an air gap or vacuum breaker. CPC 410.2
- The maximum hot water temperature discharging from a bidet is limited to 110° by a device that conforms to ASSE 1070 or CSA B125.3. The water heater thermostat shall not be considered a control for meeting this provision.

GYPSUM WALLBOARD and TILE BACKER BOARD

- Paperbacked gypsum board products such as “Green board”, “Purple board”, “Mold Resistance board” & “Hardy board” shall **not be used** as a backer for tile lath or concrete.
  Fasteners: Cement, fiber-cement or glass mat backer board shall be secured with its listed fasteners AND shall be CORROSION RESISTANT in shower/tub compartments.
- Water resistant gypsum board /green board/purple board shall NOT be used in the following locations:
  - In showers where used as the tile base or backer.
  - Where there will be direct exposure to water or in areas subject to continuous high humidity. CRC R702.4
  - On ceilings where frame spacing exceeds 12” on center for ½” wall board and more than 16” on center for 5/8” water-resistant drywall. CRC R702.3.8

Safety Glazing

- Safety glazing is required at all windows that are less than 60” above the bottom of tub & shower floors & at tub & shower enclosure panels & doors (check for bug) CRC R308.4, CBC 2406.2, 2406.4
- Provide tempered glass at tub/shower doors and at windows less than 60” from tub/shower drain
- Shower enclosure doors shall slide or open outward and maintain 22” clearance CPC 411.6

Insulation

- R-13 min. required at all exterior walls that are exposed during construction, including behind bathtubs at exterior walls.
- R-30 min. required at ceilings that are exposed during construction.

Smoke and Carbon Monoxide Detectors

All Bath 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 (within 10-feet) of the bedrooms, on each floor level including basements and habitable attics, but not 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.

On-site Built-up Shower Receptors

Approved Tile Backer Methods for Shower & Tub Compartment

See Shower Wall Guidelines (click here)

Top Three Missed/inspection Failures:

1. Wrong Backer Board
2. Wrong Fasteners
3. Wrong testing plug

_ Inspection for shower pan receptor shower receptors shall be tested for water-tightness by filling with water to the level of the rough threshold. The test plug shall be so placed that both upper and under sides of the sub-pan shall be subjected to the test at the point where it is clamped to the drain. Test shall be 24 hours min. CPC 411.8.1

_ At time of inspection, qualified person with proper tools shall remove test plug and demonstrate weep hole function.