



City of Millbrae
2022 CALIFORNIA GREEN BUILDING CODE
CHECKLIST FOR NEW NONRESIDENTIAL BUILDINGS

FOR NEW NON-RESIDENTIAL BUILDINGS.

Please copy into your plan set.

In the column labeled "Plan Reference" specify where each "Measure" can be found on the plans.

| Green Building Measure | Plan Reference |
|--|-----------------------|
| SITE DEVELOPMENT (2022 CGC §5.106) | |
| Stormwater pollution prevention for projects that disturb less than one acre of land. Newly constructed projects which disturb less than one acre of land shall prevent the pollution of storm water runoff from the construction activities through local ordinance per 2022 CGC §5.106.1 | |
| Best Management Practices (BMP's). Include a plan for Best Management Practices (BMP) on the plans. 2022 CGC §5.106.1.2 | |
| Short-Term Bicycle Parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking being added, with a minimum of one two-bike capacity rack. 2022 CGC §5.106.4.1.1. | |
| Long-Term Bicycle Parking. For buildings with more than 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking being added, with a minimum of one space. 2022 CGC §5.106.4.1.2. | |
| ELECTRIC VEHICLE (EV) CHARGING (2022 CGC § 5.106.5.3) | |
| Electric Vehicle (EV) Charging. Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.1 06.5.3.1 and shall be provided in accordance with regulations in the California Building Code and the California Electrical Code. 2022 CGC §5.106.5.3 | |
| Designated Parking. Provide designated parking for any combination of low-emitting, fuel- efficient, and carpool/van pool vehicles as shown in 2022 CGC Table 5.106.5.2. Parking stall marking shall comply with 2022 CGC §5.106.5.2.1 | |
| EV Capable Spaces. EV capable spaces shall be provided in accordance with 2022 CGC §5.106.5.3.1 and Table 5.106.5.3.1 and the following requirements. <ol style="list-style-type: none">1. Raceways complying with the California Electrical Code and no less than 1-inch (25 mm) diameter shall be provided and shall originate at a service panel, or a subpanel(s) serving the area and shall terminate in close proximity to the proposed location of the EV capable space.2. A service panel or subpanel(s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS. | |



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| <p>(EV-capable spaces cont.)</p> <p>3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space.</p> <p>4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protection device(s) as EV Capable</p> | |
| <p>Electric vehicle charging stations (EVCS).</p> <p>EV capable spaces shall be provided with EVSE to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 may be provided with EVSE in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be provided.</p> <p>One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 2022 CGC §5.106.5.3.2</p> | |
| <p>Use of automatic load management systems (ALMS).</p> <p>ALMS shall be permitted for EVCS. When ALMS is installed, the required electrical load capacity specified in Section 5.106.5.3.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs. 2022 CGC § 5.106.5.3.3</p> | |
| <p>Accessible EVCS.</p> <p>When EVSE is installed, accessible EVCS shall be provided in accordance with the California Building Code, Chapter 11B, Section 11B-228.3. 2022 CGC § 5.106.5.3.4</p> | |
| <p>Electric vehicle (EV) charging: medium-duty and heavy-duty.</p> <p>Construction shall comply with Section 5.106.5.4.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores and retail stores with planned off-street loading spaces shall also comply with Section 5.106.5.4.1 for future installation of medium- and heavy-duty EVSE.</p> <p>2022 CGC § 5.106.5.4</p> | |
| <p>Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores with planned off-street loading spaces,</p> <p>In order to avoid future demolition when adding EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s) or subpanel(s) shall be installed at the time of construction in accordance with the California Electrical Code, and Table 5.106.4.1</p> | |
| <p>Light Pollution Reduction: Outdoor lighting systems shall be designed and installed to comply with requirements in the 2022 California Energy Code and in compliance with 2022 CGC § 5.106.8</p> | |
| <p>Grading and Paving. Construction plans shall indicate how site drainage system will manage all surface water flows to keep water from entering the buildings 2022 CGC§ 5.106.10</p> | |



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| ENERGY EFFICIENCY (2022 CGC §5.201 and the 2022 California Building Energy Efficiency Standards) | |
| 2022 Energy Code performance compliance documentation must be provided in 8-1/2" X 11" format and must be replicated on the plans. | |
| The building shall be in compliance with the Mandatory requirements of the 2022 California Energy Code §100.0 through §110.11 that are applicable to the building project. | |
| The building shall be in compliance with the Mandatory requirements of the 2022 California Energy Code §120.0 through §130.5. | |
| The building shall be in compliance with the performance compliance approach (energy budgets) in the 2022 California Energy Code §140.1, or the prescriptive compliance approach in §140.2 for the Climate Zone in which the building will be located. | |
| WATER EFFICIENCY AND CONSERVATION (2022 CGC §5.303) | |
| Meters. Separate sub-meters or metering devices shall be installed for the uses described in 2022 CGC §503.1.1 and §503.1.2. | |
| Buildings in excess of 50,000 square feet: Separate sub-meters shall be installed as follows: <ol style="list-style-type: none"><li data-bbox="169 1144 1328 1292">1. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gal/day, including but not limited to, spaces used for laundry or cleaner, restaurant for food service, medical or dental office, laboratory or beauty salon or barber shop.<li data-bbox="169 1292 1328 1545">2. Where separate sub-meters for individual building tenants are infeasible, for water supplied to the following subsystem:<ol style="list-style-type: none"><li data-bbox="231 1377 1328 1440">a. Makeup water for cooling towers where flow through is greater than 500 GPM.<li data-bbox="231 1440 1328 1503">b. Makeup water for evaporative coolers greater than 6 GPM.<li data-bbox="231 1503 1328 1545">c. Steam and hot-water boilers with energy input more than 500,000 Btu/h. | |
| Excess Consumption. A separate sub-meter or metering device shall be provided for any tenant within a building that is projected to consume more than 1,000 gallons/day. 2022 CGC §5.303.1.2 | |



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| <p>Water Conserving Plumbing Fixtures and Fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following prescriptive reduced flow rates:</p> <p>Water Closets: The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush. 2022 CGC §5.303.3.1</p> <p>Urinals: The effective flush volume of Wall-mounted urinals shall not exceed 0.125 gallons per flush and</p> <p>Floor mounted urinals shall not exceed 0.5 gallons per flush. 2022 CGC §5.303.3.2.1 & 5.303.2.2</p> <p>Single Showerhead: Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. 2022 CGC §5.303.3.3.1</p> <p>Multiple Showerheads Serving One Shower: 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 1.8 gallons per minute at 80 psi, or the show shall be designed to allow only one shower outlet to be in operation at a time. Note: A hand- held shower is considered a showerhead. 2022 CGC §5.303.3.3.2</p> <p>Lavatory faucets: shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi. 2022 CGC §5.303.3.4.1</p> <p>Kitchen faucets: maximum flow rate 1.8 gallons per minute at 60 psi. 2022 CGC §5.303.3.4.2</p> <p>Wash fountains: maximum flow rate 1.8 gallons per minute at 60 psi. 2022 CGC §5.303.3.4.3</p> <p>Metering faucets shall not deliver more than 0.20 gallons per cycle 2022 CGC §5.303.3.4.4</p> <p>Metering faucets for wash fountains shall have a maximum flow rate of nor more than 0.20 gallons per cycle 2022 CGC §5.303.3.4.5</p> | |
| OUTDOOR WATER USE (2022 CGC §5.304) | |
| <p>Outdoor potable water use in landscape areas.</p> <p>Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.</p> <p>2022 CGC §5.304.1</p> | |



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| WEATHER RESISTANCE AND MOISTURE MANAGEMENT (2022 CGC §5.407) | |
| <p>Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by 2022 <i>California Building</i> §1402.2 and 2019 California Energy Code §150, the manufacturer's installation instructions, or local ordinance, whichever is more stringent. 2022 CGC §5.407.1</p> <p>Moisture Control. Employ moisture control measures by the following methods:</p> <p>Sprinklers. Prevent irrigation spray on structures per 2022 CGC §5.407.2.1.</p> <p>Entries and openings. Design exterior entries and openings to prevent water intrusion into buildings. 2022 CGC §5.407.2.2.</p> | |
| CONSTRUCTION WASTE REDUCTION, DISPOSAL, AND RECYCLING (2022 CGC §5.408) | |
| <p>Construction Waste Diversion. A minimum of 65% of the non-hazardous construction and demolition waste generated at the site will be diverted to an offsite recycle, diversion, or salvage facility. 2022 CGC §5.408.1</p> <p>Waste management company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section. 2022 CGC §5.408.1.1</p> <p>Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65 percent minimum requirement as approved by the enforcing agency. 2022 CGC § 5.408.1.3</p> | |
| <p>Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1 through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency. 2022 CGC § 5.408.1.4</p> | |
| <p>Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed. 2022 CGC § 5.408.3</p> | |
| BUILDING MAINTENANCE AND OPERATION (2022 CGC §5.410) | |
| <p>Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of nonhazardous materials for recycling including paper, corrugated cardboard, glass, plastics, and metals. 2022 CGC §5.410.1</p> | |



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| Owner's or Owner representative's Project Requirements (OPR). The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. 2022 CGC § 5.410.2.1 | |
| Basis of Design (BOD). A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project. 2022 CGC § 5.410.2.2 | |
| Commissioning plan. Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. 2022 CGC § 5.410.2.3 | |
| Commissioning Report. A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative. 2022 CGC § 5.410.2.6 | |
| Testing and Adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet. 2022 CGC § 5.410.4. | |
| Operation and Maintenance Manual. Provide the building owner with detailed operating and maintenance instructions and copies of guarantees/warranties for each system prior to final inspection. A copy of all inspection verifications and reports required by the enforcing agency must be included in this manual. 2022 California Building Code § 5.410.4.5. | |
| ENVIRONMENTAL QUALITY 2022 § 5.502 | |
| FIREPLACES (2022 CGC § 5.503) | |
| Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace or a sealed woodstove or a pellet stove and refer to residential requirements in the 2022 California Energy Code, Title 24, Part 6, Subchapter 7, § 150. Woodstoves. Woodstoves and pellet stoves shall comply with US EPA, (NSPS) emission limits. 2022 CGC § 5.503.1 and 503.1.1 | |
| POLLUTANT CONTROL (2022 CGC § 5.504) | |
| Temporary Ventilation. The permanent HVAC system shall only be used during construction if necessary to condition the building within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a MERV of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy. 2022 CGC § 5.504.1 | |



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| Covering of Duct Openings and Protection of Mechanical Equipment During Construction. At the time of rough installation or during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system. 2022 CGC §5.504.3. | |
| Finish Material Pollutant Control. Finish materials shall comply with 2022 CGC §5.504. through §5.504.4.6. | |
| Adhesives, sealants, and caulk. Adhesives, sealants, and caulk used on the project shall meet the requirements of the standards listed in 2022 CGC §5.504.4.1. | |
| Paints and Coatings. Architectural paints and coatings shall comply with 2022 CGC Table 5.504.4.3 unless more stringent local limits apply. | |
| Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. 2022 CGC §5.504.4.3.2. | |
| Carpet Systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in 2022 CGC §5.504.4.4. | |
| Composite Wood Products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in 2022 CGC Table 5.504.4.5 | |
| Resilient Flooring Systems. 80 percent of the floor area receiving resilient flooring shall comply with at least one of the pollutant control measures listed in 2022 CGC §5.504.4.6. | |
| Verification of Compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits. 2022 CGC §5.504.4.6.1 | |
| Thermal insulation. Comply with the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350). 2022 CGC §5.504.4.7 | |
| Acoustical ceilings and wall panels. Comply with the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350). 2022 CGC §5.504.4.8 | |



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| <p>Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 13. MERV 13 filters shall be installed after any flushed-out or testing and prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual. 2022 CGC §5.504.5.3</p> | |
| <p style="text-align: center;">INDOOR MOISTURE CONTROL (2022 CGC §5.505)</p> | |
| <p>Buildings shall meet or exceed the provisions of the 2022 California Building Code, Sec, 1202 (Ventilation) and Chapter 14 (Exterior Walls) for indoor moisture control. 2022 CGC §5.505</p> | |
| <p style="text-align: center;">INDOOR AIR QUALITY (2022 CGC §5.506)</p> | |
| <p>Buildings must meet the minimum requirements of the 2022 California Building Code, Chapter 12 (Ventilation) for mechanically or naturally ventilated spaces. 2022 CGC §5.506.1</p> | |
| <p>For Buildings equipped with demand control ventilation, CO2 sensors and vent. Controls shall be specified and installed in accordance with the 2022 California Energy Code, 2022 CGC 5.506.2</p> | |
| <p style="text-align: center;">ENVIRONMENTAL COMFORT (2022 CGC §5.507)</p> | |
| <p>Acoustical Control. Employ building assemblies and components with STC values determined in accordance with ASTM E90 and ASTM E413 or OITC determined in accordance with ASTM E 1332, using either the prescriptive or performance method in 2022 CGC §5.507.4.1 or §5.507.4.2.</p> | |
| <p style="text-align: center;">OUTDOOR AIR QUALITY (2019 CGC §5.508)</p> | |
| <p>Ozone Depletion and Greenhouse Gas Reductions. Installation of HVAC, refrigeration and fire suppression equipment shall comply with 2022 CGC §5.508.1.1 or §5.508.1.2.</p> | |
| <p>Supermarket Refrigerant Leak Reduction. New commercial refrigeration systems shall comply with 2019 CGC §5.508.2 when installed in retail food stores with 8,000 square feet or more of condition area, and that utilize either refrigerated display cases, or walk-in coolers, or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high- GWP) refrigerant with a GWP of 150 or greater. 2019 CGC §5.508.2</p> | |



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| Responsible Designer's Declaration | Contractor's Declaration Statement |
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| I hereby certify that this project has been designed to meet the requirements of the 2022 Green Building Code. | I hereby certify, as the builder or installer, under permit listed herein, that this project will be constructed to meet the requirements of the 2022 Green Building Code. |
| Name: | Name: |
| | |
| Address: | Address: |
| City/State/Zip: | City/State/Zip: |
| Signature: | Signature: |
| Date: | Date: |