

A scenic park landscape featuring a pond with lily pads, a fountain, and a stone bridge in the background. The foreground is dominated by a large tree with a green trash can at its base. The scene is lush with greenery and dappled sunlight.

CalGreen and the Local Adoption Process

**Presented by
Mr. Michael Whitaker, CBO**

My Background

- Currently City of Santa Rosa
Chief Building Official
- County of SLO
Assistant Chief Building Official
- Supervising Building Inspector
for the County of SLO
- Past President of ICC Chapter
- Current Member of Common Code
Committee of our local ICC Chapter



California Code of Regulations

- TITLE 1. GENERAL PROVISIONS
- TITLE 2. ADMINISTRATION
- TITLE 3. FOOD AND AGRICULTURE
- TITLE 4. BUSINESS REGULATIONS
- TITLE 5. EDUCATION
- TITLE 7. HARBORS & NAVIGATION
- TITLE 8. INDUSTRIAL RELATIONS
- TITLE 9. REHABILITATIVE AND DEVELOPMENTAL SERVICES
- TITLE 10. INVESTMENT
- TITLE 11. LAW
- TITLE 12. MILITARY & VETERANS AFFAIRS
- TITLE 13. MOTOR VEHICLES
- TITLE 14. NATURAL RESOURCES
- TITLE 15. CRIME PREVENTION & CORRECTIONS
- TITLE 16. PROFESSIONAL & VOCATIONAL REGULATIONS
- TITLE 17. PUBLIC HEALTH
- TITLE 18. PUBLIC REVENUES
- TITLE 19. PUBLIC SAFETY
- TITLE 20. PUBLIC UTILITIES AND ENERGY
- TITLE 21. PUBLIC WORKS
- TITLE 22. SOCIAL SECURITY
- TITLE 23. WATERS
- **TITLE 24. BUILDING STANDARDS CODE**
- TITLE 25. HOUSING & COMMUNITY DEVELOPMENT
- TITLE 26. TOXICS
- TITLE 27. ENVIRONMENTAL PROTECTION
- TITLE 28. MANAGED HEALTH CARE

Title 24 of the CCR

Part 1 - 2010 California Administrative Code

Part 2 - 2010 California Building Code

Part 2.5 - 2010 California Residential Code

Part 3 - 2010 California Electrical Code

Part 4 - 2010 California Mechanical Code

Part 5 - 2010 California Plumbing Code

Part 6 - 2010 California Energy Code

Part 8 - 2010 California Historical Building Code

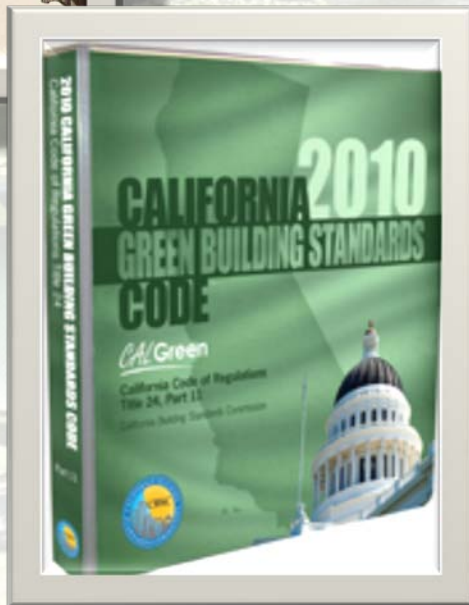
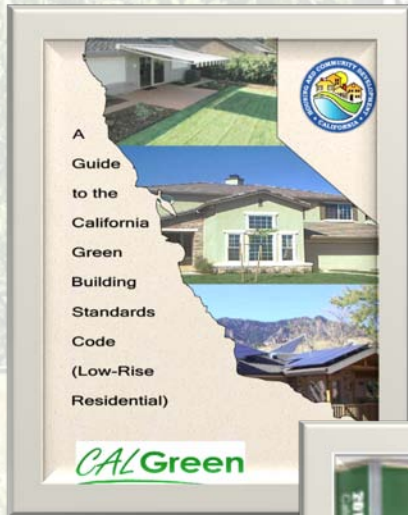
Part 9 - 2010 California Fire Code

Part 10 - 2010 California Existing Building Code

Part 11 - 2010 California Green Building Standards Code

Part 12 - 2010 California Standard Code

2010 California Green Building Standards Code, Title 24 Part 11 (CALGreen)



- Adopted by BSC on 1/12/2010
- Publish date 7/1/2010
- Becomes effective on 1/1/2011
- Mandatory throughout the State
- Applies to all new non-residential buildings
- Applies to all new residential buildings up to 3 stories

Important Information When Adopting CALGreen

- Do we have to adopt CALGreen?
- What about existing programs?
- **CALGreen vs. BIG or LEED**
- Non-profit point rated systems:
 - **LEED 3v:** LEED 2009 was released in April of 2009 and then upgraded in April of 2010
 - **Build It Green:** Upgraded SFD program went into effect on March 24, 2010
- **Is CALGreen equal to BIG or LEED?**



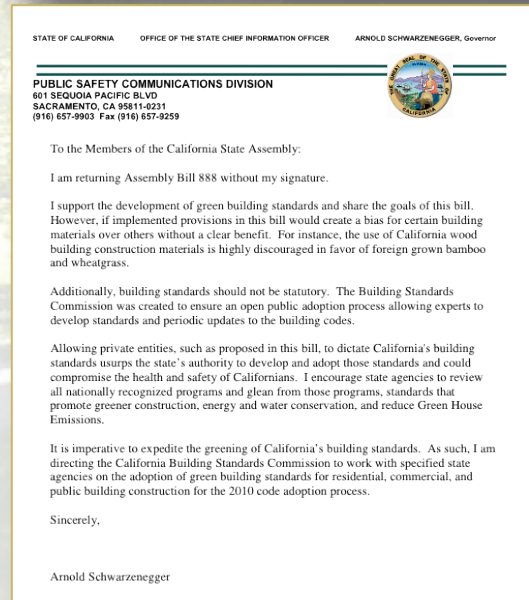
Build It GREEN™
Smart Solutions from the Ground Up



Green Building Development

State of California:

- 2006 - Global Warming Solutions Act of 2006, AB32, signed by Governor, sets goals for green house gas reduction
- Sept. 2007 - 3 bills passed by legislature on green building requirements were **vetoed** by Governor: AB 1058, AB 888, & AB 35
- Oct. 2007 - Directed by Governor to have green building standards developed through California Building Standards Commission in 2010 code cycle
- July 2008 – HCD adopts 1st GB standards.
- Sept. 2008 – HCD updates GB standards
- Aug. 2009 – CBSC reviews Standards
- Aug. 2009 – CALGreen Voluntary program is established



Green Building Development

State of California

Continued:

- 2010 CALGreen: Mandatory program with voluntary measure options
 - Approved by CBSC in Jan. 12 2010
 - To be published in July 1, 2010
 - Goes into effect with other new 2010 CA codes on January 2, 2011

Assembly Bill No. 32

CHAPTER 488

An act to add Division 25.5 (commencing with Section 38500) to the Health and Safety Code, relating to air pollution.

[Approved by Governor September 27, 2006. Filed with Secretary of State September 27, 2006.]

LEGISLATIVE COUNSEL'S DIGEST

AB 32. Nunez. Air pollution: greenhouse gases: California Global Warming Solutions Act of 2006.

Under existing law, the State Air Resources Board (state board), the State Energy Resources Conservation and Development Commission (Energy Commission), and the California Climate Action Registry all have responsibilities with respect to the control of emissions of greenhouse gases, as defined, and the Secretary for Environmental Protection is required to coordinate emission reductions of greenhouse gases and climate change activity in state government.

This bill would require the state board to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program, as specified. The bill would require the state board to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990 to be achieved by 2020, as specified. The bill would require the state board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions, as specified. The bill would authorize the state board to adopt market-based compliance mechanisms, as defined, meeting specified requirements. The bill would require the state board to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by the state board, pursuant to specified provisions of existing law. The bill would authorize the state board to adopt a schedule of fees to be paid by regulated sources of greenhouse gas emissions, as specified.

Because the bill would require the state board to establish emissions limits and other requirements, the violation of which would be a crime, this bill would create a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Green Building Development

Locally:

- 2005 - City of SR voluntary program developed out of Utility department to conserve water
- 2006 - City of Rohnert Park program developed as thesis by Peter Bruck
- Mandatory programs now in most jurisdictions in Sonoma County.
- Santa Rosa Ordinance: BIG 50 points, LEED 20 point checklist
- Directed by City Council to "ramp up"

ORDINANCE NO. 3869

ORDINANCE OF THE COUNCIL OF THE CITY OF SANTA ROSA AMENDING TITLE 21 OF THE SANTA ROSA CITY CODE, "DEVELOPMENT REQUIREMENTS," BY ADDING NEW CHAPTER 21-09, "GREEN BUILDING"

WHEREAS, on February 10, 2004, the City Council approved the Santa Rosa Green Building Program, Implementation Plan, a comprehensive plan aimed at promoting green building within the City through education, marketing and voluntary participation; and

WHEREAS, on August 17, 2004, the Council adopted the Build It Green - Green Building Guidelines to implement a consistent and uniform residential green building rating system within the City, which led to the subsequent adoption of the 2005 edition of the Build It Green - Green Building Rating System on June 6, 2006 to respond to 2005 changes in Title 24, Part 6, of the California Code of Regulations; California's Energy Efficiency Standards for new buildings; and

WHEREAS, on September 25, 2007, staff briefed the Council on the status of the City's Green Building Program and provided options to the Council, following which, the Council directed staff to prepare an ordinance requiring the mandatory implementation of green building techniques in new construction; and

WHEREAS, on October 16, 2007, the Council created the Green Building Policy - Council Advisory Committee, by resolution, to review green building issues and to make recommendations to the Santa Rosa City Council; and

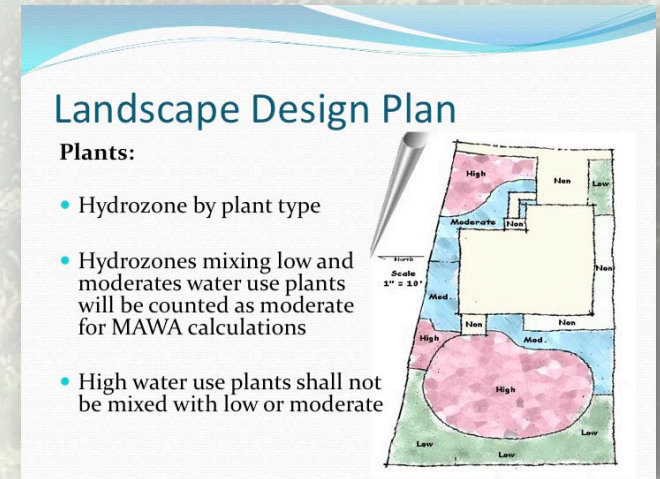
WHEREAS, green building benefits can be spread throughout the systems and features of a building. Green buildings can include the use of certified sustainable wood products and high-recycled-content products. Recycling of waste that occurs during demolition, deconstruction, and construction reduces the amount of waste deposited in landfills. The proper orientation and passive solar design of a building reduces demands on its heating and cooling systems. The use of advanced-design heating, ventilating, and air conditioning systems provide increased energy efficiency and improved indoor air quality. Enhancement of indoor air quality is also achieved by the selection and use of construction materials that do not emit chemicals which are toxic or irritating to building occupants. The use of water conserving methods and equipment reduce the per capita demand on resources and infrastructure. The installation of alternative and renewable energy systems can supplement conventional methods of energy production; and

WHEREAS, in recent years, green building design, construction and operational techniques have become increasingly widespread. Many homeowners, businesses, and building professionals have voluntarily sought to incorporate green building techniques into their projects. A number of local and national systems have been developed to serve as guides to green building practices. The U.S. Green Building Council, developer of the Leadership in Energy and Environmental Design (LEED®) Green Building Rating Systems and LEED® Reference Guide, has become a leader in promoting and guiding green building. Also, the New Homes Green Points Calculator and the Multifamily Green Points Project Tool published by Build It Green are useful documents in evaluating residential green building projects; and

WHEREAS, the design, construction, and maintenance of buildings and structures

City of Santa Rosa existing green building programs:

1. Compliance options
2. CALGreen Impact on staffing
3. **Build It Green** certification program 50 Points
4. **LEED** program for new nonresidential projects 20 point checklist
5. The CEC Energy Efficiency Standards have been recently updated.
6. CALGreen impact on current SR City Landscape & Irrigation Ordinance
7. Redundant regulations with CALGreen and point rated certification programs.
8. SR City programs can be integrated with CALGreen.



City of Santa Rosa existing green building programs:

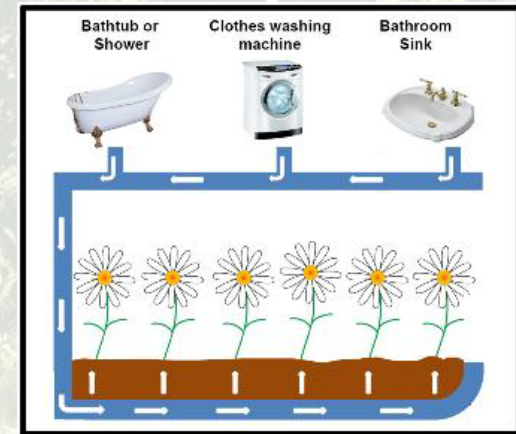
- SR Building Division successfully integrated the green building program into the permit process.
 - ✓ Point checklists on the plans;
 - ✓ BIG or LEED rater is responsible for reviewing the plans for compliance
 - ✓ Raters are Approved Special Inspectors
 - ✓ Green building verification is scheduled directly with the approved special inspector;
 - ✓ Raters verify green building certification compliance prior to 'FINAL' on the permit.



Enter Project Name		Plan Approval	Community Energy	Indoor Air Quality	Water	Notes
A. SITE						
1. Protect Topsoil and Minimize Disruption of Existing Plants & Trees						
TBD	a. Protect Topsoil and Reuse after Construction	Y				
TBD	b. Land and Disturbance Construction Footprint for Maximum Protection	Y				
2. Divert/Recycle Job Site Construction Waste (Including Green Waste and Existing Materials)						
TBD	a. Required: Divert 50% (by weight) of All Construction and Demolition Waste (Including or Excluding)	N				
TBD	b. Divert 100% of Asphalt and Concrete and 60% (by weight) of Remaining Materials	Y				
TBD	c. Divert 100% of Asphalt and Concrete and 60% (by weight) of Remaining Materials	Y				
TBD	3. Use Recycled Content Aggregate (Minimum 20%)	Y				
TBD	a. Walkway and Driveway Base	Y				
TBD	b. Hauling Site	Y				
TBD	4. Cool Site: Reduce Heat Island Effect On Site	Y				
TBD	5. Construction Environmental Quality Management Plan, Dust Sealing, and Pre-Occupancy Flush-Out (This credit is a requirement associated with J4, EPA IAP1)	Y		2		
Total Points Available in Site = 12						
B. FOUNDATION						
TBD	1. Replace Portland Cement in Concrete with Recycled Fly Ash and/or Slag (Minimum 20%)	Y		2		
TBD	2. Use Frost-Protected Shallow Foundation in Cold Areas (IECC Climate Zone 10)	Y				
TBD	3. Use Radon Resistant Construction (This credit is a requirement associated with J4, EPA IAP1)	Y		2		
TBD	4. Install a Foundation Drainage System (This credit is a requirement associated with J4, EPA IAP1)	Y		2		
TBD	5. Moisture Controlled Creosoles (This credit is a requirement associated with J4, EPA IAP1)	Y		2		
TBD	6. Design and Build Structural Pest Controls (Install Termite Shields & Secure All Exterior Wood-to-Concrete Connections)	Y		1		

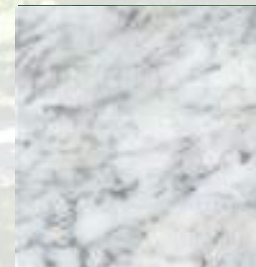
City of Santa Rosa existing green building programs:

- BIG raters must be certified or accredited
- LEED professionals must be accredited.
- The raters have no control over the status of the building permit.
- No fee is charged by the City for green building compliance.



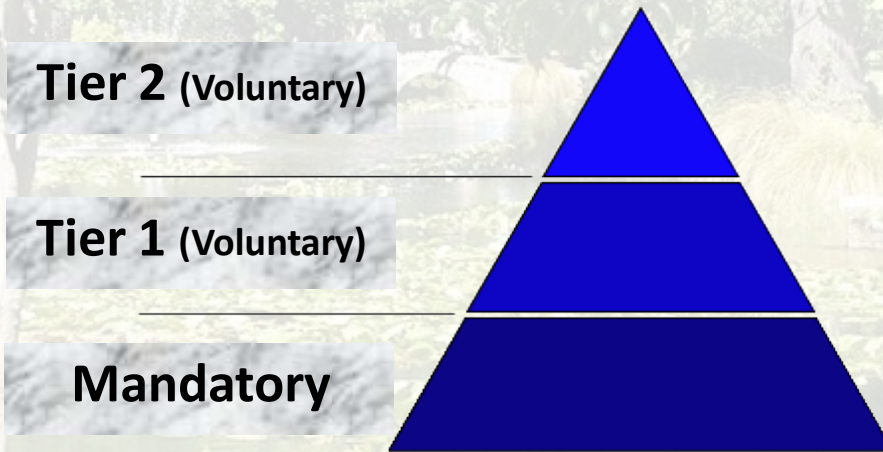
Comparison of CALGreen to Build It Green and LEED

- ✓ CALGreen includes regulations for all building types vs. green point programs are specific to delegated occupancies
- ✓ CALGreen mandatory regulations are required for all occupancies.
- ✓ Adopting CALGreen voluntary measures through a local amendment will provide a single set of regulations for all occupancies.
- ✓ This would not require other certification programs to be adopted.
- ✓ State Energy Codes to increase in compliance requirements every Code cycle (3 years).
 - This can be expected of CALGreen.
 - Anticipate many of the voluntary measures in the 2010 CALGreen will become mandatory in the 2013 CALGreen.
- ✓ Thus there will be a built-in “ramp up” of regulations over time that all jurisdictions in the State will be obligated to enforce.



Direct comparison of CALGreen to Build It Green for residential projects

➤ CALGreen has:

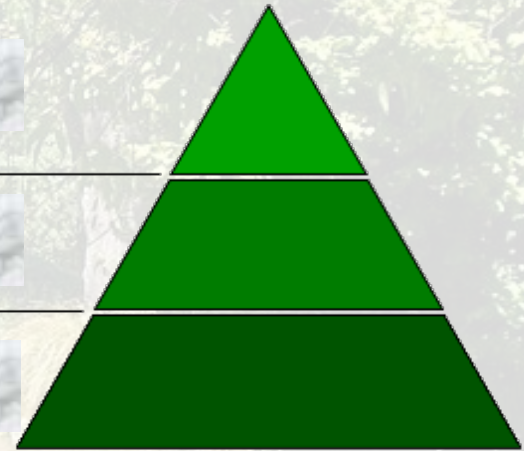


Direct comparison of CALGreen to Build It Green for residential projects

➤ CALGreen has: **Tier 2 (Voluntary)**

Tier 1 (Voluntary)

Mandatory



Specific prerequisite requirements

Certain number of elective measures to be complied with

Additional specific prerequisite requirements

Additional number of elective measures to be complied with

Direct comparison of CALGreen to Build It Green for residential projects

With the tiered voluntary program portion adopted as an amendment to the 2010 CALGreen, this new code becomes very similar to the **Build It Green (BIG)** certification program.



BUILDERS WILL STILL HAVE THE
OPTION TO CERTIFY THEIR STRUCTURES BY
B.I.G. SEPARATE FROM THE BUILDING
DEPARTMENT

Direct comparison of CALGreen to **Build It Green** for residential projects

BIG Covers 5 categories:

- 1. Community**
- 2. Energy**
- 3. Water**
- 4. Resources**
- 5. Indoor air quality/health**



- Each category has minimum point totals
- They allows options for added points to meet a minimum threshold as designated for the opted green building program.
- Compliance for certification in the BIG program includes energy compliance 15% above minimum California Energy Commission (CEC) Efficiency Standards.
- CALGreen Tier I of voluntary measures includes the same 15% above minimum CEC standard

COMPARE CATEGORIES

BIG

5 categories:

- 1. Community**
- 2. Energy**
- 3. Water**
- 4. Resources**
- 5. Indoor air quality/health**

2010 CALGreen

Covers 5 categories:

- 1. Planning & Design**
- 2. Energy efficiency**
- 3. Water efficiency and conservation**
- 4. Material conservation and resource efficiency**
- 5. Environmental quality**

“To improve public health, safety and general welfare by enhancing design and construction in the following categories:”

CALGreen requirements for non-residential projects:

As stated earlier.

1. CALGreen has compliance requirements for new non-residential projects.
2. CALGreen has 5 categories for Non-res that identify mandatory measures and voluntary measures
3. Voluntary measures must be adopted to the CALGreen as an amendment.



Comparison of CALGreen to LEED for non-residential projects:

LEED certification has
7 categories:

1. Sustainable Sites
2. Water Efficiency
3. Energy and Atmosphere
4. Materials and Resources
5. Indoor Environmental Quality
6. Innovation and Design Process
7. Regional Bonus Credits

CALGreen 5 categories:

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

Comparison of CALGreen to LEED for nonresidential projects:

- LEED credits almost always fulfill CALGreen requirements.
- A slightly higher requirement for LEED credit in most categories will be needed.
- Major difference between CALGreen is in building commissioning. CALGreen only requires commissioning for buildings over 10,000 sq. ft. whereas LEED is more restrictive and commissioning is required to be completed by an independent 3rd party.
- There is no direct nexus for energy efficiency standards by the California Energy Commission to LEED certification whereas there is a direct correlation of CALGreen to the CEC standards.



CALGreen: How is it organized?

- Chapter 1: Administrative
- Chapter 2: Definitions
- Chapter 3: Green Building
 - General, mixed occupancies, phased projects, voluntary tiers, CALGreen Tier I and Tier 2, Voluntary Measures
- Chapter 4: Residential Mandatory Measures
- Chapter 5: Nonresidential Mandatory Measures
- Chapter 6: Referenced Organizations and Standards
- Chapter 7: Installer and Special Inspector Qualifications
- Chapter 8: Compliance Forms and Worksheets
- Appendix Chapter A4: Residential Voluntary Measures
- Appendix Chapter A5: Nonresidential Voluntary Measures

The Code Adoption Process:

- CALGreen can be adopted in one ordinance at the same time all the building codes are adopted into the local code (Santa Rosa City Code)
- Can include voluntary measures or refer to point rated programs.
- Can also be one ordinance for adoption with other codes and a separate ordinance for adoption of point rated programs.



The Code Adoption Process:

- Must show findings to California Building Standards Commission (BSC) if adopting more stringent than mandatory measures based upon climate, geological or topographical justification
- "Findings" are filed with BSC.
- If more stringent energy regulations are proposed the CEC must approve the amendment.
- Ordinance process for adoption: Public Notice, Public Hearing/1st reading, 2 weeks later 2nd reading/approval, 30 days later becomes effective. Timing must be done before January 1st. If not completed the State imposes the new codes as written without amendments



Effective Use of CALGreen by Architects and Engineers

- Get involved in the code update cycle
- Get involved in the adoption process
- Study the new codes and code changes
- Find out about training and go to them
- Get to know the process and find who is responsible for drafting the amendments and ordinances

Effective Use of CALGreen by Building Departments

- Establish type of occupancy
- Verify which state agency has authority
- Find chapter which covers the establish occupancy
- Use matrix adoption tables to identify mandatory measures
- Determine voluntary measure requirements per local amendments
- Use application checklists for ease of verification

Other code/occupancy/phase considerations:

- Mixed occupancies: Each portion shall comply with specific green building measures applicable to each specific occupancy
- Phased project: For shell buildings only those code measures relevant to the building components shall be required.
- CALGreen shall apply only to the initial tenant or occupant improvements
- CALGreen does not apply to additions, remodels, tenant improvements (other than the 1st one), or alternations

Building Permit Process Approval

- Through Plan Check and Inspection as per other code requirements
- Will require submittal documents to initialize a permit application
- CALGreen does allow for special inspection by 3rd party qualified individuals.
- Building official can use alternate materials process for approval of construction not specifically prescribed in CALGreen
- The effective date for enforcing provisions of CALGreen is the application date of the building permit.

Who Designs, Plan Checks and Inspects?

- Including green building within the California Building Code has been suggested to be verified through the typical building inspection process by local building inspectors to verify compliance.
- This has been a target for comment by many organizations that feel verification of compliance of CALGreen will be complicated and less effective through the normal building inspection program established in the California Building Code.
- Present point rated certification programs may have a higher degree of compliance verification.
- In order for local departments to fully enforce the CALGreen code extensive training of building division staff will be required during a time of limited budget resources.
- The building codes, however, do include options for compliance verification by special inspectors if the level of expertise is greater than a typical building inspector is able to provide.

Who Designs, Plan Checks and Inspects?

- CALGreen does have information pertaining to the use of special inspectors for compliance verification.
- Due to cost of verification by local jurisdiction staff many jurisdictions are considering imposing a fee to offset training and staff time.
- The City of Santa Rosa present program uses approved special inspectors for verification. To reduce costs to the City and to improve the level of compliance, it is recommended that the City continue to have special inspectors verify compliance with green building standards whether this is a point rated system or the basic mandatory plus additional voluntary measures identified in CALGreen. Criteria to qualify special inspectors for CALGreen compliance, however, would have to be established.
- Additional staffing for plan check or inspection purposes or increased fees for the green building verification is not recommended.

In Conclusion



Links

California Department of Housing and Community Development

<http://www.hcd.ca.gov/CALGreen.html>

HCD Guide to CALGreen

[http://www.hcd.ca.gov/codes/shl/CALGreenGuide COMPLETE 6-10.pdf](http://www.hcd.ca.gov/codes/shl/CALGreenGuide_COMPLETE_6-10.pdf)

Draft 2010 CALGreen Code

<http://www.documents.dgs.ca.gov/bsc/documents/2010/Draft-2010-CALGreenCode.pdf>