

Green Building Training for Non Residential Buildings



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Based on **the 2017**
LA City Green Code

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Triggers for Green Compliance

www.laflts.org/services/green-building-sustainability

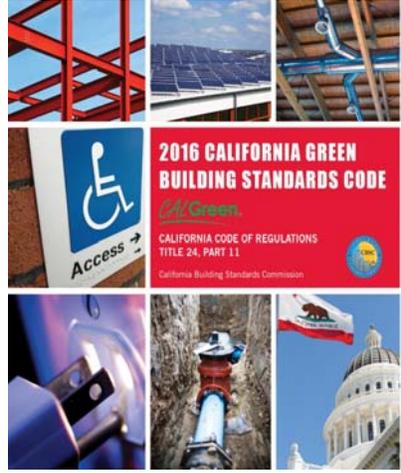
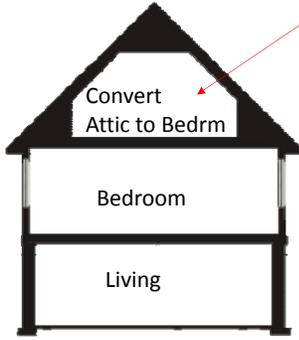
LOS ANGELES
LA DBS
Department of Building and Safety

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The following type of projects are subject to the Los Angeles Green Building Code (LAGBC):

- All new buildings (residential and non-residential)
- All addition (residential and non-residential)
- Alterations with building valuations of \$200,000 or more (residential and nonresidential)
- Residential alterations that increase the building's conditioned volume

For building plans being submitted to regular plan check, please provide an additional set of plans. This additional set of plans will be routed internally to the Green Building Division for plan check. Approval from the Green Building Division will be required prior to issuance of the Building Permit.



Acceptable Methods of Compliance:
Provide following forms:

NON-RESIDENTIAL...

LA DBS **STORM WATER POLLUTION CONTROL** **FORM GRN 1**
Department of Building and Safety (2017 Los Angeles Green Building Code)

LA DBS **VOC AND FORMALDEHYDE LIMITS** **FORM GRN 11**
Department of Building and Safety (2017 Los Angeles Green Building Code)

LA DBS **GREEN BUILDING CODE** **FORM GRN 15**
Department of Building and Safety (2017 Los Angeles Green Building Code)

LA DBS **Minimum** **FORM GRN 16**
Department of Building and Safety (2017 Los Angeles Green Building Code)

The following table lists VOC and Formaldehyde limits for various materials and products. It includes columns for material type, VOC content, and formaldehyde content.

Material Type	VOC Content Limit	Formaldehyde Content Limit
Interior Wall and Ceiling	0.05 g/L	0.05 g/L
Interior Floor	0.05 g/L	0.05 g/L
Interior Paint	0.05 g/L	0.05 g/L
Interior Adhesives	0.05 g/L	0.05 g/L
Interior Sealants	0.05 g/L	0.05 g/L
Interior Caulks	0.05 g/L	0.05 g/L
Interior Coatings	0.05 g/L	0.05 g/L
Interior Finishes	0.05 g/L	0.05 g/L
Interior Insulation	0.05 g/L	0.05 g/L
Interior Gypsum Board	0.05 g/L	0.05 g/L
Interior Concrete	0.05 g/L	0.05 g/L
Interior Masonry	0.05 g/L	0.05 g/L
Interior Glass	0.05 g/L	0.05 g/L
Interior Metal	0.05 g/L	0.05 g/L
Interior Wood	0.05 g/L	0.05 g/L
Interior Fabric	0.05 g/L	0.05 g/L
Interior Carpet	0.05 g/L	0.05 g/L
Interior Upholstery	0.05 g/L	0.05 g/L
Interior Furniture	0.05 g/L	0.05 g/L
Interior Appliances	0.05 g/L	0.05 g/L
Interior HVAC	0.05 g/L	0.05 g/L
Interior Lighting	0.05 g/L	0.05 g/L
Interior Electrical	0.05 g/L	0.05 g/L
Interior Plumbing	0.05 g/L	0.05 g/L
Interior Mechanical	0.05 g/L	0.05 g/L
Interior Structural	0.05 g/L	0.05 g/L
Interior Exterior	0.05 g/L	0.05 g/L
Interior Other	0.05 g/L	0.05 g/L

LA DBS **2017 Los Angeles Green Building Code** **FORM GRN 18N**
Department of Building and Safety

LA DBS **WATER CONSERVATION ORDINANCE NOTES** **FORM GRN 17**
Department of Building and Safety

LA DBS **PLUMBING FIXTURE FLOW RATES** **FORM GRN 17**
Department of Building and Safety

LA DBS **WATER CONSERVATION ORDINANCE NOTES** **FORM GRN 5**
Department of Building and Safety

This section contains detailed technical specifications and requirements for water conservation, including fixture flow rates, plumbing fixture types, and water-saving technologies. It includes tables for fixture flow rates and lists of approved water-saving technologies.

Fixture	Flow Rate
Residential Lavatory	0.5 gpm
Residential Sink	0.5 gpm
Residential Toilet	1.6 gpm
Residential Shower	2.0 gpm
Residential Showerhead	2.0 gpm
Residential Faucet	0.5 gpm
Residential Water Closet	1.6 gpm
Residential Urinal	0.5 gpm
Commercial Lavatory	0.5 gpm
Commercial Sink	0.5 gpm
Commercial Toilet	1.6 gpm
Commercial Shower	2.0 gpm
Commercial Showerhead	2.0 gpm
Commercial Faucet	0.5 gpm
Commercial Water Closet	1.6 gpm
Commercial Urinal	0.5 gpm

Acceptable Methods of Compliance:
 All entries needs to be filled in.
 State "not applicable" -N/A for any part of project does not include the item.

LA DBS
 DEPARTMENT OF BUILDING AND SAFETY

2017 Los Angeles Green Building Code
MANDATORY REQUIREMENTS CHECKLIST
NEWLY CONSTRUCTED NON-RESIDENTIAL BUILDINGS
 (COMPLETE AND INCORPORATE THIS FORM INTO THE PLANS)

Permit # _____ Date: _____

ITEM #	CODE SECTION	REQUIREMENT	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note #, detail # or reason for N/A)
PLANNING AND DESIGN				
1	5.106.1	Storm water pollution prevention		
2	5.106.4.1.1	Short-term bicycle parking		
3	5.106.4.1.2	Long-term bicycle parking		
4	5.106.5.2	Designated parking		
5	5.106.5.3	Electric vehicle charging		
6	5.106.8	Light pollution reduction		
7	5.106.10	Grading and paving		
8	5.106.11	Hardscape alternatives		
ENERGY EFFICIENCY				
9	5.211.1	Solar ready buildings		
WATER EFFICIENCY & CONSERVATION				
10	5.303.1.1	New buildings in excess of 50,000 sqft		
11	5.303.1.2	Excess consumption		
12	5.303.2	Water reduction		
13	5.303.3	Water conserving plumbing fixtures and fittings		
14	5.303.3.3	Showerheads		
15	5.304.1	Outdoor water use in landscape areas		
16	5.304.3	Irrigation controller and sensor application		
17	5.304.4	Outdoor water use meters		
18	5.304.5	Exterior faucets		
19	5.305.1	Graywater ready		
20	5.305.2	Recycled water supply to fixtures		
21	5.305.3	Cooling towers		
22	5.305.4	Groundwater discharge		
MATERIAL CONSERVATION & RESOURCE EFFICIENCY				
23	5.407.1	Weather protection		
24	5.407.2.1	Sprinklers		
25	5.407.2.2	Nonabsorbent floor and wall finishes		

LA DBS
 DEPARTMENT OF BUILDING AND SAFETY

2017 Los Angeles Green Building Code
MANDATORY REQUIREMENTS CHECKLIST
ADDITIONS AND ALTERATIONS TO NON-RESIDENTIAL BUILDINGS
 (COMPLETE AND INCORPORATE THIS FORM INTO THE PLANS)

Permit # _____ Date: _____

ITEM #	CODE SECTION	REQUIREMENT	REFERENCE SHEET (Sheet # or N/A)	COMMENTS (e.g. note #, detail # or reason for N/A)
PLANNING AND DESIGN				
1	5.106.1	Storm water drainage and retention during construction		
2	5.106.4.1.1	Short-term bicycle parking (>= 10 vehicular parking spaces)		
3	5.106.4.1.2	Long-term bicycle parking (>= 10 vehicular parking spaces)		
4	5.106.5.2	Designated parking (>= 10 vehicular parking spaces)		
5	5.106.10	Grading and Paving		
WATER EFFICIENCY & CONSERVATION				
6	5.303.1.1	Additions in excess of 50,000 sq ft		
7	5.303.1.2	Excess consumption		
8	5.303.2	Water reduction		
9	5.303.3	Water conserving plumbing fixtures and fittings		
10	5.303.3.3	Showerheads		
11	5.304.1	Outdoor water use in landscape areas		
12	5.304.3	Irrigation controller and sensor application		
13	5.304.4	Outdoor water use meters		

FORM GRN 5 **FORM GRN 10**

These are your roadmaps and are the most important forms...

5.106.1	Storm water pollution prevention
5.106.10	Grading and paving

LA DBS
 DEPARTMENT OF BUILDING AND SAFETY

STORM WATER POLLUTION CONTROL
 (2017 Los Angeles Green Building Code)

FORM GRN 1

Storm Water Pollution Control Requirements for Construction Activities
 Minimum Water Quality Protection Requirements for All Construction Projects

The following notes shall be incorporated in the approved set of construction/grading plans and represents the minimum standards of good housekeeping which must be implemented on all construction projects.

Construction means constructing, clearing, grading or excavation that result in soil disturbance. Construction includes structure teardown (demolition). It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work. (Order No. 01-182, NPDES Permit No. CAS004001 - Part 5: Definitions)

- Eroded sediments and pollutants shall be retained on site and shall not be transported from the site via sheet flow, swales, area drains, natural drainage or wind.
- Stockpiles of earth and other construction-related materials shall be covered and/or protected from being transported from the site by wind or water.
- Fuels, oils, solvents and other toxic materials must be stored in accordance with their listing and shall not contaminate the soil nor the surface waters. All approved toxic storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of properly and shall not be washed into the drainage system.
- Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained on the project site.
- Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete waste on-site until it can be appropriately disposed of or recycled.
- Trash and construction-related solid wastes must be deposited into a covered receptacle to prevent contamination of storm water and dispersal by wind.
- Sediments and other materials shall not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the street/public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by any other means.
- Retention basins of sufficient size shall be provided to retain storm water runoff on-site and shall be properly located to collect all tributary site runoff.
- Where retention of storm water runoff on-site is not feasible due to site constraints, runoff may be conveyed to the street and the storm drain system provided that an approved filtering system is installed and maintained on-site during the construction duration.

We warrant only under this EIR for the purposes with limitations set by the City of Los Angeles and our disclaimer on the basis of liability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

(Rev. 06/17/17) Page 1 of 1

Refer to Civil Drawings for drainage plan and erosion control plan.

2% drainage away from building

Refer to LID Plan

5.106.4.1.1	Short-term bicycle parking
5.106.4.1.2	Long-term bicycle parking

The hotel provides 500 parking stalls:
 300 guests parking (Residential Occupancy -exempt)
 and 200 banquet hall (Non-Residential Occupancy)



- Bicycle parking base on Non-Residential parking)
 - Short-term bicycle parking: 5% within 200' of entrance (minimum one two-bike rack)
 - Long-term bicycle parking: 5% of parking capacity (minimum one) (Only if 10 or more Tenants)

Required bicycle parking for the building

	Short –term bike	Long –term bike
Guest parking	0	0
Banquet hall	200x5%= 10	200x5%= 10

5.106.5.2 Designated parking



5.106.5.2 Designated parking for clean air vehicles. In || new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as follows:

TABLE 5.106.5.2

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
26-50	3
51-75	6
76-100	8
101-150	11
151-200	16
201 and over	At least 8 percent of total

Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle:

CLEAN AIR/
 VANPOOL/EV

5.106.5.3 Electric vehicle charging



For New Buildings only

TABLE 5.106.5.3.3

Stations

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CHARGING SPACES	NUMBER OF REQUIRED EV CHARGING SPACES
0-9	0	0
10-25	1	0
26-50	2	0
51-75	4	1
76-100	5	2
101-150	7	3
151-200	10	4
201 and over	6% Percent of total ¹	4 + (1 for every additional 500 spaces after the first 200)

1. Calculation for spaces shall be rounded up to the nearest whole number.

The **Building Inspector** should verify that the correct number of clean air vehicle parking stalls have been installed and are accurately identified.

The **Electrical Inspector** should verify on-site that the service panel and raceway with proper termination have been installed per the approved set of plans.

Building Inspector:
Coordinate with Electrical Inspector...

5.106.11 Hardscape alternatives

• **Hardscape alternatives** Use one or a combination of 4 strategies for 25% of site hardscape or put 25% of parking underground.

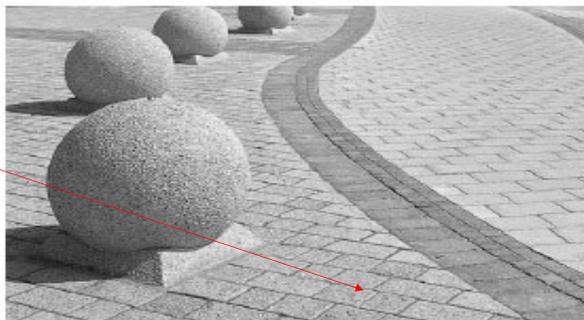
1. Provide shade trees that will mature within five years.

NOT THE PREFERRED OPTION!

Requires signed form from landscape designer to verify that plant species matches with approved plans.

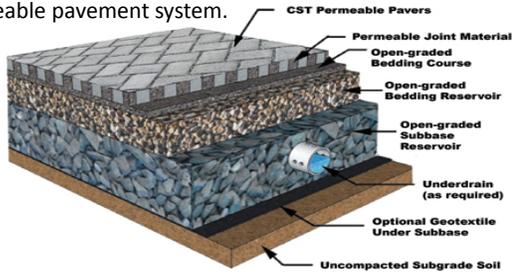
2. Use light colored materials with an initial solar reflectance value of at least 0.30 (Per ASTM standards E1918 or C1549)

Manufactured specification sheet should accompany the Building Plans.



Hardscape alternatives (continue).

3. Use open-grid pavement system or pervious or permeable pavement system.



4. Solar panel carport structures.

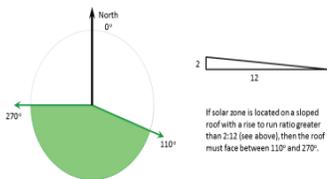


5.211.1 Solar ready buildings

The Green Code defers to Section 110.10 of the California Energy code when it comes to Solar Zone Requirements...

§110.10(b)2
 If the solar zone is located on a steep-sloped roofs (that is, the roof has ratio of rise to run of greater than 2:12), then the roof must be oriented between 110 degrees and 270 degrees of true north (not magnetic north). The orientation is important because it ensures a reasonable solar exposure if a solar energy system is installed in the future.

Figure 9-1: Orientation of Roof If Solar Zone Is Located on Steep-Sloped Roof



If a solar zone is located on a low-sloped roof (that is, the roof has a ratio of rise to run less than 2:12), the orientation requirements do not apply.

Energy Code reference:

10

§110.10(b)1
 The minimum solar zone area should be calculated using one of the following methods. Method 1 is described in §110.10(b)1B and should be used if shading is not a concern. Method 2 is described in Exception 3 to §110.10(b)1B and should be used if the site has significant shading.

- A. Method 1: Minimum Solar Zone Area Based on Total Roof Area**
 The solar zone must have a total area that is no less than 15 percent of the total roof area after subtracting any area of the roof that is covered by a skylight.
 The total area of the solar zone may be composed of multiple subareas. No dimension of a subarea can be less than 5 feet. If the total roof area is equal to or less than 10,000 square feet (1,000 square meters), each subarea must be at least 80 square feet (8 square meters). If the total roof area is greater than 10,000 square feet (1,000 square meters), each subarea must be at least 160 square feet (16 square meters).

- B. Method 2: Minimum Solar Zone Area Based on Potential Solar Zone**
 The minimum required solar zone area may be reduced if the building site is shaded by objects that are not part of the building itself and there is no unshaded area that could accommodate the full solar zone.
 For the Energy Standards, the *potential solar zone* is defined as the total area on an eligible space (that is, roof, overhang, roof or overhang of a structure within 250 feet (75 meters) of the building, or on a covered parking structure installed with the building) that has annual solar access of 70 percent or greater. If the potential solar zone is smaller than the minimum solar zone area specified in §110.10(b)1B (15 percent of the roof area of the building, excluding any skylights), then the solar zone can be reduced to half the area of the potential solar zone. If the roof is shaded such that there is no potential solar zone area, then no solar zone is required.

For the solar-ready requirements, *solar access* is the ratio of solar insolation, including shading from objects that are excluded from the building project, to the solar insolation without shading.

$$\text{Solar Access} = \frac{\text{Solar Insolation Including Shading}}{\text{Solar Insolation Without Shading}}$$

5.304.1 Outdoor water use in landscape areas

Maximum Applied Water Allowance
 • MAWA = (ET_o)(.62) x [(ETAF x LA)
 ETAF = 0.55 RESIDENTIAL
 0.45 NON-RESIDENTIAL
 1.0 POOL
 ET_o = 50.1 for Los Angeles

Reference Evapotranspiration (ET _o)		51.1 (Fresno)			ETAF	MAWA requirement	ETAF x Area	Estimated Total Water Use (ETWU)
Hydrozone#/Planting Description	ETWU requirement (PF)	ETWU requirement (Irrigation Method)	ETWU requirement (Irrigation Efficiency (IE))	ETWU requirement (ETAF (PF/IE))	MAWA requirement (LA) (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)	
Regular Landscape Areas								
1) very low water use plants	0	drip	0	0.00	20,000	0	0	
2) low water use plants	0	drip	0	0.00	10,000	0	0	
3) moderate water use plant	0	overhead	0	0.00	20,000	0	0	
				Totals	50,000	0	0	
Special Landscape Areas (SLA)								
low water use plants				1	0	0	0	
medium water use plants				1	0	0	0	
medium water use plants				1	0	0	0	
				Totals	0	0	0	
							Estimated Total Water Use (ETWU) in gallons	0
							Maximum Applied Water Allowance (MAWA) in Gallons	712,845

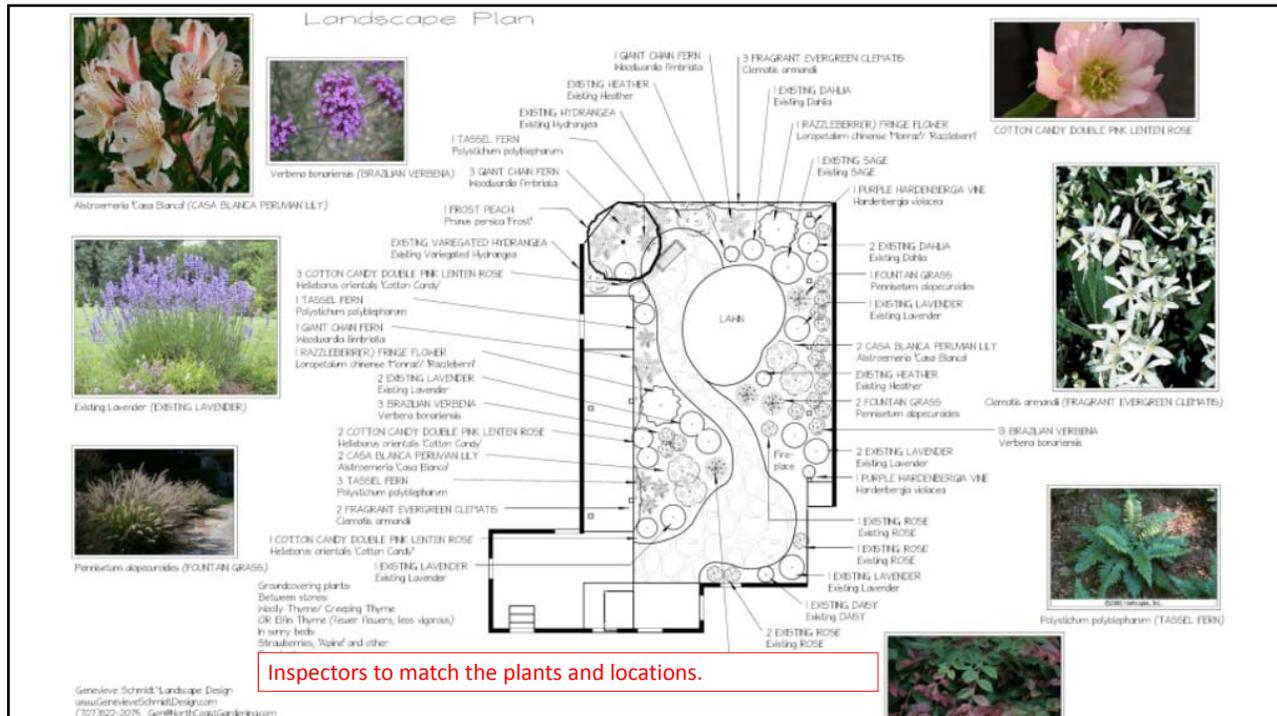
11

5.304.1 Outdoor water use in landscape areas

$$ETWU = ET_o * 0.62 * \left(\sum \frac{PF * LA}{I.E.} + SLA \right)$$

Reference Evapotranspiration (ET _o)		51.1 (Fresno)			ETAF	MAWA requirement	ETAF x Area	Estimated Total Water Use (ETWU)
Hydrozone#/Planting Description	ETWU requirement (PF)	ETWU requirement (Irrigation Method)	ETWU requirement (Irrigation Efficiency (IE))	ETWU requirement (F (PF/IE))	MAWA requirement (LA) (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)	
Regular Landscape Areas								
1) very low water use plants	0.1	drip	0.81	0.123	20,000	2,469.14	78,227	
2) low water use plants	0.2	drip	0.81	0.247	10,000	2,469.14	78,227	
3) moderate water use plants	0.6	overhead	0.75	0.800	20,000	16,000.00	506,912	
				Totals	50,000	20,938.27	663,366	
Special Landscape Areas (SLA)								
low water use plants				1	0	0	0	
medium water use plants				1	0	0	0	
medium water use plants				1	0	0	0	
				Totals	0	0	0	
							Estimated Total Water Use (ETWU) in gallons	663,366
							Maximum Applied Water Allowance (MAWA) in Gallons	712,845

15



5.304.3 Irrigation controller and sensor application



Weather based controller



Soil based controller

Show location of irrigation controller(s) on plans. Irrigation controller(s) shall be either weather- or soil-based under any of the following conditions:

- a. Any newly-installed irrigation controller(s); or
- b. On sites with 500 square feet or more of cumulative irrigated landscape areas.

(5.304.3)



5.304.5 Exterior faucets

Exterior faucets. Locks shall be installed on all publicly accessible exterior faucets and hose bibs.



5.407.1 Weather protection

Provide a weather-resistant exterior wall and foundation envelope as required by *California Building Code* Section 1403.2 (Weather Protection) and *California Energy Code* Section 150, (Mandatory Features and Devices), manufacturer's installation instructions or local ordinance, whichever is more stringent.



5.407.2.1 Sprinklers

Add note on plans: "Automatic landscape irrigators shall be installed in such a way that it doesn't spray on the building." (5.407.2.1)



**5.407.2.2.1 Nonabsorbent floor and wall finishes
Exterior door protection**

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:

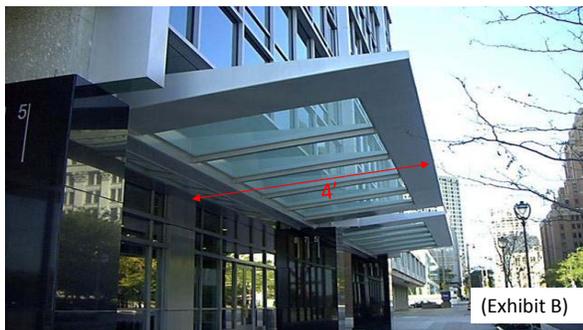
1. The door is protected by a roof overhang at least 4 feet in depth. (Exhibit B)
2. An installed awning at least 4 feet in depth. (Exhibit A)
3. The door is recessed at least 4 feet. (Exhibit C)
4. Other methods which provide equivalent protection.



(Exhibit A)



(Exhibit C)



(Exhibit B)

5.407.2.2.2 Flashing

VERIFY DETAILS ON APPROVED PLANS!!...

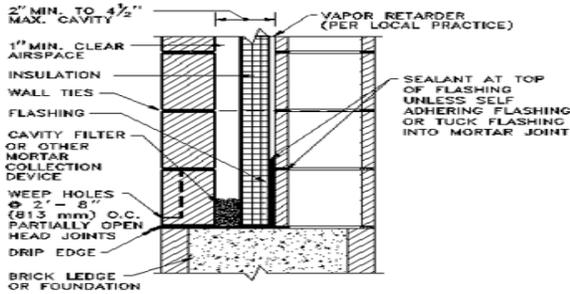
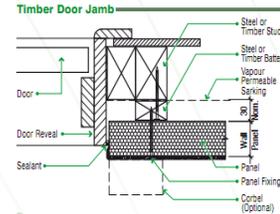
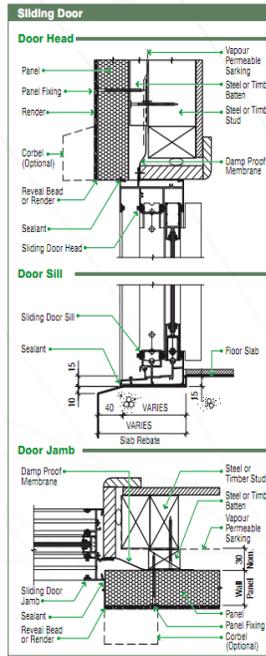
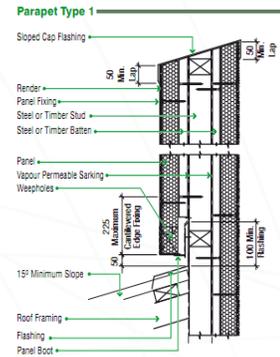


Figure 1—Flashing Cavity Walls at Foundations



Parapets
Parapets are generally used to conceal or to emphasize features of a building. The top of the parapet must be designed and installed to shed water and maintain the weathertightness of the building below.



5.408.1 Construction waste diversion

Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction [Waste Management Plan](#) that...

1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
3. Identifies diversion facilities where construction and demolition waste material collected will be taken.
4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

Figure 3-1. The Solid Waste Management Hierarchy



5.408.1 Construction waste diversion

Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items:

1. Fluorescent lamps and ballast
2. Mercury containing thermostats
3. Battery
4. See next slide for a comprehensive list of other California prohibited Universal Waste materials.

A list of prohibited Universal Waste materials shall be included in the construction documents.



CHECK PLANS FOR LOCATION OF UNIVERSAL WASTE DISPOSAL AREA !!!!!

5.408.1 Construction waste diversion

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
 Our mission is to provide the highest level of safety, and to protect public health and the environment from toxic harm.

Fact Sheet, January 2010
Universal Waste Fact Sheet

California's Universal Waste Rule allows individuals and businesses to recycle certain common hazardous wastes. The requirements for most hazardous universal wastes were adopted to ensure that they are managed safely and are not disposed of in the trash.

What are Universal Wastes?
 Universal wastes are hazardous wastes that are widely produced by households and many different types of businesses. Universal wastes include: fluorescent lamps, mercury thermostats, and other electronic devices as well as batteries, fluorescent lamps, mercury thermostats, and other mercury containing equipment, among others.

Regulatory Standards for Universal Waste:
 The UWR is less stringent requirements for each of the three types of regulated entities:
 1. Household waste handlers
 2. Universal waste handlers
 3. Hazardous waste handlers

- Universal wastes are:**
1. **Electronic devices:** Includes any electronic device that contains a cathode ray tube (CRT), including televisions, computer monitors, cell phones, VCRs, computer CPUs and monitors, and portable electronic devices.
 2. **Batteries:** Most household-type batteries, including recycling and alkaline batteries, universal waste battery regulated batteries, silver button batteries, mercury batteries, alkaline batteries and other batteries that exhibit a characteristic of a hazardous waste.
 3. **Electric lamps:** Fluorescent tubes, vapor lamps and electric lamps that contain mercury.
 4. **Mercury-containing equipment:** Thermostats, mercury switches, mercury thermostats, pressure or vacuum gauges, dialysis and recycling and mercury-containing mercury gas flow regulators, dental amalgams, dental x-ray tubes and dental added novelties such as jewelry, instruments and diagnostic equipment.
 5. **CRTs:** The glass picture tubes removed from televisions and computer monitors.
 6. **CRT glass:** A cathode ray tube that has been accepted for recycling.
 7. **Non-empty aerosol cans**

Universal Wastes may not be disposed of in the trash.

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
 Our mission is to provide the highest level of safety, and to protect public health and the environment from toxic harm.

- Provide personnel training to personnel who manage universal waste, or who supervise personnel who manage universal waste and keep training records.
- Respond to releases of universal waste or its contents, determine if spill exceeds an hazardous waste.
- Track shipment by weight and quantity for three years.

Universal Waste Treatment: Households and Conditionally Exempt Small Quantity Universal Waste Generators (CESQ/MSQ) are exempt from the universal waste regulations provided they comply with certain conditions. To obtain an EPA ID number or otherwise notify DTSC, or to keep records of shipment of universal waste to a DTSC, or to have universal waste handled by a hazardous waste handler, a generator must:

1. Obtain a permit from a DTSC-approved universal waste handler.
2. Obtain a permit from a DTSC-approved universal waste handler.
3. Obtain a permit from a DTSC-approved universal waste handler.

Exemption Facilities: A destination facility is a facility that is authorized to accept universal waste for recycling, treatment, or storage. A destination facility must be authorized by DTSC. A destination facility must be authorized by DTSC. A destination facility must be authorized by DTSC.

Universal Waste Transport: A universal waste transporter is a person or entity that transports universal waste from a generator to a destination facility. A universal waste transporter must be authorized by DTSC. A universal waste transporter must be authorized by DTSC.

Recycling: Recycling is the process of converting waste materials into new materials and objects. Recycling is the process of converting waste materials into new materials and objects. Recycling is the process of converting waste materials into new materials and objects.

5.410.1 Recycling by occupants

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.



5.410.2	Commissioning (> 10,000 sq ft.)
5.410.2.1	- Owner's Project Requirements (OPR)
5.410.2.2	- Basis of Design (BOD)
5.410.2.3	- Commissioning plan
5.410.2.4	- Functional performance test
5.410.2.5.1	- Systems manual
5.410.2.5.2	- Systems operations manual
5.410.2.6	- Commissioning report

Beyond the scope of this training

Commissioning Agent Acknowledgment

I have reviewed the test parts listed above and verified that they are complete; these tests have been executed with deficiencies corrected.

Name: _____

Company Name (if applicable): _____

Agent's Signature: _____ Date: _____

- Minimum Requirements for Functional Testing Report
1. Date and Party - Identification of the date of the test and the party conducting the test.
 2. Signature Block - Signature of the designated commissioning lead and the equipment installing contractor attesting that the recorded test results are accurate.
 3. Prerequisites - Any conditions or related equipment checklist or testing that needs to be completed before conducting this test.
 4. Preparation or identification of the risks involved to the test team members and the equipment and how to mitigate them.
 5. Instrumentation - Listing of the instrumentation and tools necessary to complete the test.
 6. Instructions - In each procedure main, identify the source for what is being confirmed (e.g. sequence of operation (S), operating features, specification requirement, etc.).
 7. Test Instructions - Step-by-step instructions of how to complete the test, including functions to test and the conditions under which the tests should be performed. Testing should include verification of proper operation of all equipment features, each part of the sequence of operation, overrides, lockouts, safeties, alarms, occupant and occupier modes, loss of normal power, exercising shutdowns, starting, line load through full load (as much as possible) and back, staging and tie functions, subloading, energy efficiency strategies and loop testing, and any other applicable Title 24 Acceptance Requirements.
 8. Acceptance Criteria - Measurable pass/fail criteria for each step of the test, as applicable.
 9. Results - Expected system response and space to document the actual response, readings, results, and observations.
 10. Test Log - A record of test results that are to be returned to the test as found state at the conclusion of the tests.
 11. Deficiencies - A record of test results that are to be returned to the test as found state at the conclusion of the tests.

Plans will specify if Commissioning is required...



If Commissioning is required, obtain these forms at final inspection along with the final Commissioning Report...

Documentation & Training Compliance Form
2017 Los Angeles Green Building Code
FORM GRN 25

THIS FORM IS TO BE COMPLETED PRIOR TO FINAL INSPECTION

Project Address: _____ Permit Number: _____

Part One: Documentation

ITEM #	SYSTEM MANUAL ELEMENTS	PAGE NUMBER IN MANUAL
1	General (i.e. address, address, local utility information, other)	
2	Facility description (i.e. use, floor plan, square footage, occupancy type, construction type, kind of design, the date of major systems & components)	
3	Project history (i.e. project requirements (RGO/OPR), project information, events, record drawings & documents, final control drawings and schedules, final control documents, construction documents)	
4	Current or quarterly (i.e. building operating schedules, space temperature, humidity, pressure, CO2, setpoints, control and control setpoints schedules, chilled and hot water temperatures, air flow control setpoints & parameters)	
5	Other information	
6	Emergency contacts	
7	Design Team (i.e. architect, mechanical engineer, electrical engineer, other)	
8	Prime Contractor contact information	
9	Subcontractor information	
10	Equipment supplier contact information	
11	Basic operation & maintenance	
12	General site operating schedules (i.e. instructions for changes in major system operating schedules, instructions for change in major system facility & weekend scheduling)	
13	Back trouble shooting & a call recommendations/troubleshooting procedures specific to major systems & equipment, manual operation procedures, standby/troubleshooting operational procedures, major system power fail events and restarts, troubleshooting)	
14	Recommended maintenance events log (i.e. HVAC, air filter replacement schedule & log, building control system sensor calibration schedule & log)	
15	Operation & maintenance manuals (location or delivery information)	

Commissioning Report Compliance Form
2017 Los Angeles Green Building Code
FORM GRN 26

THIS FORM IS TO BE COMPLETED PRIOR TO FINAL INSPECTION

Project Address: _____ Permit Number: _____

ITEM #	COMMISSIONING REPORT ELEMENTS	PAGE NUMBER IN COMMISSIONING REPORT DOCUMENT
1	Executive summary of process and results of commissioning program (include observations, conclusions, and any outstanding items)	
2	Summary of any system components and how they perform	
3	Commissioning objectives and plans for resolution	
4	Plans for second testing scheduled for start date	
5	Summary of training process completed and schedule	
6	Summary of test results and projections	
7	Summary of test results and projections	
8	Commissioning plan	
9	Commissioning plan	
10	Commissioning plan	
11	Commissioning plan	
12	Commissioning plan	
13	Commissioning plan	
14	Commissioning plan	
15	Commissioning plan	

Beyond the scope of this training



Tier 1

Mandatory measures

Voluntary (elective) measures

Tier 1 and Tier 2

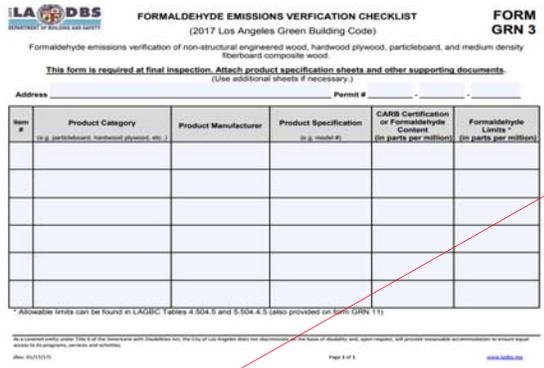
Green Building Division verifies plans for compliance with Tier 1 or Tier 2 status

It is the structural plan checker's responsibility to award any incentives to a project once Tier 1 or Tier 2 status has been achieved by our Section.

Building Inspector: You will not encounter a large number of Tier 1 Projects...

Contact your Supervisor for assistance with any of these projects

Beyond the scope of this training





The purpose of these requirements is to reduce the volatile organic compounds (VOC) of finish materials commonly installed on a project, improving air quality for building occupants.

The low-VOC provisions are based on the recommendations, guidelines and regulations of the Air Resources Board cited in each section...

Regulations for aerosol adhesives and paints and for composite wood products are found in *California Code of Regulations*, Title 17...

5.504.5.3	Filters
5.504.7	Environmental tobacco smoke (ETS) control
5.505.1	Indoor moisture control
5.506.2	Carbon dioxide (CO ₂) monitoring



For buildings or additions equipped with demand control ventilation, CO2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the 2013 *California Energy Code*, Section 120(c)(4).

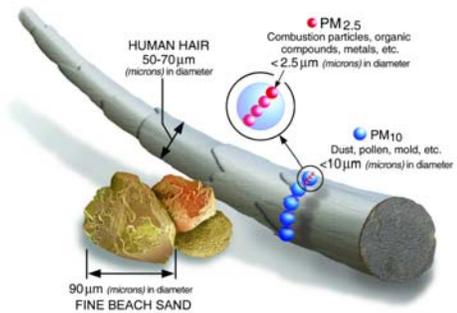
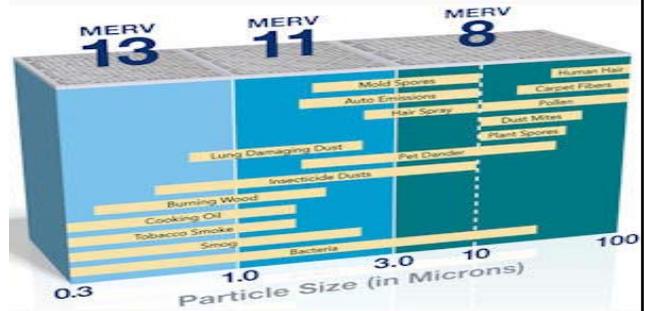
1000' of the freeway



5.504.5.3 Filters

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 a Minimum Efficiency Reporting Value (MERV) of 8. 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.

- 3. Mechanically ventilated buildings located within 1,000 feet of a freeway shall provide a filtration media that provides a MERV of 13.



5.507.4.1	Exterior noise transmission prescriptive method
	- Exterior noise transmission for roof
	- Exterior noise transmission for walls
5.507.4.2	Exterior noise transmission performance method

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.

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).

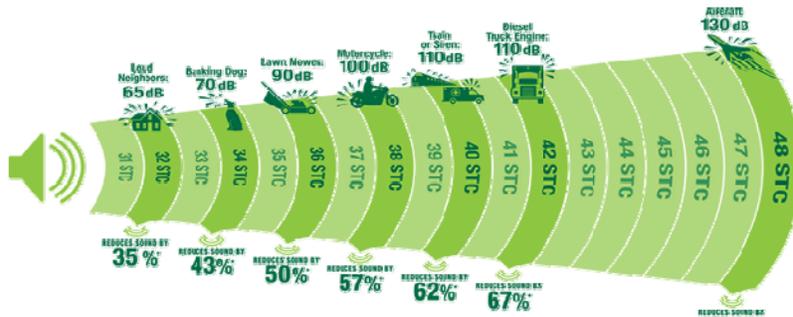
Exception: Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

5.507.4.3 Interior sound transmission

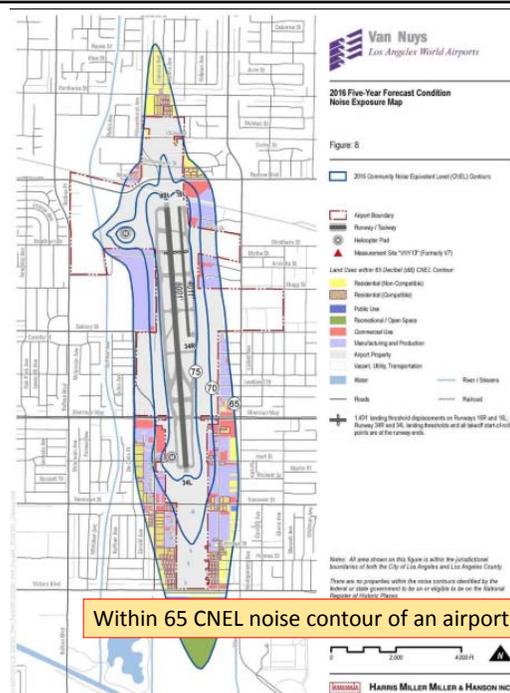
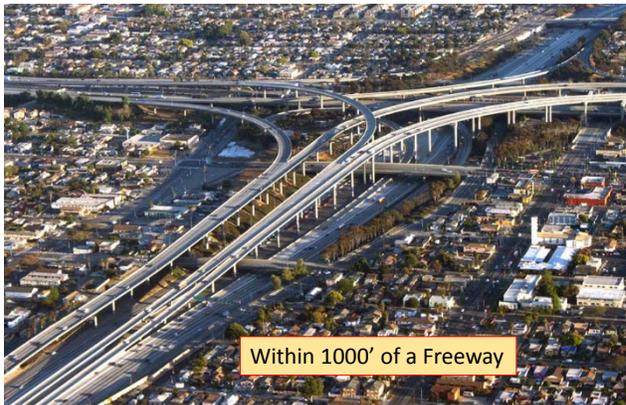
Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an **STC of at least 40.**

Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise control:
http://www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf.

STC Rating	Performance	Description
50-60	Excellent	Loud sounds heard faintly or not at all
40-50	Very Good	Loud speech heard faintly
35-40	Good	Loud speech heard but hardly intelligible
30-35	Fair	Loud speech understood fairly well
25-30	Poor	Normal speech understood easily and distinctly
20-25	Very Poor	Low speech audible

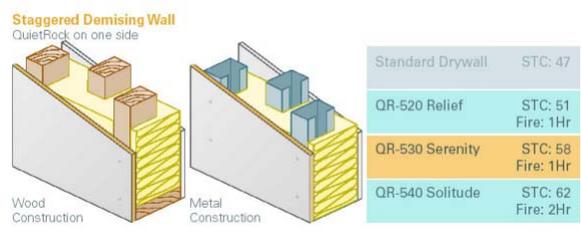
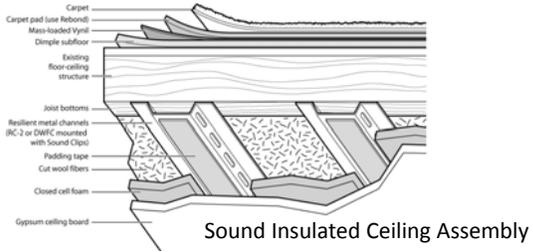


5.507.4.1	Exterior noise transmission prescriptive method - Exterior noise transmission for roof - Exterior noise transmission for walls - Exterior noise transmission for windows
5.507.4.2	Exterior noise transmission performance method



Within 65 CNEL noise contour of an airport.

5.507.4.1	Exterior noise transmission prescriptive method - Exterior noise transmission for roof - Exterior noise transmission for walls - Exterior noise transmission for windows
5.507.4.2	Exterior noise transmission performance method



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.

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).

Architect to make a statement on the plans: Building is NOT exposed to noise level...

Donald Crichlow
Senior Inspector - Green Bldg.

FINAL INSPECTION

- * VERIFY E/V PARKING REQUIREMENTS (# OF STALLS, STRIPING, LABELING, CONDUIT TERMINATION, CHARGING STATIONS (IF REQUIRED))... **Building Inspector / Electrical Inspector**
- * VERIFY BIKE PARKING REQUIREMENTS (LONG / . SHORT TERM) **REFER TO BIKE ORDINANCE...**
- * LANDSCAPE (IRRIGATION CONTROLLERS W/WEATHER SENSOR) OBTAIN FORM GRN-12...
- * EXTERIOR DOOR PROTECTION @ MAIN ENTRANCE(S)... CANOPIES, RECESSED OPENINGS...
- * NON-ABSOEBENT FLOOR FINISHES AT MAIN ENTRANCE...
- * CHECK FOR FILTER REPLACEMENT (MERV 8)... **Mechanical Inspector.**
- * CHECK PLUMBING FIXTURES FOR MAX FLOW RATES... **Plumbing Inspector.**

OBTAIN ALL CLOSE OUT DOCUMENTS **WITH SUPPORTING DOCUMENTATION...**

- 1) GRN-2
- 2) GRN-3
- 3) GRN-6
- 4) GRN-12
- 5) AIR BALANCE REPORT (ENSURE PROPER CERTIFICATION IS PROVIDED)... **Mechanical Inspector.**
- 6) TITLE 24 LIGHTING CERTIFICATION (LTI-01 / LTI-02)... **Electrical Inspector.**
- 7) CONSTRUCTION WASTE VERIFICATION (CERTIFIED HAULER)... OBTAIN HAUL TICKETS

SAMPLE FORMS & DOCUMENTS



VOC CONTENT VERIFICATION CHECKLIST
(2017 Los Angeles Green Building Code)

FORM GRN 2

VOC content verification of paints, coatings, carpets, cushions, resilient flooring, adhesives, sealants, and caulks.
This form is required at final inspection. Attach product specification sheets and other supporting documents.
(Use additional sheets if necessary.)

Address: _____ Permit # _____

Item #	Product Category (e.g. paint, carpet, adhesive)	Product Manufacturer	Product Specification (e.g. model #)	VOC Content (in grams / liters) or Test Certification (per product label or SDS)	Allowable VOC Limits * (in grams / liters)

* Allowable limits can be found in LAGBC Tables 4.504.1, 4.504.2, 4.504.3, 5.504.4.1, 5.504.4.2, and 5.504.4.3 (also provided on form GRN 11)

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.
Rev. 02/2017 Page 1 of 1 www.ladbs.org



FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST
(2017 Los Angeles Green Building Code)

FORM GRN 3

Formaldehyde emissions verification of non-structural engineered wood, hardwood plywood, particleboard, and medium density fiberboard composite wood.
This form is required at final inspection. Attach product specification sheets and other supporting documents.
(Use additional sheets if necessary.)

Address: _____ Permit # _____

Item #	Product Category (e.g. particleboard, hardwood plywood, etc.)	Product Manufacturer	Product Specification (e.g. model #)	CARB Certification or Formaldehyde Content (in parts per million)	Formaldehyde Limits * (in parts per million)



LA DBS
DEPARTMENT OF BUILDING AND SAFETY

FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST
(2011 Los Angeles Green Building Code)

FORM GRN 3

Formaldehyde emissions verification of non-structural engineered wood, hardwood plywood, particleboard, and medium density fiberboard composite wood.

This form is required at final inspection. Attach product specification sheets and other supporting documents.
(Use additional sheets if necessary.)

Address 900 Wilshire Blvd, 69th Floor, Los Angeles, CA 90071 Permit # _____

Item #	Product Category (e.g. particleboard, hardwood plywood, etc.)	Product Manufacturer	Product Specification	Formaldehyde Content (in parts per million)	Formaldehyde Limits (in parts per million)
1.	BCX Radiata Pine ply	Arauco Ply		<0.02%	0.09
2.	Freeform Particleboard	Collins Pine		<0.01%	0.09
3.	Vesta Particleboard	Flakeboard		<0.01%	0.11
4.	Vesta MDF	Flakeboard		<0.01%	0.09
5.	Ampine Particleboard	Sierra Pine		<0.01%	0.09
6.	F.R. Medite MDF	Roseburg		<0.01%	0.09
7.	Trupan MDF	Arauco		<0.01%	0.09

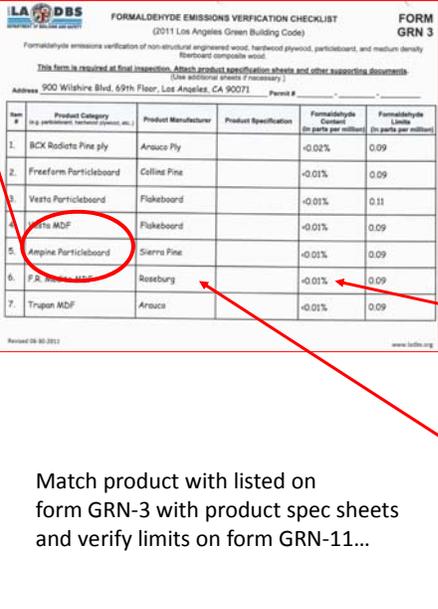
Revised 06-30-2011 www.ladbs.org



SierraPine Particleboard
produced in Martell, California

Technical Data

Property	Value
Density	43.8 kg/m ³
Internal Bond	0.18 MPa
Modulus of Rupture	1800 kPa
Modulus of Elasticity	20000 MPa
Hardness	500 N/jaw
Scrape Rating, Foot	10-15
Scrape Rating, Edge	100 lbs
Thickness Allowance	± 0.005"
Length/Width Tolerance	± 1/16"
Moisture Sorption	Class 1 (C1)
Name Standard/Marking	Class 1 (C1)



FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST
(2011 Los Angeles Green Building Code)

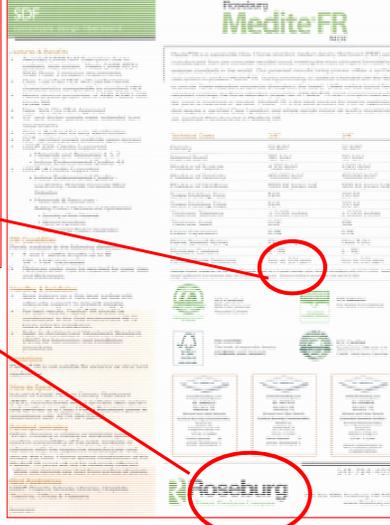
FORM GRN 3

Formaldehyde emissions verification of non-structural engineered wood, hardwood plywood, particleboard, and medium density fiberboard composite wood.

This form is required at final inspection. Attach product specification sheets and other supporting documents. (Use additional sheets if necessary.)

Address: 900 Wilshire Blvd, 69th Floor, Los Angeles, CA 90071 Permit #

Item #	Product Category (e.g. particboard, hardwood plywood, etc.)	Product Manufacturer	Product Specification	Formaldehyde Content (in parts per million)	Formaldehyde Limits (in parts per million)
1.	BCX Radiata Pine ply	Anauro Ply		<0.02%	0.09
2.	Freeform Particleboard	Collins Pine		<0.01%	0.09
3.	Vesta Particleboard	Flakeboard		<0.01%	0.11
4.	Vesta MDF	Flakeboard		<0.01%	0.09
5.	Ampine Particleboard	Sierra Pine		<0.01%	0.09
6.	F.R. Medite MDF	Roseburg		<0.01%	0.09
7.	Trupan MDF	Anauro		<0.01%	0.09

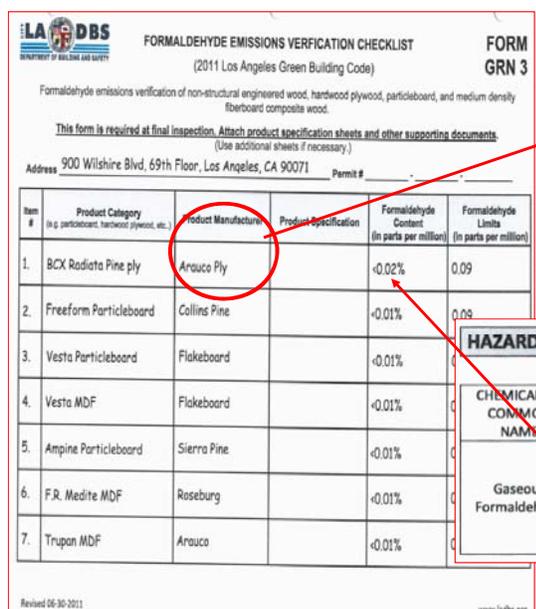


Floorsburg Medite FR

Technical Data

Property	Value
Density	48 kg/m ³
Internal Bond	0.18 MPa
Modulus of Rupture	1800 kPa
Modulus of Elasticity	20000 MPa
Hardness	500 N/jaw
Scrape Rating, Foot	10-15
Scrape Rating, Edge	100 lbs
Thickness Allowance	± 0.005"
Length/Width Tolerance	± 1/16"
Moisture Sorption	Class 1 (C1)
Name Standard/Marking	Class 1 (C1)

Match product with listed on form GRN-3 with product spec sheets and verify limits on form GRN-11...



FORMALDEHYDE EMISSIONS VERIFICATION CHECKLIST
(2011 Los Angeles Green Building Code)

FORM GRN 3

Formaldehyde emissions verification of non-structural engineered wood, hardwood plywood, particleboard, and medium density fiberboard composite wood.

This form is required at final inspection. Attach product specification sheets and other supporting documents. (Use additional sheets if necessary.)

Address: 900 Wilshire Blvd, 69th Floor, Los Angeles, CA 90071 Permit #

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4.	Vesta MDF	Flakeboard		<0.01%	0.09
5.	Ampine Particleboard	Sierra Pine		<0.01%	0.09
6.	F.R. Medite MDF	Roseburg		<0.01%	0.09
7.	Trupan MDF	Anauro		<0.01%	0.09



Eco-Certified Composite GradeMark Program
Certificate of Compliance

Composite Panel Association
12645 Deerfield Ave, Suite 200, Leesburg, VA 20176

Hereby Affirms That

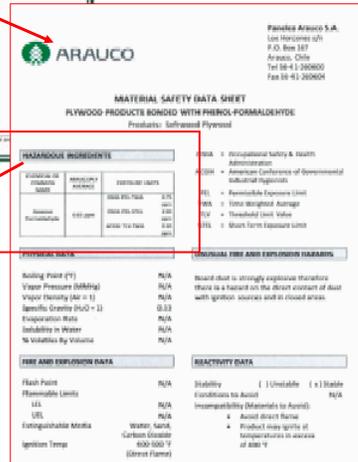
ARAUCO NORTH AMERICA
EDUCO, OREGON

Has Complied and Fulfills the Requirements of
CMAA-13 Eco-Certified Composite (ECC) Standard and
California Air Resources Board (CARB) Section 01350 Composite Wood Product (CWP) 03200

SCOPE OF CERTIFICATION
Medium Density Fiberboard (MDF)

(To comply with the standard, at least 2 of the following are required)

- Carbon Footprint
- Locally Sourced Fiber
- Recycled, Recycled or Post-Consumer Fiber Content
- Sustainable Use of Wood Fiber
- Responsible Wood Sourcing



ARAUCO

MATERIAL SAFETY DATA SHEET
PLYWOOD PRODUCTS BONDED WITH PHENOL-FORMALDEHYDE
Products: Surfaced Plywood

HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENT	CONCENTRATION	OSHA PEL-TWA	OSHA PEL-STEL
Formaldehyde	0.02 ppm	0.75 ppm	2.00 ppm

EXPOSURE LIMITS

HAZARDOUS INGREDIENT	OSHA PEL-TWA	OSHA PEL-STEL
Gaseous Formaldehyde	0.75 ppm	2.00 ppm
	ACGIH TLV-TWA	0.30 ppm

Eco-Certified Composite Grademark Program CERTIFICATE OF COMPLIANCE

Composite Panel Association
Hereby Affirms That



COLLINS PRODUCTS, LLC

KLAMATH FALLS, OREGON



Has Completed and Fulfilled the Requirements of:
CPA ECC 4-11 Standard for Eco-Certified Composites and California (CARB) Airborne Toxic Control Measure 93120

SCOPE OF CERTIFICATION
Industrial Particleboard – CARB NAF TPC-Exempt (Executive Order N-12-123)

ECO-ATTRIBUTES
(To comply with the standard, at least 3 of the following are required)

- Carbon Footprint
- Locally Sourced Fiber
- Recycled, Recovered or Post-Consumer Fiber Content
- Sustainable Use of Wood Fiber
- Responsible Wood Sourcing

Mill ID #034
Effective Date: July 27, 2012
To verify continued certification, visit ECCproduct.org

California Air Resource Board


 Thomas A. Julia
President



GRN 6

Operation and Maintenance Manual

In compliance with the California Green Building Standards Code, this Operation and Maintenance Manual shall be available at final inspection and remain with the building throughout the life-cycle of the structure.

This manual has been prepared for the building located at:

Address: Permit # 13016 - 10000 - 25000
1207 S. Vermont Avenue
City/State/Zip: Los Angeles, CA 90006

~~If no new equipment or fixture is installed as part of this project, then check the box and sign below (No further information is required on the rest of this form.)~~

~~I certify that in the construction of this project, no new equipment or fixture was installed.~~

~~Name: Relationship to project:~~

~~Signature: License #: Date:~~

Rev. 01/01/2014 Page 1 www.ladbs.org

Equipment & Fixture Information

(Required for new fixtures and equipment only)

Provide the make, model and maintenance information for all newly installed equipment and fixtures. This list shall include, but not be limited to the following items: compressor, air filter, furnace, water heater, kitchen appliances, smoke alarm, landscape irrigation, irrigation control, thermostat, hydrometer, water treatment system, roof and yard drainage, whole house fan, septic system, and similar equipment and fixtures. This information shall be submitted by the contractor at the time of final inspection. Use supplemental information sheet at the end of this form for additional equipment and fixtures.

Equipment fixture/type: Refrigerator	Make: Peerless - Premier	Model: FFET10220W
Maintenance Schedule:	<input type="checkbox"/> Weekly <input type="checkbox"/> Semi-Annually <input type="checkbox"/> Other: _____ <input checked="" type="checkbox"/> Monthly <input checked="" type="checkbox"/> Annually	
Maintenance Instructions:	Regular Cleaning	
Maintenance specifications/ Catalogue attached:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Equipment fixture/type: Electric Range	Make: Peerless - Premier	Model: ECK100-OP
Maintenance Schedule:	<input type="checkbox"/> Weekly <input type="checkbox"/> Semi-Annually <input type="checkbox"/> Other: _____ <input checked="" type="checkbox"/> Monthly <input checked="" type="checkbox"/> Annually	
Maintenance Instructions:	Regular Cleaning	
Maintenance specifications/ Catalogue attached:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Equipment fixture/type: Range Hood	Make: AIR KING	Model: ES2 / ES02
Maintenance Schedule:	<input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Semi-Annually <input type="checkbox"/> Other: _____ <input type="checkbox"/> Monthly <input type="checkbox"/> Annually	
Maintenance Instructions:	Check Filter and clean as needed	
Maintenance specifications/ Catalogue attached:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

LIST ALL EQUIPMENT, APPLIANCES AND FIXTURES ON FORM GRN-6 !!!

Rev. 01/01/2014 www.ladbs.org

Food Waste Disposers



APPROVED
By Arash Nazari, PE at 8:53 am, Feb 04, 2015

Submittal Sheet
This document is required for the following features and benefits:
- All new disposers require a back check.
- Must have a 1/2 HP motor.
- Must have a 1/2 HP motor.
- Must have a 1/2 HP motor.
- Must have a 1/2 HP motor.

Dimensions
- Overall height: 10 1/2 inches
- Overall width: 6 1/2 inches
- Overall depth: 10 1/2 inches

Job Specifications
- 1/2 HP motor
- 1/2 HP motor
- 1/2 HP motor

FRIGIDAIRE

Apartment Refrigerators

FFET1022Q W/B

Frost Free 10 Cu. Ft. Top Mount

More Easy-To-Use Features
- One-Step™ Door Bins
- Color-Coordinate Door Handles
- Color-Coordinate Smooth Cabinet Finish
- Bright Lighting
- Reversible Door Swing
- A.D.A. Compliant

Signature Features
- **SpaceWise™ Adjustable Glass Shelves**
- **Store-More™ Freezer**
- **Independent Temperature Controls**
- **Store-More™ Clear Crisper Drawers**

TOTO

CST744EL(R)N

Eco Drake™ Transitional, ADA, 1.28GPF

FEATURES
- 1.28 GPF
- ADA Compliant
- Porcelain on Porcelain
- Soft Close Seat
- Soft Close Lid

INSTALLATION
- 12" rough-in
- 12" rough-in
- 12" rough-in

COMPLIANCE
- ADA Compliant
- ADA Compliant
- ADA Compliant

Air-King

ESQZ SERIES RANGE HOODS

Dimensions
- Overall bottom projection - 18 1/2"
- Overall top projection - 12"
- Height - 47"
- Available widths: 30" & 36"

Hood Body
- One-piece, 30 gauge, grade 430 stainless steel.
- Painted 23 gauge cold rolled commercial grade (CRCQ) steel.
- Juice wringer, coated with a baked enamel finish.

Motor
- Fully enclosed PSC 1/2 hp motor, 7 speed, thermally protected, permanently lubricated. Rated 115/120 volts, 60 Hz.

Lighting
- Includes 2x Watt 50/24 base self ballasted lamp sockets.
- 4 watt night light (not included).

Ducting Options
- Horizontal ducting: 3" x 13 1/2" (not shown and longer included).
- Vertical ducting: 3" x 13 1/2" (not shown and longer included).
- Vertical ducting: 2" (not shown and longer included).
- Ductless: removable front vent (not shown and longer included).

Blade
- Removable and has blade 9 1/2" diameter with 5 position.

Electrical connection
- Hard-wired: 1" knockout hole for use with 1" cable clasp.
- Hard-wired: 1" knockout hole for use with 1" cable clasp.

Filters
- 18" (not shown) class 2 filter.
- Charcoal Filter (CF) (not shown).

Available Finishes
- White, Black & Stainless Steel.

EXHAUST PERFORMANCE

Air Flow - CFM	0	0.50	0.75	0.75	0.75	0.75
Max. Ducting High Speed	257	269	236	218	202	172
Max. Ducting Working Speed	129	110	-	-	-	-
Max. Ducting High Speed	258	265	236	198	179	148
Max. Ducting Working Speed	143	120	-	-	-	-
Max. Ducting High Speed	261	246	210	181	161	127
Max. Ducting Working Speed	129	110	-	-	-	-

Service Instructions
- AIR CONDITIONER/HEAT PUMP
- AIR CONDITIONER/HEAT PUMP
- AIR CONDITIONER/HEAT PUMP

Premier

Peerless-Premier Appliance Co.

Benefits & Features

- One 8 inch Element (1100w)
- Three 6 inch Elements (1120w)
- Lifetime Warranty On Top Burner Elements
- 4 inch Porcelain Backguard
- ADA Compliant
- Surface Signal Light
- LIFT UP TOP WITH SUPPORT ROD
- Low 150 Degree-Thermostat Setting
- Two Heavy-Duty Oven Racks With Four Adjustable Positions
- Closed Door Breviling
- Waste High Variable Broiler - Equipped with Smokeless, Porcelain Two Piece Pan And Tray
- Full Wash Storage Drawer
- 24" W, 40" H, 22.5" D (Including handle)
- Shipping Weight 140 Pounds
- Amper: 16.67
- Leg Levelers
- Anti-Tip Bracket
- Crafted With Pride and MADE IN AMERICA

APPROVED

24 Inch Electric Range

Models:
ECK100OP - White
ECK100TP - Bisouit
ECK100BP - Black

PEERLESS-PREMIER APPLIANCE CO.
109 S. 14th Street (PO BOX 88) • Belleville, IL 62210 (62221)
(77) 800-848-6144 • (73) 618-535-0791 • www.premier-range.com

MultiChoice Universal Pressure Balance Tub and Shower

TECK COMMERCIAL **DELTA**

APPROVED
By Arash Nazari, PE at 9:03 am, Feb 04, 2015

PRODUCT VARIATION	SHOWER	HANDLE
0	1	0
1 Shower Valve Only	2 2-Function Touch-Clean® Showerhead, Arm, Set Screw Flange	1 85mm 3.5/8" Hand Lever Handle
2 Tub and Shower	3 Showerhead, Arm, Set Screw Flange	3 17mm 22.5/8" Lever-Rocker Handle
3	4	
4	5 Handshower with 2 Spray Modes, 65mm 2 1/2" S for Sub-Panel Mount	
5	6 2" Hand Shower, Cap With/Without Showerhead	
6	7	
7	8 1/2-Function Technology® Showerhead, Arm, Set Screw Flange	
8	9	
9		

DELTA see what Delta can do

Collins Single Handle Water-Efficient Kitchen Faucet with Spray

Model Number: 440-WE-DST

APPROVED
By Arash Nazari, PE at 8:53 am, Feb 04, 2015

Features & Benefits

- Sleek design with the charm of simplicity
- The arc of the Collins spout adds clearance for easy filling of pots and pans
- Water Efficient flow
- Features DIAMOND™ Seal Technology
- Matching side spray with Touch-Clean®
- Arched spout for easy filling of pots and pans

Smart Features

- ADA Compliant
- DIAMOND™ Seal Technology
- Water-Efficient
- With Side Sprayer
- Legislation Compliant

Product Specifications

Number of Handles: 1
 Tall/High-Arc: No
 Pull-out/Pull-down: No
 With Soap/Lotion Dispenser: No

Valve Type: DIAMOND(TM) Seal Valve
 Flow Rate: 1.5 gpm @ 80 psi, 5.7 L/min @ 414 kPa
 Holes/Width: 4-hole 8 installation

ICON BUILDERS PLUMBING

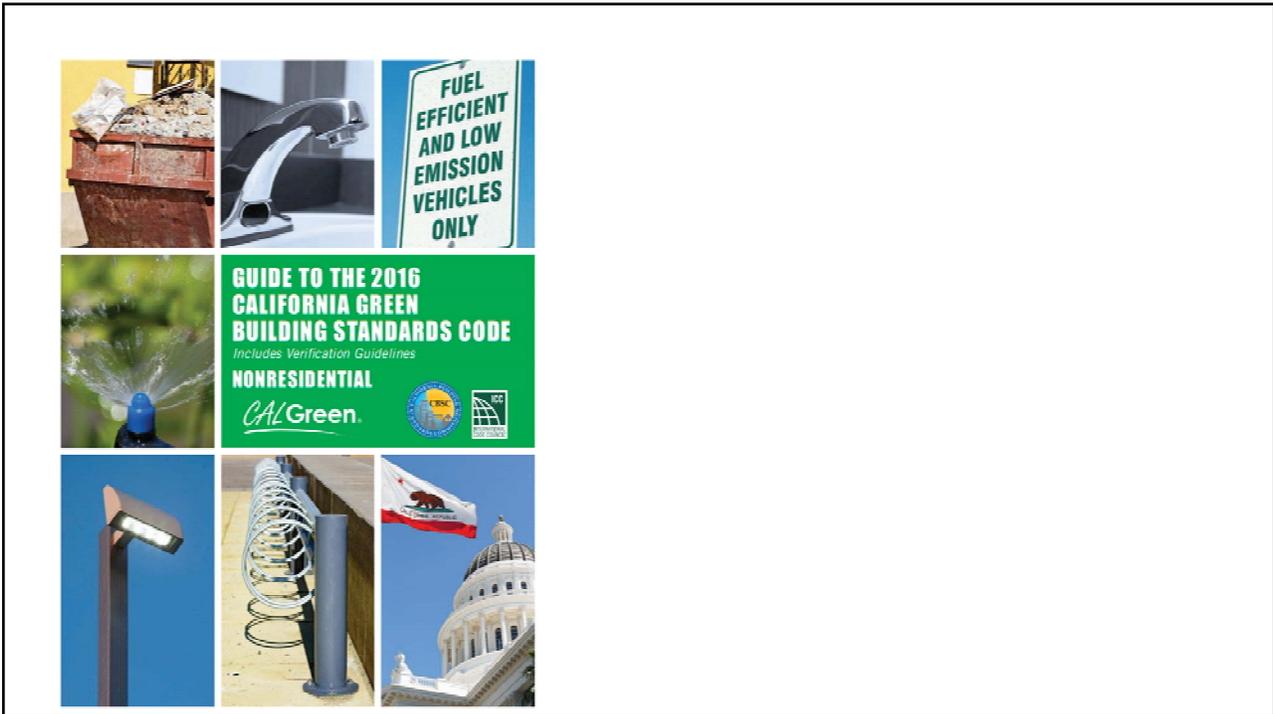
Pilgrim Tower Apartments
 1207 S Vermont Ave.
 Los Angeles, CA 90006

ITEM	DESCRIPTION	MANUFACTURER	TYPE	FINISH	LOCATION
008	Lev Faucet	Delta	S20 DST Low Flow 3.5 GPM ADA Compliant	Chrome	Apartment Bathrooms
009	Touch	Toto	CST744E Low Flow 1.28 GPF Elongated Bowl	White	Apartment Bathrooms
010	Touch	Toto	CST744E N Low Flow 1.28 GPF Elongated Bowl	White	Compliant Apartment Bathrooms

CLOSEOUT PACKAGE...



THIS INFORMATION MUST BE VERIFIED AND PRESENTED TO THE BUILDING OWNER, TENANT OR REPRESENTATIVE AT THE COMPLETION OF THE CONSTRUCTION PROJECT..



Any questions?

ELECTRICAL INSPECTOR DUTIES



4.106.4.2.3 Single EV space required...

Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit.

The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter).

The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV spaces.

Construction documents shall identify the raceway termination point.

The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.



The Electrical Inspector should verify on-site that the service panel and raceway with proper termination have been installed per the approved set of plans.

5.106.8 Light pollution reduction



Electrical Plan Check covers the requirements for both Green Code & Energy Code...

Electrical Inspector: Verify Luminaires comply with approved set of plans.

Backlight, Uplight and Glare

-- (B.U.G. Helps minimize the amount of stray lights)

Limits Lumens to values that are appropriate for each Lighting Zone.

TABLE 5.106.8 (N) MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS^{1,2}

ALLOWABLE RATING	LIGHTING ZONE 1	LIGHTING ZONE 2	LIGHTING ZONE 3	LIGHTING ZONE 4
Maximum Allowable Backlight Rating³				
Luminaire greater than 2 mounting heights (MH) from property line	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	B2	B3	B4	B4
Luminaire front hemisphere is 0.5-1 MH from property line	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	B0	B0	B1	B2
Maximum Allowable Uplight Rating				
For area lighting ⁴	U0	U0	U0	U0
For all other outdoor lighting, including decorative luminaires	U1	U2	U3	U4
Maximum Allowable Glare Rating⁵				
Luminaire greater than 2 MH from property line	G1	G2	G3	G4
Luminaire front hemisphere is 1-2 MH from property line	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the California Energy Code and Chapter 10 of the California Administrative Code.
 2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.
 3. If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced backlight rating shall be met.
 4. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in this area shall meet U-value limits for "all other outdoor lighting".
 5. If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced glare rating shall be met.

CLOSE OUT DOCUMENTS...

CERTIFICATE OF INSTALLATION

GENERAL INFORMATION

Part 2 Lighting Control Functional requirements: Check all that apply when verifying the installation of an EMCs or Lighting Control System.

Scope of Responsibility

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

RESPONSIBLE ACCEPTANCE PERSON'S DECLARATION STATEMENT

CERTIFICATE OF INSTALLATION

INDOOR LIGHTING

NRCC LTI 02-E

General Information

Scope of Responsibility

PART 1 What type of Lighting Control System has been installed?

STATE OF CALIFORNIA

INDOOR LIGHTING

CERTIFICATE OF COMPLIANCE

NRCC LTI-01-E

General Information

Building Type: Nonresidential High-Rise Residential Mixed-Use

Phase of Construction: New Construction Addition Alteration

Method of Compliance: Complete Building Area Category Tailored

LUMINAIRE COMPLIANCE SCHEDULES (select one for each document)

YES	NO	TYPE	TITLE
		NRCC LTI-01-E	Certificate of Compliance, all pages required for all submittals
		NRCC LTI-02-E	Lighting Schedules, Certificate of Compliance, and/or Calculations, all pages required for all submittals
		NRCC LTI-03-E	Indoor Lighting Power Allowance
		NRCC LTI-04-E	Tailored Method Worksheet
		NRCC LTI-05-E	Line Voltage Track Lighting Worksheet

Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

Item	Indoor Lighting Power for Conditioned Space		Indoor Lighting Power for Unconditioned Space	
	Watts	Watts	Watts	Watts
1. Installed Lighting NRCC LTI-01-E, page 4	+		Installed Lighting NRCC LTI-01-E, page 4	+
2. PARALLEL TRACK LIGHTING NRCC LTI-05-E, page 2	+			
3. Wireless Lighting Control Credits NRCC LTI-02-E, page 2	-		Minus Lighting Control Credits NRCC LTI-02-E, page 2	-
4. Adjusted Installed Lighting Power (row 1 plus row 2 minus row 3)	=		Adjusted Installed Lighting Power (row 1 minus row 3)	=

Or Building Energy Efficiency Standards - 2015 Nonresidential Compliance Am 302A

Nonresidential Indoor Lighting Certificates of Compliance

- ▶ **NRCC-LTI-01-E**
 - ▶ Four page document
 - ▶ Each page must appear on the plans
 - ▶ Copy of document should also be submitted to the enforcement agency along with the rest of the compliance submittal at the time of building permit application
 - ▶ With enforcement agency approval, applicant may use alternative formats of these documents provided that the information is the same, and in a similar format
- ▶ **NRCC-LTI-02-E**
 - ▶ All of the lighting control documentation has been moved into a single set of compliance documents
- ▶ **NRCC-LTI-03-E**
 - ▶ Three page set of compliance documents required to document and calculate how much indoor lighting power is allowed by the Standards, so that the allowed lighting power can be demonstrated to be greater than or equal to the installed lighting power in the summary table on NRCC-LTI-01-E
- ▶ **NRCC-LTI-04-E**
 - ▶ Six pages
 - ▶ Required to document and calculate allowed lighting when the Tailored Method is the method used in any area for compliance
 - ▶ The light power allowances calculated in this set of compliance documents are required to be able to complete the summary table on page 2 of NRCC-LTI-01-E
- ▶ **NRCC-LTI-05-E**
 - ▶ Required to calculate luminaire input wattage and document all line voltage track and busway lighting
 - ▶ Required to calculate and document the input wattage of every installed line voltage track lighting system
 - ▶ Each of the track lighting systems calculated and documented in this worksheet shall also be separately listed in the Luminaire Schedule in Section C of NRCC-LTI-01-E

Any questions?

PLUMBING INSPECTOR DUTIES



5.303.2 Water reduction

Each building shall demonstrate a 20 percent overall reduction in potable water use.

To comply with this subsection, a calculation demonstrating a 20 percent reduction in the building "water use baseline", as established in [Table 5.303.2.2](#), shall be provided.

TABLE 5.303.2.2 WATER USE BASELINE¹

FIXTURE TYPE	BASELINE FLOW RATE	DURATION	DAILY USES	OCCUPANTS ²
Showerheads	2.0 gpm @ 80 psi	5 min.	1	X ^{3a}
Lavatory Faucets, Non-Residential	0.5 gpm @ 60 psi	.25 min.	3	X
Kitchen Faucets	1.8 gpm @ 60 psi	4 min.	1	X ^{3b}
Metering Faucets	0.20 gallons/cycle		3	X
Water Closets	1.28 gallons/flush	1 flush	1 male ⁴ 3 female	X
Urinals	0.125 gallons/flush	1 flush	2 male	X

- Fixture "Water Use" = Flow rate × Duration × Occupants × Daily uses.
- The daily use number shall be increased to three if urinals are not installed in the room.
 - Refer to Table A, Chapter 4 of the *Los Angeles Plumbing Code*, for occupant load factors.
 - Shower use by occupants depends on the type of use of a building or portion of a building. For example, the total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.
 - Kitchen faucet use is determined by the occupant load of the area served by the fixture.
 - Use Worksheet WS-1 of the 2017 *Los Angeles Green Building Standards Code* to calculate baseline water use.

LA DBS PLUMBING FIXTURE FLOW RATES FORM GRN 17
 DEPARTMENT OF BUILDING AND SAFETY Non-Residential Occupancies
 2017 Los Angeles Green Building Code
 (incorporate this form into the plans)

SECTION 5.303.2 WATER REDUCTION FIXTURE FLOW RATES

FIXTURE TYPE	MAXIMUM ALLOWABLE FLOW RATE
Showerheads	1.8 gpm @ 80 psi
Lavatory faucets, residential	1.2 gpm @ 60 psi ^{1,3}
Lavatory Faucets, nonresidential	0.4 gpm @ 60 psi ^{1,2}
Kitchen faucets	1.5 gpm @ 60 psi ^{2,4,5}
Wash fountains	1.8 gpm for every 20 in. of rim space @60 psi
Metering faucets	0.2 gallons/cycle
Metering faucets for wash fountains	0.2 gpm for every 20 in. of rim space @ 60 psi
Gravity tank type water closets	1.28 gallons/flush ⁶
Flushometer tank water closets	1.28 gallons/flush ⁶
Flushometer valve water closets	1.28 gallons/flush ⁶
Urinals	0.125 gallons/flush
Clothes Washers	ENERGY-STAR certified
Dishwashers	ENERGY-STAR certified

¹Lavatory faucets shall not have a flow rate less than 0.8 gpm at 20 psi.
²Kitchen faucets may temporarily increase flow above the maximum rate, but not above 2.2gpm @ 60psi and must default to a maximum flow rate of 1.8 gpm @ 60psi.
³Where compliant faucets are unavailable, aerators or other means may be used to achieve reduction.
⁴Kitchen faucets with a maximum 1.8 gpm flow rate may be installed in buildings that have water closets with a maximum flush rate of 1.06 gallons/flush installed throughout.
⁵This requirement does not apply to faucets in commercial kitchens.
⁶Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.
 Single Flush Toilets: The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A112.19.233.2
 Dual Flush Toilets: The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volume will be tested in accordance with ASME A112.19.2 and ASME A112.19.14.

As covered under Title 14 of the American with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.
 (Rev. 01/15/17) Page 5 of 5 www.ladbbs.org

5.303.3 Water conserving plumbing fixtures and fittings



© Kaspars Jursons



5.303.3.3 Showerheads



Multiple Showerheads:

Max 2 GPM @ 80 psi or only 1 at a time.

LA DBS 2017 Los Angeles Green Building Code **FORM GRN 18N**
WATER CONSERVATION ORDINANCE NOTES
NON-RESIDENTIAL BUILDINGS

1. For new buildings or additions exceeding 50,000 ft², install a separate water meter or sub-meter for the following areas:
 - A. For each individual heated, cooled, or other limited space within the building projected to consume more than 100 gpd (380 L/day).
 - B. Where possible water is used for industrial/process uses, for water supplied to the following sub-locations:
 - 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 (0.2 L/s).
 - c. Steam and hot water boilers with energy input more than 300,000 Btu/h (147 kW).
 - C. For each building that uses more than 100 gpd on a parcel containing multiple buildings. (5.303.1.1)
2. Provide a 20% reduction in the overall potable water use for each building. The reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as required by the Los Angeles Plumbing Code. New projects having a water supply of 2" or less and additions and alterations projects may use the prescriptive method outlined in this section. (5.303.2)
3. A water budget for landscape irrigation use that conforms to the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO) is required for new landscape areas of 500 sqft or more. The following methods to reduce potable water use in landscape areas include, but are not limited to, use of captured rainwater, recycled water, graywater, or water treated for irrigation purposes and conveyed by a water district or public entity. (5.303.1, 5.303.2)
4. New buildings on a site with 1,000 square feet or more of cumulative landscape area shall have separate meters or submeters for outdoor water use. (5.304.4)
5. Additions and alterations on a site with 1,000 square feet of cumulative landscape area which require water service upgrades shall have separate meters or submeters for outdoor water use. (5.304.4)

An inconsistency under Title 17 of the Executive with Ordinance 661, the City of Los Angeles shall prevail in the event of an inconsistency in these rules and regulations. (5.303.1.1)

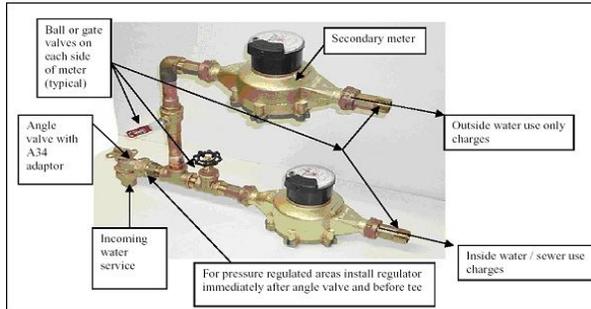
6. Locks shall be installed on all publicly accessible exterior doors and have bins. (5.304.3)
7. Except as provided in this section, for sites with over 500 square feet of landscape area, alternate waste piping shall be installed to permit discharge from the clothes washer, bathtub, shower, and bathroom fixtures wash basins to be used for a future graywater irrigation system. (5.303.1)
8. Except as provided in this section, where City-recycled water is available within 200 feet of the property line, water closets, urinals, floor drains, and process cooling and heating in the building shall be supplied from recycled water and shall be installed in accordance with the Los Angeles Plumbing Code. (5.305.2)
9. Cooling towers shall comply with one of the following:
 - A. Shall have a minimum of 6 cycles of concentration (blowdown).
 - B. Shall have a minimum of 6 cycles of concentration (blowdown).
 - C. Shall have a minimum of 6 cycles of concentration (blowdown).
 - D. A minimum of 50% of the makeup water supply to the cooling towers shall come from non-potable water sources, including treated backwash. (5.305.3)
10. Develop and construct a system for onsite reuse of the groundwater where groundwater is being extracted and discharged. Alternatively, the groundwater may be discharged to the sewer. (5.305-4)
11. Provide a hot water system complying with one of the following:
 - A. The hot water system shall not allow more than 0.6 gallons of water to be delivered to any fixture before hot water arrives.
 - B. Where a hot water recirculation or electric resistance heat trace wire system is installed, the branch from the recirculating loop or electric resistance heat trace wire to the fixture shall contain a maximum of 0.6 gallons. (Los Angeles Plumbing Code Section 610.4.1)



5.304.4 Outdoor water use meters

Building on site with 1,000 square feet or more of cumulative landscape area shall have separate meters or submeters for outdoor water use. (5.304.4)

The intent of this code requirement is to reduce the overall outdoor water used for irrigation for both new landscaping areas and rehabilitated landscape projects.



5.304.5 Exterior faucets

Exterior faucets. Locks shall be installed on all publicly accessible exterior faucets and hose bibs.



4.304.4 Exterior faucets

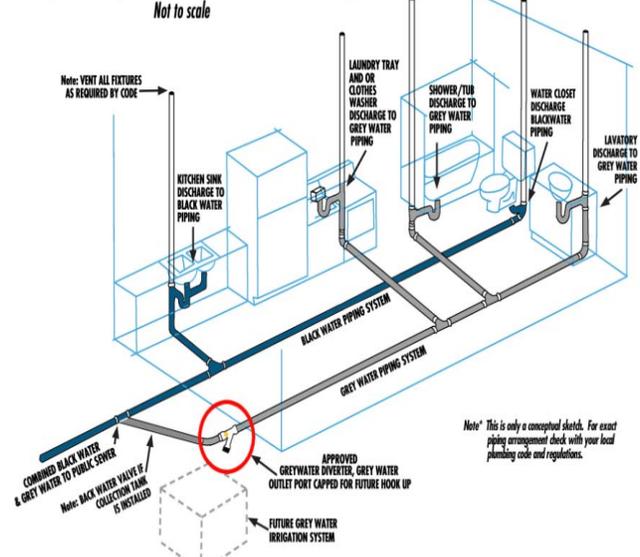


5.305.1 Graywater ready

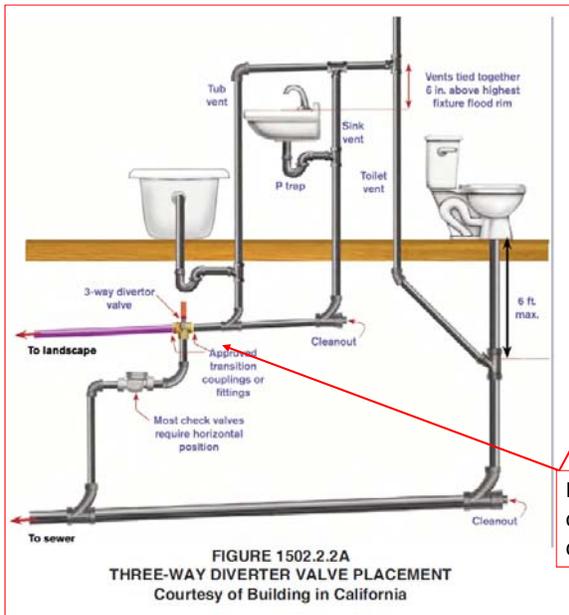
Waste piping shall be arranged to permit the discharge from the clothes washer, bathtub, showers, and bathroom/restroom wash basins to be used for a future graywater irrigation system. The flow from the fixtures shall be piped separately, and shall, at a minimum, be adequate to supply the irrigation demand. The point of connection between the graywater piping and other waste piping shall be accessible and provided with signage that is satisfactory to the Department.



Conceptual "Greywater Ready" Wastewater Plumbing Plan



5.305.1 Graywater ready



**SECTION 5.305
WATER REUSE SYSTEMS**

5.305.1 Graywater ready. Waste piping shall be arranged to permit the discharge from the clothes washer, bathtub, showers, and bathroom/restroom wash basins to be used for a future graywater irrigation system. The flow from the fixtures shall be piped separately, and shall, at a minimum, be adequate to supply the irrigation demand. The point of connection between the graywater piping and other waste piping shall be accessible (as defined in Section 2.202) and provided with signage that is satisfactory to the Department.

Exceptions:

1. Buildings with a graywater system or water reuse system.
2. Sites with landscape areas not exceeding 500 square feet.
3. Projects where graywater systems are not permitted due to geological conditions.
4. Additions and alterations that use the existing building drain.

Look for an access panel or covering to reach the diverter valves

500 sq. ft. including existing landscaping

5.305.2 Recycled water supply to fixtures

When City-recycled water is available within 200 feet of the property line, 100 percent of water for water closets, urinals, floor drains, and process cooling and heating in that building shall come from City-recycled water. Recycled water systems shall be designed and installed in accordance with the *Los Angeles Plumbing Code*.

DWP makes the determination as to whether a “Purple Water” System is available.

This is not a common occurrence...



5.305.4 Groundwater discharge

Where groundwater is being extracted and discharged, a system for onsite reuse of the groundwater shall be developed and constructed.

Alternatively, the groundwater may be discharged to the sewer.

“IT NEVER RAINS IN SOUTHERN CALIFORNIA”



Groundwater begins as INFILTRATION

Precipitation falls and infiltrates into the subsurface soil and rock

- Can remain in shallow soil layer
- Might seep into a stream bank
- May infiltrate deeper, recharging an aquifer
- May travel long distances
- May stay in storage as ground water

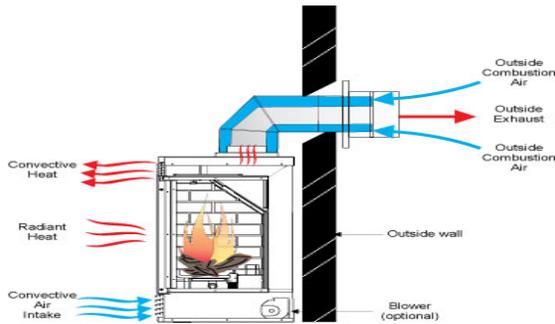
5.503.1 Fireplace and Woodstoves

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.

AQMD RULES ARE QUITE STRICT ON THE APPROVAL OR INSTALLATION OF WOOD BURNING FIREPLACES..

Plumbing Inspector: Verify that the gas line is properly installed as per manufacturer's instructions provided on the approved set of plans.



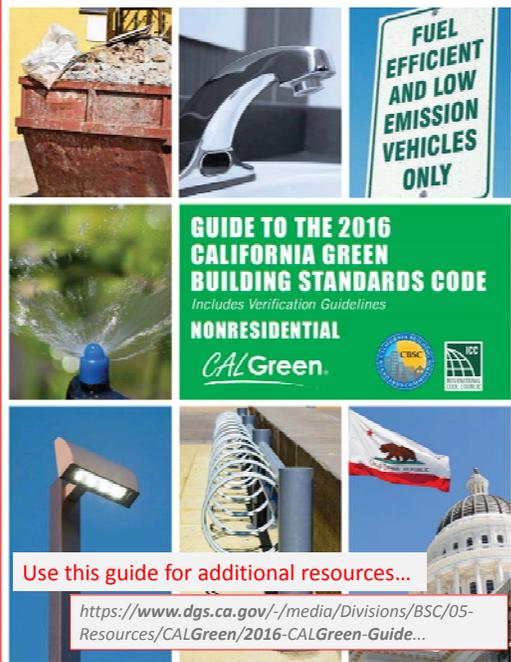
2017 Los Angeles Green Building Code

FORM GRN 18N

**WATER CONSERVATION ORDINANCE NOTES
NON-RESIDENTIAL BUILDINGS**

1. For new buildings or additions exceeding 50,000 ft², install a separate water meter or sub-meter for the following areas:
 - A. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gpd (380 L/day).
 - B. Where potable water is used for industrial/process uses, 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).
 - C. For each building that uses more than 100 gpd on a parcel containing multiple buildings. (5.303.1.1)
2. Provide a 20% reduction in the overall potable water use for each building. The reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as required by the Los Angeles Plumbing Code. New projects having a water supply of 2" or less and additions and alterations projects may use the prescriptive method outlined in this section.
3. Cooling towers shall comply with one of the following:
 - A. Shall have a minimum of 6 cycles of concentration (blowdown)
 - B. A minimum of 50% of the makeup water supply to the cooling towers shall come from non-potable water sources, including treated backwash. (5.305.3)
4. Locks shall be installed on all publicly accessible exterior faucets and hose bibs. (5.304.5)
5. Except as provided in this section, for sites with over 500 square feet of landscape area, alternate waste piping shall be installed to permit discharge from the clothes washer, bathtub, showers, and bathroom/restrooms wash basins to be used for a future graywater irrigation system (5.305.1)
6. Except as provided in this section, where City-recycled water is available within 200 feet of the property line, water closets, urinals, floor drains, and process cooling and heating in the building shall be supplied from recycled water and shall be installed in accordance with the Los Angeles Plumbing Code. (5.305.2)

Look for this form on the Green Sheet on Architectural Plans...



FUEL EFFICIENT AND LOW EMISSION VEHICLES ONLY

GUIDE TO THE 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE
Includes Verification Guidelines
NONRESIDENTIAL
CALGreen.

Use this guide for additional resources...

<https://www.dgs.ca.gov/-/media/Divisions/BSC/05-Resources/CALGreen/2016-CALGreen-Guide...>

IMPORTANT NOTICE
Act now to keep your code up-to-date. The purchase of this code includes a free subscription for all state-issued supplements and errata. To receive these important updates through 2019, you MUST register online www.ccsdc.org/ALB.



2016 CALIFORNIA GREEN BUILDING STANDARDS CODE

CALGreen.

**CALIFORNIA CODE OF REGULATIONS
TITLE 24, PART 11**

California Building Standards Commission

https://ladbs.org/docs/default-source/publications/code-amendments/2016-calgreen_complete.pdf?sfvrsn=6



Effective January 1, 2017
For Errata and Supplement effective dates see the History Note Appendix

30

Any questions?

MECHANICAL INSPECTOR DUTIES



5.504.1.3	Temporary ventilation
5.504.3	Covering of duct openings and protection of mechanical equipment during construction

If the HVAC 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, or, if the building is occupied during alteration, at the conclusion of construction.

Mechanical Inspector:

Verify that MERV 8 filters are installed during construction and replaced at the completion of the job. Also, verify that all new HVAC systems are installed with either MERV 8 or MERV 13 filters as per the approved plans.

MERV 8



5.504.1.3	Temporary ventilation
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 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, water and debris which may enter the system.



Mechanical Inspector: On rough inspection verify that all HVAC Registers are sealed, including all ducts on site.

5.410.4	Testing and adjusting (< 10,000 sq ft)
5.410.4.2	- Systems
5.410.4.3	- Procedures
5.410.4.3.1	- HVAC balancing
5.410.4.4	- Reporting
5.410.4.5	- Operation and maintenance manual
5.410.4.5.1	- Inspections and reports

HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, balance 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.



5.410.4 Testing and adjusting. 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.

5.410.4.1 (Reserved)

5.410.4.2 Systems. 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.

5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.

5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, balance 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.



CERTIFIED AIR BALANCE CO.

9079 Birch Ranch Drive #100 Santa Fe Springs, CA 90670 C.S.E. 7064773 Phone: (562) 943-1280 Fax: (562) 943-1590

HVAC TEST AND BALANCE ANALYSIS REPORT
FOR

Health Club at Wilshire Grand, Floor 7
900 Wilshire Blvd.
Los Angeles, CA 90017

Contractor: ACCO Engineered Systems, Inc.
Project Mgr: Brian Gutshall
Architect: AC Marlin
Mechanical Engineer: Glumac

CERTIFICATION:
Air distribution system has been completely balanced as per requirements of specifications and results of tests herein listed.

Job Number: 610635 - 16243
Date: September 5, 2017
Technician: Edward L. Santana Jr.
Approved: Edward L. Santana Sr.





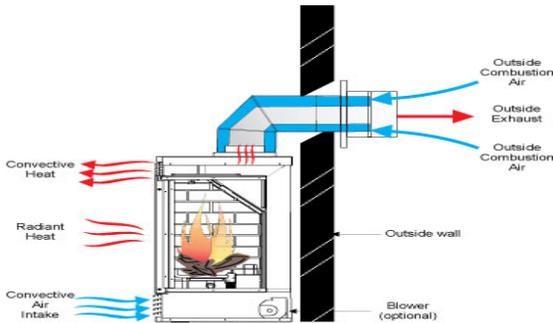
5.503.1 Fireplace and Woodstoves

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.

AQMD RULES ARE QUITE STRICT ON THE APPROVAL OR INSTALLATION OF WOOD BURNING FIREPLACES..

Mechanical Inspector: Verify proper venting and installation as per manufacturer's instructions or the approved set of plans.



5.305.3 Cooling towers

Cooling towers shall comply with one of the following:

1. Cooling towers shall have a minimum of 6 cycles of concentration (blowdown); or
2. A minimum of 50 percent of makeup water supply shall come from non-potable water sources, including treated backwash.

If this is the case it will be addressed at plan check and will be included in form GRN-05..

Also, check form GRN-18N

30

Any questions?