



NON-RESIDENTIAL MANDATORY MEASURES ADDITION AND ALTERATIONS

The 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CalGreen) requires all of the following provisions. These provisions apply to non-residential building additions of 1,000 square feet or greater, and/or building alterations (including tenant improvements) with a permitted valuation of \$200,000 or above.

The provisions of this checklist only apply to the portions of the building being added to or altered. For new nonresidential buildings, new shell buildings, and initial tenant improvements to phased shell building construction, see separate checklist (CALGreen 303.1). Repairs, trade permits, existing structures not being altered, and historic structures are not subject to CALGreen requirements.

Please incorporate these requirements into the plans and sign the compliance statement at the end of this document. **Provisions that are underlined and italicized shall be shown on the construction documents.** The information listed here is an outline of the Mandatory Measures. For complete requirements and possible exceptions, please refer to the 2022 CalGreen Code. Code Sections in **bold** are City of Glendale additional mandatory CALGreen amendments.

ITEM #	CODE SECTION	REQUIREMENTS
Chapter 3 – GREEN BUILDING		
	301.3	Addition and Alterations
		<ul style="list-style-type: none">• Applies to non-residential building additions of 1,000 square feet or greater, and/or alterations (including tenant improvements) with a permit valuation of \$200,000 or above.• Requirements only apply within the specific area of the addition or alteration.
Chapter 5 – NON-RESIDENTIAL MANDATORY MEASURES		
Division 5.1 – Planning and Design		
	Site Development (Sec. 5.106)	
1	5.106.1	Storm water pollution prevention. Additions shall prevent the pollution of stormwater runoff from the construction activities. Local storm water ordinance requirements (NPDES) and Best Management Practices (BMP) shall be established and implemented to prevent the loss of soil through wind, water erosion and sediment control. Soil loss BMP and good housekeeping BMP shall be reviewed and approved by The City Engineering Services Division of Public Works prior to beginning work. See CalGreen Sec 5.106.1.2.
2	5.106.4	Bicycle parking. Provide short-term and long-term bicycle parking and storage for this facility as follows: <ul style="list-style-type: none">a. Short-term bicycle parking. Short-term bicycle parking shall be provided for additions or alterations with ten or more new parking spaces, as follows:<ul style="list-style-type: none">i. For projects that generate visitor traffic; provide permanently anchored visitor bicycle racks within 200 feet of the building entrance, readily visible to passers-by, based on 5% of the new visitor vehicle parking spaces with a minimum of one two-bike rack.b. Long-term bicycle parking. For additions or alterations that add 10 or more tenant vehicular parking spaces, provide secure bicycle parking for 5 percent of tenant vehicle parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be convenient from the street. Long-term bicycle parking shall be provided for additions or alterations that add 10 or more tenant parking spaces. shall provide secure bicycle

ITEM #	CODE SECTION	REQUIREMENTS
		<p>parking for 5% of the tenant vehicle parking spaces being added with a minimum of one space. Acceptable bicycle parking shall be convenient from the street and shall meet one of the following:</p> <ul style="list-style-type: none"> i Covered, lockable enclosures with permanently anchored bicycle racks; or ii Lockable bicycle rooms with permanently anchored racks; or iii Lockable, permanently anchored bicycle lockers <p><u>Show location of the bicycle parking on the site/floor plans and provide details for secure bicycle storage.</u></p>
3	5.106.10	<p>Grading and paving. For new buildings, and for additions and alterations that alter the drainage path: <u>construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.</u></p>
Division 5.2 – Energy Efficiency		
		Performance Requirements (Sec. 5.201)
4	5.201.1	<p>Scope. This project shall comply with all applicable energy efficiency requirements as set forth in the 2022 California Energy Code and the City of Glendale Amendment to the California Energy Code Ordinance No. 5999.</p> <p><u>Energy calculations and forms shall be included as part of the plans and drawings.</u></p>
Division 5.3 – Water Efficiency and Conservation		
		Indoor Water Use (Sec. 5.303)
5	5.303.1	<p>Meters. For additions larger than 50,000 square feet, separate submeters shall be installed as follows:</p> <ul style="list-style-type: none"> a. Each tenant space projected to consume more than 100 gallons per day. b. A separate submeter or metering device shall be provided for any tenant within a new building or addition that is projected to consume more than 1,000 gallons per day.
6	5.303.3	<p>Water conserving plumbing fixtures and fittings. All new plumbing fixtures and fittings shall comply with the maximum flow rates as follows:</p> <ul style="list-style-type: none"> a. Water closets: 1.28 gallons per flush. b. Urinals: Maximum 0.125 gallons per flush for wall-mounted. Other urinals: 0.5 gallons per flush. c. Single showerheads: Maximum flow rate of 2.0 gallons per minute at 80 psi. d. Multiple showerheads serving one shower: combined flow rate of all showerheads controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi. e. Lavatory faucets: 0.5 gallons per min. @ 60 psi. f. Kitchen faucets: 1.8 gal per min. @ 60 psi. g. Wash fountains: 1.8 gal per min./20 inches rim space @ 60 psi. <p><u>Plumbing plans shall show all indoor water efficiency features of CalGreen section 5.303</u></p>
		Outdoor Water Use (Sec. 5.304)
7	5.304.1	<p>Outdoor water use. Landscape areas shall follow the mandatory Model Water Efficiency Landscape Ordinance (MWELo) contained within Chapter 2.7, Division 2, Title 23, <i>California Code of Regulations</i>.</p> <p><u>Landscape plans shall show all outdoor water efficiency features of CalGreen section 5.304.</u></p>

ITEM #	CODE SECTION	REQUIREMENTS
Division 5.4 – Material Conservation and Resource Efficiency		
Water Resistance and Moisture Management (Sec. 5.407)		
8	5.407.1	Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by <i>California Building Code Section 1402.2 (Weather Protection)</i> , manufacturer's installation instructions or local ordinance, whichever is more stringent.
9	5.407.2	<p>Moisture control. Provide moisture control measures by the following methods:</p> <ul style="list-style-type: none"> a. Landscape irrigation sprinkler systems shall be designed to prevent spray on structures. b. Exterior entries and openings subject to foot traffic or wind-driven rain shall be designed to prevent water intrusion into the building. c. Primary building entries shall be protected by one of the following: <ul style="list-style-type: none"> i. An awning at least 4 feet in depth. ii. A roof overhang at least 4 feet in depth. iii. Door is recessed at least 4 feet. iv. Other equivalent protection d. Install flashings integrated with a drainage plane. <p><u>Plans shall show details for weather protection and moisture control per CalGreen sec 5.407.</u></p>
Construction Waste Reduction, Disposal and Recycling (Sec. 5.408)		
10	5.408.1	<p>Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with the City of Glendale's Construction and Demolition Waste Reduction and Recycling Plan (CDWRRP) Ordinance. A City approved waste management company/hauler shall be used for recycling of construction waste. Documentation of compliance shall be provided to the City's Building and Safety Division.</p> <p><u>The project shall complete the city's Construction and Demolition Waste Reduction and Recycling Plan form prior to the issuance of the building permit and pay the CDWRRP deposit.</u></p>
11	5.408.3	Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils from land clearing shall be reused or recycled. Contaminated soil or materials are not required to be reused or recycled.
Building Maintenance and Operation (Sec. 5.410)		
12	5.410.1	<p>Recycling by occupants. Provide readily accessible areas serving the entire building for the collection of non-hazardous materials for recycling.</p> <p><u>The project shall comply with the City's Recycling Ordinance.</u></p>
13	5.410.2 & 5.410.4	Note: 5.410.2 and 5.410.4 are for new buildings and initial shell build-outs - See separate checklist.
Division 5.5 – Environmental Quality		
Fireplaces (Sec. 5.503)		
14	5.503.1	Fireplaces. Any installed gas fireplace shall be direct vent sealed combustion type. New wood burning masonry fireplaces are not allowed per SCAQMD Rule 445.

ITEM #	CODE SECTION	REQUIREMENTS
Pollutant Control (Sec.5.504)		
15	5.504.1	Temporary ventilation: The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8. Replace all filters immediately prior to occupancy.
16	5.504.3	Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site until final startup of the HVAC equipment, all duct openings and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other method to prevent dust or debris from entering the system.
17	5.504.4	Finish material pollutant control. Finish material pollutant control, shall comply as follows: <ul style="list-style-type: none"> a. Adhesives, sealants and caulks used on this project shall comply with SCAQMD Rule 1168 for VOC limits and toxic compounds. Aerosol adhesives, sealants and caulks shall comply with statewide VOC standards. b. Paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in CalGreen Table 5.504.4.3. c. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of <i>California Code of Regulations</i>, Title 17, commencing with Section 94520 d. Carpet Systems. All carpeting shall meet the requirements of the Carpet and Rug Institute Green Label Plus Program or equivalent per CalGreen section 5.504.4.4. Carpet cushions shall meet the requirements of the Carpet and Rug Institute Green Label Program. Adhesives shall comply with VOC limits in CalGreen Table 5.504.4.1. e. Composite wood products shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood as shown in CalGreen Table 5.504.4.5. Verification of compliance shall be provided as requested by the building inspector. f. Resilient flooring. Where installed, 80% of the floor area receiving resilient flooring shall comply with one or more of the standards listed in CalGreen Section 5.504.4.6. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.
18	5.504.5.3	Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value be included in the operation and maintenance manuals.
19	5.504.7	Environmental tobacco smoke (ETS) control. Where outdoor areas are provided for smoking, signage shall be installed prohibiting smoking within 25 feet of building entries, outdoor air intakes and operable windows and shall comply with Glendale's Fresh Air Ordinance, Ordinance No. 5686.
Indoor Moisture and Radon Control (Sec. 5.506)		
20	5.505.1	Indoor moisture control. Buildings shall meet or exceed the provisions of the <i>California Building Code</i> , Section 1202 (Ventilation) and Chapter 14 (Exterior walls). For additional measures, see Section 5.407.2 of this code.

ITEM #	CODE SECTION	REQUIREMENTS
Indoor Air Quality (Sec.5.506)		
21	5.506.1	Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements for Ventilation) of the latest edition of the California Energy Code, CCR, Title 24, Part 6 and Chapter 4 of CCR, Title 8.
22	5.506.2	Carbon dioxide (CO₂) monitoring. For buildings or additions equipped with demand control ventilation, CO ₂ sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).
Environmental Comfort (Sec. 5.507)		
23	5.507.4	<p>Acoustical control. New buildings, additions, and alterations, located within the 65 CNEL or Ldn noise contour of a freeway, expressway, railroad, industrial or other noise source as determined by the Noise Element of the General Plan, shall employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E90 and ASTM E413 or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E1332, using either the prescriptive or performance method as follows:</p> <ul style="list-style-type: none"> a. Prescriptive method for exterior noise sources. Wall and roof-ceiling assemblies exposed to the noise source shall meet a STC rating of at least 50 or an OITC rating of at least 40. Exterior windows shall meet a STC rating of at least 40 or an OITC rating of at least 30. b. Performance method for exterior noise sources. Wall and roof-ceiling assemblies exposed to the noise source shall be constructed to provide an interior noise environment that does not exceed an hourly equivalent noise level (Ldn-1Hr) of 50 dBA in occupied areas during any hour of operation. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record. c. Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces from public places shall have an STC of at least 40. Acoustical control does not apply to buildings with few or no occupants or where occupants are not likely to be affected by exterior noise as determined by the City, such as factories, warehouses, parking structures and utility buildings. <p><u>STC or OITC ratings for exterior wall and roof-ceiling assembly shall be specified and detailed on the plans.</u></p>
Outdoor Air Quality (Sec. 5.508)		
24	5.508.1	Ozone depletion and greenhouse gas reductions. HVAC, refrigeration and fire suppression equipment shall not contain CFCs or Halons.
25	5.508.2	Supermarket refrigerant leak reduction. New and replacement refrigeration systems when installed in retail food stores of 8,000 square feet or more conditioned area, and that utilize refrigerated display cases, walk-in coolers or freezers connected to remote compressor or condensing units, shall comply with the provisions of CalGreen Section 5.508.2 to reduce the potential for refrigerant leakage.
Chapter 7 – INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS		
Qualifications (Sec. 702)		
26	702.1	Installer and training. HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program.

ITEM #	CODE SECTION	REQUIREMENTS
		<ul style="list-style-type: none"> a. State certified apprenticeship programs. b. Public utility training programs. c. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. d. Programs sponsored by manufacturing organizations. e. Other programs acceptable to the enforcing agency.
27	702.2	<p>Special inspection. When required by the <i>California Building Code</i>, or the approved plans, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with the CalGreen Code. Special inspectors shall comply with the following:</p> <ul style="list-style-type: none"> a. Special Inspectors shall be approved by the City of Glendale Building & Safety Division prior to performing any special inspections of any component or system required by the CalGreen Code. b. Special inspectors shall be qualified and able to demonstrate competence to the enforcing agency in the discipline which they are inspecting. c. Special Inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting.
Verifications (Sec. 703)		
28	703.1	<p>Documentation. Documentation used to show compliance with this code shall include but is not limited to: construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the City of Glendale which demonstrates substantial conformance.</p>
DEFINITIONS		
29		<p>ADDITION. An extension or increase in floor area of an existing building or structure.</p>
30		<p>ALTERATION OR ALTER. Any construction or renovation to an existing structure other than repair for the purpose of maintenance or addition.</p>
31		<p>GREEN BUILDING. A holistic approach to design, construction and demolition that minimizes the building's impact on the environment, the occupants and the community.</p>
COMPLIANCE STATEMENT		
32		<p>Compliance Statement. As the design professional or designer of record for this project, I certify that the design complies with all the applicable provisions of the 2022 California Green Building Standards Code (CalGreen Code) and including the Glendale Amendments to Volume IX Green Building Standards (Ord. No 5998 and No. 5999) of the 2023 Glendale Building and Safety Code.</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;"> <p>_____ Signature</p> <p>_____ Company</p> <p>_____ Date</p> </div> <div style="width: 45%;"> <p>_____ Print Name</p> <p>_____ Address</p> <p>_____ License</p> </div> </div>

TABLE 5.504.4.1
ADHESIVE VOC LIMITS ^{1, 2}
Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
SPECIALTY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.
2. For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168.

TABLE 5.504.4.2
SEALANT VOC LIMITS
Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	CURRENT VOC LIMIT
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
SEALANT PRIMERS	
Architectural	250
Nonporous	775
Porous	
Modified bituminous	500
Marine deck	760
Other	750

TABLE 5.504.4.3
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS ^{2, 3}
Grams of VOC per liter of Coating, Less Water and Less Exempt Compounds

COATING CATEGORY	VOC LIMIT
Flat coatings	50
Nonflat coatings	100
Nonflat-high gloss coatings	150
SPECIALTY COATINGS	
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	350
Concrete curing compounds	350
Concrete/masonry sealers	100
Driveway sealers	50
Dry fog coatings	150
Faux finishing coatings	350
Fire resistive coatings	350
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High temperature coatings	420
Industrial maintenance coatings	250
Low solid coatings ¹	120
Magnesite cement coatings	450
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	250
Pretreatment wash primers	420
Primers, sealers, and undercoaters	100
Reactive penetrating sealers	350
Recycled coatings	250
Rust preventative coatings	250
Shellac	
Clear	730
Opaque	550
Specialty primers, sealers and undercoaters	100
Stains	250
Stone Consolidation	450
Swimming pool coatings	340

TABLE 5.504.4.3 (CONT'D)
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS ^{2, 3}
Grams of VOC per liter of Coating, Less Water and Less Exempt Compounds

Traffic marking coatings	100
Tub and Tile refinish coating	420
Waterproofing membranes	250
Wood coatings	275
Wood preservatives	350
Zinc-rich primers	340

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008. More information is available from the Air Resources Board.

TABLE 5.504.4.5
FORMALDEHYDE LIMITS ¹
Maximum Formaldehyde Emissions in Parts per Million

PRODUCT	CURRENT LIMIT
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.05
Particleboard	0.09
Medium density fiberboard	0.11
Thin medium density fiberboard ²	0.13

1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E 1333-96(2002). For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12.
2. Thin medium density fiberboard has a maximum thickness of 5/16 inches (8 mm).



CITY OF GLENDALE
BUILDING AND SAFETY DIVISION
VOC CONTENT VERIFICATION CHECKLIST
WORKSHEET WS-3



VOC content verification of paints, coatings, carpets, cushions, resilient flooring, adhesives, sealants, and caulks shall be identified on this checklist. VOC limits shall meet the limits specified in the 2022 Edition of the CALGreen Code. **Attach product specification sheets and other supporting documents.** Use additional sheets, if necessary.

Item #	Product Category (e.g. paint, carpet, adhesive)	Location (e.g. bedroom, kitchen)	Product Manufacturer	Product Specification (e.g. model #)	VOC Content (in grams/liter) or Standard (e.g. Green Label Plus)	Allowable VOC Content (in grams/liters)



CITY OF GLENDALE
BUILDING AND SAFETY DIVISION
VOC CONTENT VERIFICATION CHECKLIST
WORKSHEET WS-3



The following section shall be completed by a person with overall responsibility for the planning and design portion of the project.

DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, the information provided is true and correct.
- I certify that the installed measures, materials, components, or manufactured devices identified on this certificate conform to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcing agency.

Responsible Person's Name:	Responsible Person's Signature:
Date Signed:	Position/Title:
Notes:	

NOTE: This form should be completed, signed and submitted prior to request for final building inspection as required by the enforcing agency.



CITY OF GLENDALE
BUILDING AND SAFETY DIVISION
FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST
WORKSHEET WS-4



Formaldehyde emissions verification of non-structural engineered wood, hardwood plywood, particleboard, and medium density fiberboard composite wood shall be identified on this checklist. Formaldehyde limits shall meet the limits specified in the 2022 Edition of the CALGreen Code. **Attach product specification sheets and other supporting documents.** Use additional sheets, if necessary.

Item #	Product Category (e.g. particleboard, hardwood plywood, etc.)	Location (e.g. bedroom, kitchen)	Product Manufacturer	Product Specification (e.g. model #)	Formaldehyde Content (in parts per million)	Formaldehyde Limit (in parts per million)



CITY OF GLENDALE
BUILDING AND SAFETY DIVISION
FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST
WORKSHEET WS-4



The following section shall be completed by a person with overall responsibility for the planning and design portion of the project.

DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, the information provided is true and correct.
- I certify that the installed measures, materials, components, or manufactured devices identified on this certificate conform to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcing agency.

Responsible Person's Name:	Responsible Person's Signature:
Date Signed:	Position/Title:
Notes:	

NOTE: This form should be completed, signed and submitted prior to request for final building inspection as required by the enforcing agency.