



CALGreen:

2010 California Green Building Standards Code

Presented to:
San Bernardino County Solid Waste Task Force

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Outline

- Green standards
- CALGreen
 - Purpose
 - Application
 - How it works: Mandatory and voluntary measures
 - Construction waste reduction measures
 - CALGreen and LEED
- Conclusion





Green Standards

- **Code**
 - 2010 California Green Building Standards Code (CALGreen)
 - Draft ASHRAE 189P
- **Rating Systems:**
 - Leadership for Energy and Environmental Design (LEED®)
 - Green Globes
 - ENERGY STAR
 - Local Green Building Rating Systems
- **Green Product Certifications:**
 - ENERGY STAR
 - FSC-Certified
 - GreenSeal
 - GreenGuard
 - Cradle to Cradle
 - Carpet & Rug Institute Green Label



2010 California Green Building Standards Code (CALGreen)

- Title 24, Part 11
- Purpose:
 - Reduce greenhouse gas emissions from buildings
 - Promote environmentally responsible, cost-effective, healthier places to live and work
 - Reduce energy and water consumption
 - Respond to directives by the Governor
- Derived from variety of resources, including:
 - CHPS, LEED, Green Globes, Build It Green, Draft ASHRAE 189P
- Effective 01 Jan 2011





CALGreen: Application

- Applicable to all new buildings in CA:

- Low-Rise Residential (up to 3 stories): Under jurisdiction of HCD



- Hotels, motels, lodging houses
- Apartments, condominiums
- 1-2 family dwellings, townhouses, factory-built housing
- Dormitories, homeless shelters, congregate residences, employee housing
- Others
- www.hcd.ca.gov/CALGreen.html



CALGreen: Application

- Nonresidential:



- State owned buildings
- State university and community college buildings
- Privately owned buildings used for retail, office, medical services
- Others
- Office of Statewide Health Planning and Development (OSHPD): Adopted voluntary measures for hospitals and medical care bldgs
- Division of the State Architect (DSA): Adopted voluntary and mandatory measures for public schools
- www.bsc.ca.gov/CALGreen/default.htm



CALGreen:

- Enforcement: Same as Title 24
 - Plan/submittal reviews
 - Inspections
- Sets MINIMUM standard
- Local jurisdictions can adopt more stringent green standards



CALGreen

- Chapter 4: Residential Mandatory Measures
- Appendix A4: Residential Voluntary Measures
 - Tier 1
 - Tier 2
- Chapter 5: Nonresidential Mandatory Measures
- Appendix A5: Nonresidential Voluntary Measures
 - Tier 1: Prerequisites + 5 electives
 - Tier 2: Prerequisites + 15 electives



CALGreen Mandatory Measures

- Planning and Design
- Energy Efficiency
- Water Efficiency and Conservation
- Material Conservation and Resource Efficiency
- Environmental Quality

Table 1: NON-RESIDENTIAL BUILDINGS: Green Building Standards Code
Proposed Performance Approach

Category	Environmental Performance Goal	Tier 1	Tier 2
All	Minimum Mandatory	Meet all of the provisions of Chapter 5	Meet all of the provisions of Chapter 5
Planning and Design	Designated Parking for Fuel Efficient Vehicles	10 percent of total spaces	12 percent of total spaces
	Cool Roof to Reduce Heat Island Effect	Roof Slope < 2:12 SRI 64 Roof Slope > 2:12 SRI 16 1 additional Elective from Division A5.1	Roof Slope < 2:12 SRI 78 Roof Slope > 2:12 SRI 20 3 additional Electives from Division A5.1
Energy Efficiency	Energy Performance	Exceed 2008 CA Energy Code by 15 percent	Exceed 2008 CA Energy Code by 30 percent
Water Efficiency and Conservation	Indoor Water Use	30 percent Savings	35 percent Savings
	Outdoor Water Use	60 percent of ETo times the landscape area 1 additional Elective from Division A5.3	55 percent of ETo times the landscape area 3 additional Electives from Division A5.3
Material Conservation and Resource Efficiency	Construction Waste Reduction	At least 65 percent reduction	At least 80 percent reduction
	Recycled Content	Utilize recycled content materials for 10 percent of total material cost 1 additional Elective from Division A5.4	Utilize recycled content materials for 15 percent of total material cost 3 additional Electives from Division A5.4
Environmental Quality	Low-VOC Resilient Flooring	80 percent of flooring meets CHPS VOC limits	90 percent of flooring meets CHPS VOC limits
	Low-VOC Thermal Insulation	Comply with CHPS VOC limits 1 additional Elective from Division A5.5	Install no-added formaldehyde insulation & comply CHPS VOC limits 3 additional Electives from Division A5.5
Additional Measures	Added measures shall be achieved across at least 3 categories	1 Additional Elective	3 Additional Electives



Construction Waste Reduction, Disposal and Recycling: Nonresidential (§5.408.1-§5.408.2)

- **5.408.1 Construction waste diversion.** Establish a construction waste management plan, or meet local construction and demolition waste management ordinance, whichever is more stringent.
- **5.408.2 Construction waste management plan. (WMP)** Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan (WMP) for approval by the enforcement agency
 - **5.408.2.1 Documentation.** (See samples forms in Chap 8)
 - **5.408.2.2 Isolated jobsites.** Enforcing agency may make exceptions to the requirements when jobsites are located in areas beyond the haul boundaries of the diversion facility.



- Existing Law or Regulation:
 - AB 939 (Stats. 1989, c. 1095) as amended (WMA) made all California cities, counties, and approved regional solid waste management agencies responsible for enacting plans and implementing programs to divert 25% of their solid waste by 1995 and 50% by 2000.
- Enforcement:
 - Plan Intake: Reviewer and/or plan checker to confirm that a WMP has been included with the plan submittal, that a local ordinance is cited as the method of compliance, or that an exception should be granted for an isolated job site.
 - On-Site Enforcement: Inspector should review the approved WMP or Exception (Isolated jobsite) to verify that the identified materials are being diverted as specified.



Construction Waste Reduction, Disposal and Recycling: Nonresidential (§5.408.3)

- **5.408.3 Construction waste reduction of at least 50 percent.** Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Calculate the amount of materials diverted by weight or volume, but not by both.
 - Exceptions:
 - 1. Excavated soil and land-clearing debris
 - 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.



Construction Waste Reduction, Disposal and Recycling: Nonresidential (§5.408.4)

- **5.408.4 Excavated soil and land clearing debris.** 100% 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.



www.nngov.com/public-works/images/land3



- Existing Law or Regulation:
 - AB 939 (Stats. 1989, c. 1095): 50% diversion of all waste by 2000
 - No current law or regulation related to excavated soil and land clearing debris

- Enforcement:
 - Plan Intake: Reviewer and/or plan checker to:
 - Confirm that a construction WMP has been included with plan submittal or that an Exception 2 has been approved by the enforcing agency.
 - Review plans and look for appropriate note on plans (civil plan), WMP or CWM Worksheet that describes method of disposal of land clearing debris.
 - On-Site Enforcement: Inspector to:
 - Review the approved construction WMP or Exception 2 to verify that the plan is being followed or that an exception is being used. Inspector may ask for haul tags and/or reports from the contractor to verify compliance with 50% waste reduction.
 - Review permit set of plans and verify that the excavated soil and land clearing debris is being reused or recycled as specified on plans.



Construction Waste Reduction, Disposal and Recycling: Residential

§ 4.408.1 through 4.408.2.2 Construction Waste Reduction, Disposal and Recycling.

- Requires at least of 50% of nonhazardous construction and demolition debris to be recycled and/or salvaged, or;
- Compliance with a local waste ordinance which is more stringent.
- Exceptions:
 - Soil and land clearing debris are exempt
 - Alternate methods or exceptions may be approved due to local constraints



CALGreen



CALGreen and LEED

CALGreen (Non-Residential)

LEED (Non-Residential)

5.408.1-2	Construction waste diversion and management plan	Establish a construction waste management plan or meet local ordinance, whichever is more stringent.	M	MR 2	Construction Waste Management	Develop and implement a construction waste management plan that identifies the materials to be diverted from disposal and how.	M
5.408.3	Construction waste reduction, disposal and recycling	Recycle and/or salvage for reuse a minimum of 50% of non-hazardous construction and demolition debris.	Y	MR 2	Construction Waste Management	Recycle and/or salvage for reuse a minimum of 50% of non-hazardous construction and demolition debris.	Y
5.408.4	Excavated soil and land clearing debris	100% of trees, stumps, rocks and associated vegetation and soils to be reused or recycled.	n/a		none	Soil and land clearing debris not counted in LEED MR 2 calculation	N
5.410.1	Recycling by occupants	Provide areas for the depositing, storage, and collection of non-hazardous materials for recycling.	Y	MRp1	Storage Collection of Recyclables	Prerequisite: Provide areas for the depositing, storage, and collection of non-hazardous materials for recycling.	Y

Source:



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Construction Waste Reduction, Disposal and Recycling

- Contractor Considerations:
 - Local authority approved hauler
 - Location of site to recycler
 - Method of recycling: On-site sorting or commingling
 - Recycler has good track record
 - Clearly marked bins
 - Bins are checked for material accuracy
 - Subcontractors are on board
 - Tags are collected and recorded
- Enforcing Agency Considerations:
 - Building Depts should work with Recycling Coordinators to determine if local conditions warrant exemptions and to identify appropriate means of alternate compliance
- Enforcement:
 - Plan/Submittal Reviews
 - Inspections



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Q&A

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