

# MARIN COUNTY GREEN BUILDING FORM

## STANDARDS FOR NONRESIDENTIAL NEW CONSTRUCTION

These green building standards have been established to ensure that new nonresidential construction without sleeping accommodations in Marin County is healthy for occupants, has limited impact on the environment, reduces demand for energy, and results in cost savings from building operation. Requirements were adopted November 2022 and enforced starting January 1, 2023, ending December 31, 2025. The three-step process below is intended to help applicants understand and comply with the County's green building requirements. Please reference [Title 19.04 and 19.07 of the Marin County Building Code](#) to comply.

## GREEN BUILDING PROJECT PROCESS

### 1 PROJECT DESIGN

It is important for project owners, architects, engineers, and designers to understand the applicable state and local green building requirements prior to project design. Early consideration of these standards allows for design of buildings and systems that are compliant, energy efficient, and cost effective, and minimize back and forth.

### 2 PLANNING APPLICATION (IF REQUIRED)

If your project is subject to planning review, be prepared to identify in your planning application what compliance methods you've selected and how you plan to meet the requirements. If you anticipate difficulties meeting the requirements outlined in the Green Building Checklist, these concerns and any requests for exemptions should be identified in your planning application.

### 3 INITIAL BUILDING PERMIT SUBMITTAL

All the following MUST be included with your initial application for a building permit:

- Completed [Marin County Green Building Checklist](#) (pages 2-3)
- Completed [Marin County CALGreen Tier 1 Checklist](#) (pages 4-22), with plan sheet references where applicable.
- Energy Code compliance documents as required under State Energy Code

#### DEFINITION OF "NEW CONSTRUCTION"

Removal or substantial modification of more than 75 percent of the linear sum of a building's exterior walls for each story shall be considered demolition of the building (County of Marin Development Code Chapter 22.130.030), triggering the new construction requirements.

# MARIN COUNTY GREEN BUILDING CHECKLIST

STANDARDS FOR NONRESIDENTIAL NEW CONSTRUCTION

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

APN: \_\_\_\_\_ APPLICANT NAME: \_\_\_\_\_

## 1. ELECTRIFICATION (REQUIRED FOR ALL NEW CONSTRUCTION PROJECTS)

*Note: all projects must comply with mandatory requirements of Title 24, Part 6 (State Energy Code)*

**All Electric**, which includes:

- All-electric end uses
- No natural gas or propane appliances
- No gas meters or propane infrastructure
- Compliance with energy efficiency standards required by the State

**VERIFICATION:** Attach Title 24 Energy Reports that complies with State minimum energy code

## 2. GREEN BUILDING AND EV READINESS

Complete this Marin County Green Building Checklist AND [CALGreen Tier 1 Checklist: Standards for Nonresidential New Construction](#).

**VERIFICATION:** Checklists must be completed and signed by a qualified green building rater, such as a CALGreen Special Inspector.

## 3. LOW CARBON CONCRETE (Check One of the Following)

Permit application includes completed Cement or Embodied Carbon limit compliance forms that can be found on the [County's Low-Carbon Concrete Requirements](#) webpage.

**VERIFICATION:** Compliance forms must be signed re-submitted after completion of poured concrete along with batch (proof) receipts.

Not applicable; the project does not include pouring new concrete.

## 4. PROJECT VERIFICATION

This form and all referenced forms herein have been completed by

\_\_\_\_\_ (name) of \_\_\_\_\_ (company), the party responsible for this building permit application for the above listed project who affirms under penalty of perjury that it accurately represents the project plans. Applicant still must complete the CALGreen Tier 1 Checklist and/or Low Carbon Concrete form, as applicable.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (Please Print)

**5. SUMMARIZING ENERGY END USE (CHECK BOXES AND INPUT VALUES):**

Total Conditioned Floor Area within the Project Scope \_\_\_\_\_ square feet

SELECT either the Performance or Prescriptive-based Compliance Pathway below and submit appropriate documentation as requested (Check One of the Following):

For projects using the Performance Based Pathway to Compliance, submit data extract in .xml format from the 2022 Energy Code Compliance Software (CBECC or EnergyPro)

For projects using the Prescriptive Based Pathway to Compliance (Check One of the Following):

Submit data extract in .xml format from the 2022 Energy Code Compliance Software (CBECC or EnergyPro), OR

If Energy Code Compliance Software was not used, please select the following measures planned for installation in Table 1 below, within the scope of your project (check all that apply):

<b>Table 1. Measures and Appliances Installed</b>			
<b>Check All That Apply</b>	<b>Measures Installed</b>	<b>Check All That Apply</b>	<b>Measures Installed</b>
<input type="checkbox"/>	Air Sealing	<input type="checkbox"/>	Heat Pump Water Heater, High Efficiency, NEEA Tier 3
<input type="checkbox"/>	Cool Roof	<input type="checkbox"/>	Hot water pipe and tank insulation, low-flow fixtures
<input type="checkbox"/>	Duct Sealing	<input type="checkbox"/>	Induction Cooktop
<input type="checkbox"/>	Exterior Photosensor	<input type="checkbox"/>	LED lamp vs CFL
<input type="checkbox"/>	Heat Pump Dryer	<input type="checkbox"/>	New Ducts
<input type="checkbox"/>	Heat Pump HVAC	<input type="checkbox"/>	R-49 Attic Insulation
<input type="checkbox"/>	Heat Pump HVAC, High Efficiency, SEER 21 or greater; HSPF 11 or greater	<input type="checkbox"/>	Solar PV _____ kW DC
<input type="checkbox"/>	Heat Pump Water Heater	<input type="checkbox"/>	Battery (storage) _____ kWh
<input type="checkbox"/>	Other (please describe): _____		

**VERIFICATION:** Compliance will be verified by 1) submitting 2022 Energy Code Compliance Software data extract (.xml) and attaching Title 24 Energy Reports that complies with State minimum energy code, OR 2) completing Table 1 above.

# MARIN COUNTY CALGREEN TIER 1 CHECKLIST

## STANDARDS FOR NONRESIDENTIAL NEW CONSTRUCTION

This checklist is effective January 1, 2023, for new nonresidential projects without sleeping accommodations. Existing site and landscaping improvements that are not otherwise disturbed are not subject to CALGreen.

**Submit this CALGreen Tier 1 checklist accompanied with the [Marin County Green Building Checklist](#) (see pages 2-3 above) with your plans to demonstrate compliance with the green building ordinance.** This checklist includes modifications specific to Marin County. For more information on the County's Green Building requirements, please visit [www.maringreenbuilding.org](http://www.maringreenbuilding.org)

For more information on CALGreen and complete measure language, [Marin County Building Code, Chapter 19.04, Subchapter 2](#) which requires (with amendments) CALGreen [Chapters 5](#) and [Appendix A5](#).

### PROJECT DETAILS

\_\_\_\_\_  
Project Address

\_\_\_\_\_  
APN

\_\_\_\_\_  
Applicant Name (Please Print)

### PROJECT VERIFICATION

The Green Building Rater, listed below, has reviewed the plans and certifies that the mandatory and elective measures listed above are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2022 California Green Building Standards Code as amended by the County of Marin.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (Please Print)

\_\_\_\_\_  
Green Building Certification<sup>1</sup> and License Number

<sup>1</sup> CALGreen Special Inspector, LEED AP, or Green Point Rater are acceptable certifications

## DIVISION 5.1 PLANNING AND DESIGN

- ✓ All measures marked as **(MANDATORY)** are required unless not in project scope.
- ✓ A minimum of **ONE ELECTIVE** measure must be completed.
- ✓ Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.

**5.106.1 (MANDATORY)** Newly constructed projects and additions which disturb less than one acre of land shall prevent the pollution of stormwater runoff from the construction activities through compliance with the [County of Marin's Stormwater Runoff Pollution Prevention Ordinance](#).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.2 (MANDATORY)** Comply with all lawfully enacted stormwater discharge regulations for projects that disturb one acre or more of land or disturb less than one acre of land but are part of a larger common plan of development or sale. Projects must comply with National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.4.1.1 (MANDATORY) Short-term bicycle parking.** If the new 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 spaces being added, with a minimum of one two-bike capacity rack.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.4.1.2 (MANDATORY) Long-term bicycle parking.** For new buildings with tenant spaces that have 10 or more tenant occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.4.1.3 (MANDATORY) Long-term bicycle parking.** For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a minimum of one bicycle parking facility.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.4.1.4 (MANDATORY) Long-term bicycle parking.** For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.4.1.5 (MANDATORY) Long-term bicycle parking.** Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3 and 5.106.4.1.4 shall be convenient from the street and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.106.5 (MANDATORY) Electric vehicle charging.** For nonresidential occupancies with shared parking facilities, comply with EV Charging Station (EVCS) parking space accessibility and signage requirements as amended from CALGreen, in accordance with [Marin County Building Code, Chapter 19.04.135](#), which aligns with *California Building Code Chapter 11B-228.3* and *Caltrans Operations Policy Directive 13-01*:

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.106.5.1.4 (MANDATORY) Electric vehicle charging.** Building managers may consult with local community Transit Management Associations (TMAs) for methods of designating qualifying vehicles, such as issuing parking stickers.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.106.5.3.1 (MANDATORY) Electric vehicle charging.** For new nonresidential buildings with shared parking facilities, comply with EV Charging and parking space requirements as amended from CALGreen, in accordance with [Marin County Building Code, Chapter 19.04.135](#), Section A5.106.5.3.1, Tier 1 that uses Table A5.106.5.3.1 to determine the number of EV capable spaces and EVCS to be installed.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.106.5.4 (MANDATORY) Electric vehicle charging.** If direct current fast charging stations (DCFC) are being installed, one DCFC may be substituted for up to five (5) EVCS and if ALMS is used comply with requirements as amended from CALGreen, in accordance with [Marin County Building Code, Chapter 19.04.135](#), Section A5.106.5.4.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.5.4 (MANDATORY) Electric vehicle charging.** For planned nonresidential medium-duty and heavy-duty parking spaces, construction shall comply with Section 5.106.5.4.1 as amended from CALGreen, in accordance with [Marin County Building Code, Chapter 19.04.135](#), Section 5.106.5.4, which facilitates future installation of electric vehicle supply equipment (EVSE).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.5.4.1 (MANDATORY) Electric vehicle charging.** For warehouses, grocery stores, and retail stores with planned medium-duty and heavy-duty off-street loading spaces, comply with transformer, panel power, and raceway conduit requirements as per Table 5.106.5.4.1, which facilitates future installation of electric vehicle supply equipment (EVSE).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.8 through 5.106.8.2 (MANDATORY) Light pollution reduction** Outdoor lighting systems shall be designed and installed to comply with the minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code and maximum backlight, uplight, and glare (BUG) ratings shown in CALGreen Table 5.106.8.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.106.10 (MANDATORY)** Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.106.11.2 (MANDATORY)** Use roofing materials having a minimum aged solar reflectance and thermal emittance complying with CALGreen Sections A5.106.11.2.1 and A5.106.11.2.2 or a minimum aged Solar Reflectance Index (SRI) complying with Section A5.106.11.2.3 and as shown in Table A5.106.11.2.2

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**Enter ONE ELECTIVE Measure from Section A5.1** CALGreen Elective Measure Number: \_\_\_\_\_

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

## **DIVISION 5.2 ENERGY EFFICIENCY**

- ✓ *All measures marked as (MANDATORY) are required unless not in project scope.*
- ✓ *Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.*

**5.201.1 (MANDATORY)** Meet minimum California Energy Commission energy efficiency standards.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

## DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

- ✓ All measures marked as **(MANDATORY)** are required unless not in project scope.
- ✓ A minimum of **ONE ELECTIVE** measure must be completed.
- ✓ Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.

**5.303.1.1 (MANDATORY)** For additions in excess of 50,000 square feet, separate submeters shall be installed as follows:

1. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
  - a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
  - b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).
  - c. Steam and hot-water boilers with energy input more than 500,000 Btu/h (147 kW).

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.1.2 (MANDATORY)** A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/ day

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.303.2.3.1 (MANDATORY)** A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 12 percent shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the *California Building Standards Code*.

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.1 (MANDATORY)** The effective flush volume of all water closets shall not 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.

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.2.1 (MANDATORY)** The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_



**5.303.3.2.2 (MANDATORY)** The effective flush volume of floor-mounted urinals shall not exceed 0.5 gallons per flush.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.3.1 (MANDATORY)** Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.3.2 (MANDATORY)** 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 shower shall be designed to allow only one shower outlet to be in operation at a time.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.4.1 (MANDATORY)** Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.4.2 (MANDATORY)** Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. 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.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.4.3 (MANDATORY)** Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi].

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.4.4 (MANDATORY)** Metering faucets shall not deliver more than 0.20 gallons per cycle.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.4.5 (MANDATORY)** Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per cycle/20 [rim space (inches) at 60 psi].

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.3.4.6 (MANDATORY)** Pre-rinse spray valve shall meet the requirements in the *California Code of Regulations, Title 20*, and shall be equipped with an integral automatic shutoff.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.4.1 (MANDATORY)** Food waste disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.5 (MANDATORY) Areas of addition or alteration.** For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Sections 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.303.6 (MANDATORY)** Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code and in Chapter 6 of this code.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.304.1 (MANDATORY)** 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.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.305.1.2 (MANDATORY)** When a recycled water supply system or outdoor landscaping is proposed, then, water supply system shall meet the requirements of MWELo, and the California Code of Regulations, Title 17, Division 1, Chapter 5, Subchapter 1; Title 22, Division 4, Chapter 3; and Title 23, Division 2, Chapter 2.7, as applicable.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**Enter One Measure from Section A5.3 (ELECTIVE)** CALGreen Measure Number: \_\_\_\_\_

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

## DIVISION 5.4 MATERIAL CONSERVATION & RESOURCE EFFICIENCY

- ✓ All measures marked as **(MANDATORY)** are required unless not in project scope.
- ✓ A minimum of **ONE ELECTIVE** measure must be completed.
- ✓ Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.

**A5.405.4 (MANDATORY)** Use materials, equivalent in performance to virgin materials with a total (combined) recycled content value (RCV) not less than 10 percent of the total material cost of the project, or use two products which meet the minimum recycled content levels in Table A5.405.4 for at least 75%, by cost, of all products in that category in the project.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.405.4.1 (MANDATORY)** Total material cost is the total estimated or actual cost of materials and assembly products used in the project. The required total recycled content value for the project (in dollars) shall be determined by the following equation:

$$\text{Required Total RCV (dollars)} = \text{Total Material Cost (dollars)} \times 10 \text{ percent}$$

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.405.4.2 (MANDATORY)** Total RCV may be determined either by dollars or percentage as noted in this section.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.405.4.3 (MANDATORY)** The recycled content value of each material (RCVM) is calculated by multiplying the cost of material, as defined by the recycled content. See Equations A5.4-6 and A5.4-7.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.405.4.4 (MANDATORY)** The recycled content value of assemblies is calculated by multiplying the total cost of assembly by the total recycled content of the assembly ( $RC_A$ ), and shall be determined by Equation A5.4-8.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.405.4.5 (MANDATORY)** When Supplementary Cementitious Materials (SCMs), such as fly ash or ground blast furnace slag cement, are used in concrete, an alternate method of calculating and reporting recycled content in concrete products shall be permitted. When determining the recycled content value, the percent recycled content shall be multiplied by the cost of the cementitious materials only, not the total cost of concrete.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.405.5 (MANDATORY)** Use cement and concrete made with recycled products and complying with standards outlined in A5.405.5.1 through A5.405.4.5 and comply with limits adopted in [Marin County Building Code, Chapter 19.07 – Carbon Concrete Requirements](#). Select one Pathway and submit the appropriate compliance forms during Plan Review AND for Final Inspection:

- Cement Limit Pathway
  - For Plan Review: [Design Team \(Structural Engineer/Architect\) Low Carbon Concrete Cement Compliance Form](#)
  - For Final Inspection: [Contractor Low Carbon Concrete Cement Compliance Form](#) accompanied by batch receipts from ready-mix supplier
  
- Embodied Carbon Pathway
  - For Plan Review: [Design Team \(Structural Engineer/Architect\) Low Carbon Concrete EC Compliance Form](#)
  - For Final Inspection: [Contractor Low Carbon Concrete EC Compliance Form](#) accompanied by batch receipts from ready-mix supplier

*Plan sheet reference (if applicable):* \_\_\_\_\_

**5.407.1 (MANDATORY)** Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 (Weather Protection), manufacturer’s installation instructions or local ordinance, whichever is more stringent.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.407.2.1 (MANDATORY)** Design and maintain landscape irrigation systems to prevent spray on structures.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.407.2.2.1 (MANDATORY)** Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:

1. An installed awning at least 4 feet in depth.
2. The door is protected by a roof overhang at least 4 feet in depth.
3. The door is recessed at least 4 feet.
4. Other methods which provide equivalent protection.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.407.2.2.2 (MANDATORY)** Install flashings integrated with a drainage plane.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.408.1 (MANDATORY)** Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with the reporting standards outlined by [Zero Waste Marin](#).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.408.3 (MANDATORY)** 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.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.408.3.1 (MANDATORY)** Divert to recycle or salvage at least 65 percent of nonhazardous construction and demolition waste generated at the site. Any mixed recyclables that are sent to mixed-waste recycling facilities shall include a qualified third party verified facility average diversion rate. Verification of diversion rates shall meet minimum certification eligibility guidelines, acceptable to the local enforcing agency.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.408.3.1.2 (MANDATORY)** A copy of the completed waste management report or documentation of certification of the waste management company utilized shall be provided.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.1 (MANDATORY)** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.2.1 (MANDATORY)** 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. This documentation shall include the following:

1. Environmental and sustainability goals.
2. Energy efficiency goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for afterhours operation.
5. Equipment and systems expectations.
6. Building occupant and O&M personnel expectations

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.4 (MANDATORY)** Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.4.2 (MANDATORY)** Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project:

1. HVAC systems and controls.
2. Indoor and outdoor lighting and controls.
3. Water heating systems.
4. Renewable energy systems.
5. Landscape irrigation systems.
6. Water reuse systems.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.4.3 (MANDATORY)** Perform testing and adjusting procedures in accordance with applicable standards on each system as determined by the enforcing agency.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.4.3.1 (MANDATORY)** In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, balancing the system in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.4.4 (MANDATORY)** After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.4.5 (MANDATORY)** Provide the building owner or representative with detailed operating and maintenance instructions and copies of guaranties/ warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.410.4.5.1 (MANDATORY)** Include a copy of all inspection verifications and reports required by the enforcing agency.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**Enter ONE ELECTIVE Measure from Section A5.4 CALGreen Elective Measure Number:** \_\_\_\_\_

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

## DIVISION 5.5 ENVIRONMENTAL QUALITY

- ✓ All measures marked as **(MANDATORY)** are required unless not in project scope.
- ✓ A minimum of **ONE ELECTIVE** measure must be completed.
- ✓ Use the Checkboxes (☒) to mark as Completed, Not Applicable (N/A), or the measure selected.

**5.503.1 (MANDATORY) Fireplaces.** Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.503.1.1 (MANDATORY) Woodstoves.** Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable and shall have a permanent label indicating they are certified to meet the emission limits.

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.1 (MANDATORY) 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 HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2 1999, or an average efficiency of 30 percent based on ASHRAE 52.1 1992. Replace all filters immediately prior to occupancy or, if the building is occupied during alteration, at the conclusion of construction.

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.3 (MANDATORY) 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 heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, Sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

Completed  N/A       *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.1 (MANDATORY) Adhesives, sealants and caulks.** Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.
2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.3 (MANDATORY) Paints and coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.3.1 (MANDATORY) Aerosol paints and coatings.** 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 California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.3.2 (MANDATORY) Verification.** Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification
2. Field verification of on-site product containers

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_



**5.504.4.4 (MANDATORY) Carpet systems.** All carpet installed in the building interior shall meet 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).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.4.1 (MANDATORY) Carpet cushion.** All carpet cushion installed in the building interior shall meet 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).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.4.2 (MANDATORY) Carpet adhesive.** All carpet adhesive shall meet the requirements of Table 5.504.4.1.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.5 (MANDATORY) 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 ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in Table 5.504.4.5.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.5.3 (MANDATORY) Documentation.** Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following (*check all that apply*):

- Product certifications and specifications.
- Chain of custody certifications.
- Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
- Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards.
- Other methods acceptable to the enforcing agency

*Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.6 (MANDATORY) Resilient flooring systems.** Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall meet 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).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.6.1 (MANDATORY) Verification of compliance.** Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.7 (MANDATORY) 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).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.7.1 (MANDATORY) Verification of compliance.** Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.504.4.7 (MANDATORY) Resilient flooring systems, Tier 1.** Where resilient flooring is installed, at least 90 percent of floor area receiving resilient flooring shall meet 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).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.504.4.7.2 (MANDATORY) Verification of compliance.** Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.8 (MANDATORY)** For 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).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.4.8.1 (MANDATORY)** Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.504.4.8 (MANDATORY) Thermal insulation, Tier 1.** Thermal insulation, no-added formaldehyde. Install thermal insulation which complies with Tier 1 plus does not contain any added formaldehyde.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**A5.504.4.8.1 (MANDATORY) Verification of compliance.** Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.5.3 (MANDATORY) 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 8. Specified filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

**Exception:** Existing mechanical equipment

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.5.3.1 (MANDATORY) Labeling.** Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.504.7 (MANDATORY) Environmental tobacco smoke (ETS) control.** Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.505.1 (MANDATORY) Indoor moisture control.** Buildings shall meet or exceed the provisions of the California Building Code, CCR, Title 24, Part 2, Section 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see Section 5.407.2 of this code.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.506.1 (MANDATORY) Outside air delivery.** For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements for Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.506.2 (MANDATORY) Carbon dioxide (CO<sub>2</sub>) monitoring.** For buildings or additions equipped with demand control ventilation, CO<sub>2</sub> sensors and ventilation controls shall be specified and installed in accordance with the requirements of the *California Energy Code*, Section 120.1(c)(4).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.507.4 (MANDATORY) Acoustical control.** 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 in Section 5.507.4.1 or 5.507.4.2.

**Exception:** Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.507.4.1 (MANDATORY) Exterior noise transmission, prescriptive method.** Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.507.4.1.1 (MANDATORY) Noise exposure where noise contours are not readily available.** Buildings exposed to a noise level of 65 dB Leq-1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.507.4.2 (MANDATORY) Performance method.** For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq -1Hr) of 50 dBA in occupied areas during any hours of operations

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.507.4.2.1 (MANDATORY) Site features.** Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.507.4.2.2 (MANDATORY) Documentation of compliance.** An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.507.4.3 (MANDATORY) Interior and transmission.** Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.508.1 (MANDATORY) Ozone depletion and greenhouse gas reductions.** Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.508.1.1 (MANDATORY) Chlorofluorocarbons (CFCs).** Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.508.1.2 (MANDATORY) Halons.** Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**5.508.2 through 5.508.2.6.3 (MANDATORY) Supermarket refrigerant leak reduction.** New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned 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) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and replacement of existing refrigeration systems in existing facilities. Comply with refrigerant piping, valves, refrigerant service cases and receivers, pressure testing, and evacuation standards as per Sections 5.508.2.1 to 5.508.2.6.

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_

**Enter ONE ELECTIVE Measure from Section A5.5** CALGreen Elective Measure Number: \_\_\_\_\_

Completed  N/A  *Plan sheet reference (if applicable):* \_\_\_\_\_