

# Introduction to the California Green Building Code



# Why a State Green Building Code?

- Numerous GB bills vetoed by governor in 2007
- Governor directed BSC to develop green building standards through the BSC code development process.



# CA GBC approved by the BSC on July 17, 2008

- Published February 1, 2009
- Effective date no earlier than August 1, 2009
- Generally, all measures are voluntary until the 2010 CBC effective date (targeted for January 1, 2011), at which time most (17) provisions adopted by the Dept of Housing and Community Development (HCD) will become mandatory
- BSC has 7 “required” measures



# How does the CA GBC work?

- The CA GBC is a collection of green building “best practices.” It does NOT determine if a building is green (which means it is not a standard to determine whether an entire building is green). It is NOT a rating system
- Application Matrices for each state agency



# State Agency Adoptions

- Building Standards Commission (BSC)
- Department of Housing and Community Development (HCD)
- Office of Statewide Health Planning and Development (OSHPD)
- Division of the State Architect – Structural Safety (DSA-SS). DSA-SS has not adopted specific green building measures at this time



# State Agency Combined Green Building Standards

- Combined version of the CA GBC is available online at [www.bsc.ca.gov/prpsd\\_stds/default.htm](http://www.bsc.ca.gov/prpsd_stds/default.htm)
- ICC bookstore



# Chapter 1 – Administration

- 101.2 Purpose – establishes the CA GBC as a means to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts ***having a positive environmental impact and encouraging sustainable construction practices.***



# Chapter 1 – Administration

- **101.7 City or county amendments, additions, or deletions.** It is the further intent of the California Building Standards Commission to encourage state and local government entities, private entities and interested members of the public to **provide the Commission with input** regarding the efficacy of this code, in order to assist the Commission in preparing mandatory Green Building Standards during the next code cycle.



# Housing & Community Development GB Measures



APPLICATION MATRIX (AM-HCD)

GREEN BUILDING MEASURE	REQUIRED	VOLUNTARY
<b>PLANNING AND DESIGN</b>		
<b>Site Development (406)</b>		
<b>406.2</b> A plan is developed and implemented to manage storm water drainage during construction.	2010 CBC <sup>1</sup>	
<b>ENERGY EFFICIENCY</b>		
<b>Performance Approach. (503)</b>		
<b>503.2 Minimum requirements.</b> Low-rise residential buildings shall meet or exceed the minimum standard design required by the California Energy Standards currently in effect.	2010 CBC <sup>1</sup>	
<b>Prescriptive Approach. (504)</b>		
<b>504.6 Minimum requirements.</b> Low-rise residential buildings shall meet or exceed the minimum standard design required by the California Energy Standards currently in effect.	2010 CBC <sup>1</sup>	

See page 54 in CGBC

# Chapter 6 – Water Efficiency and Conservation

## 603.2 20% Savings.

...by one of the following methods.

1. Each plumbing fixture and fitting shall meet the 20% reduced flow rate specified in Table 603.2, or
2. A calculation demonstrating a 20% reduction in the building “water use baseline” as established in Table 603.1 shall be provided. For low-rise residential occupancies, the calculation shall be limited to the following plumbing fixture and fitting types: water closets, urinals, lavatory faucets and showerheads.



# Chapter 7 – Material Conservation and Resource Efficiency

- 708.3 50%  
Construction Waste reduction – Recycle, salvage, divert, etc.  
This is a required measure for HCD with the 2010 CBC. [p 55 of Appl Matrix, and p 30 of the GB code]



# Chapter 7 – Material Conservation and Resource Efficiency

- 710.2 Operations and Maintenance Manual – At the time of final inspection a manual must be placed in the building. This is a required measure for HCD with the 2010 CBC. [p 55 of Appl Matrix, and p 31 of the GB code]



# Chapter 8 – Environmental Quality

- 804.3 Covering of duct openings – during construction operations. This is a required measure for HCD with the 2010 CBC. [p 55 of Appl Matrix, and p 35 of the GB code]



# Chapter 8 – Environmental Quality

- 804.4.1 Low VOC adhesives – Table 804.4.1.  
This is a required measure for HCD with the 2010 CBC. [p 55 of Appl Matrix, and p 35 of the GB code]

# Chapter 8 – Environmental Quality

## (805.3 cont.)

1. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet applied insulation products shall follow the manufacturers drying recommendations prior to enclosure.



# BSC Mandatory Requirements and Effective Dates

- GB measures adopted by BSC as mandatory are actually provisions that have been, or will be, adopted by other state agencies, legislation, or federal law
- The BSC mandatory measures have been identified in the CA GBC for “purposes of clarity” and are effective August 1, 2009



# BSC Required Measures – August 1, 2009

- 512.1.1 Elevator Controls
- 604.1 Water Budget for Landscape Irrigation
- 707.1 Weather Protection
- 710.1 Recycling by Occupants



# BSC Required Measures

- 804.4.4 Composite Wood Products\*
- 804.6 Ozone Depletion and Global Warming Reductions
- 806.1 Outside Air Delivery

\* Also adopted by HCD



# Adoption/Modification for Local Use

- CALBO has developed model GB Ordinance language for local adoption (as requested by BSC)
- Be sure and adopt administrative provisions to enforce those green building measures that may be adopted locally, including:
  - 3<sup>rd</sup> party verification
  - Self-certifying procedures
  - Specific compliance procedures



# CALBO Model GB Ordinance

- Uses same code provisions as CGBC
- Modifies administrative provisions of CGBC for local use
- Provides new application matrices based on project types
- Does NOT include findings – these must be based on local conditions
- Model Ordinance at [www.calbo.org](http://www.calbo.org)



## Examples of possible project types

### New Residential Group R

- New one or two unit dwelling units (R-3 occupancies).
- New one or two unit dwelling units (R-3 occupancies) greater than 3,500 square in area.
- New low-rise multifamily residential buildings (R-1, R-2, R-4 occupancies) containing sleeping units or more than two dwelling units and with three or fewer habitable floors.

### Existing residential Group R

- One or two unit dwelling units (R-3 occupancies) with an increase in conditioned space or habitable area greater than 50% of the preexisting habitable area or the removal of 50% or more of the preexisting exterior wall finishes.
- Low-rise multifamily residential buildings (R-1, R-2, R-4 occupancies) containing sleeping units or more than two dwelling units and with three or fewer habitable floors with an increase in conditioned space or habitable area greater than 50% of the preexisting conditioned space or habitable area or the removal of 50% or more of the preexisting exterior wall finishes.
- High-rise multifamily residential buildings (R-1, R-2, R-4 occupancies) containing sleeping units or more than two dwelling units and with four or more habitable floors with an increase in conditioned space or habitable area greater than 50% of the preexisting conditioned space or habitable area or the removal of 50% or more of the preexisting exterior wall finishes.

## CHAPTER 1 ADMINISTRATION

### SECTION 101 GENERAL

**101.1 Title.** These regulations shall be known as the **San Leandro Green Building Code<sup>1</sup>** and may be cited as such and will be referred to herein as “this code.”

**101.2 Purpose.** The purpose of this code is to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories:

1. Planning and design.
2. Energy efficiency.
3. Water efficiency and conservation.
4. Material conservation and resource efficiency.
5. Environmental air quality.

**101.3 Scope.** The provisions of this code shall apply to the planning, design, operation, construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

CHAPTER 11

APPLICATION MATRICES AND WORKSHEETS

APPLICATION MATRIX- XX<sup>2</sup>

Project Type	Project Description
New Residential Group R <sup>2</sup>	<ul style="list-style-type: none"> <li>New one or two unit dwelling units (R-3 occupancies) greater than 3,500 square in area. <sup>2</sup></li> </ul>

GREEN BUILDING MEASURE	REQ'D	VOLUNTARY		APPLICATION(S)
<b>CHAPTER 4 - PLANNING AND DESIGN</b>				
(406) SITE DEVELOPMENT				
406.1 General.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
406.2 Storm water drainage and retention during construction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>CHAPTER 5 - ENERGY EFFICIENCY</b>				
(503) PERFORMANCE REQUIREMENTS				
503.1 Energy performance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
503.1.1 Tier 1. Exceed 2007 California Energy Code requirements by 15%.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
503.1.2 Tier 2. Exceed 2007 California Energy Code requirements by 30%.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
503.2 Minimum energy performance for low-rise residential buildings	<input type="checkbox"/> <sup>1</sup>	<input type="checkbox"/>	<input type="checkbox"/>	
(504) PRESCRIPTIVE MEASURES				

# Thank You!

