GIFFIN & CRANE

# HOME

ISSUE TWO FALL/WINTER 2009

**Welcome to** our fall/winter issue of *Giffin & Crane Home.* It's that time of year to give thanks and get cozy, therefore it seems appropriate to focus this issue on green building and energy conservation.

## Our Perspective

Green Building... the buzz is in the air and every company proclaims it has a green bent these days—for marketing, if nothing else. Yet, what exactly is it? Well, here's the EPA's definition:

*It is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle, from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green Building is also known as a sustainable or high performance building.*

Additionally, we believe that implementing green-building practices must make economic sense with a return on investment at a reasonable rate.

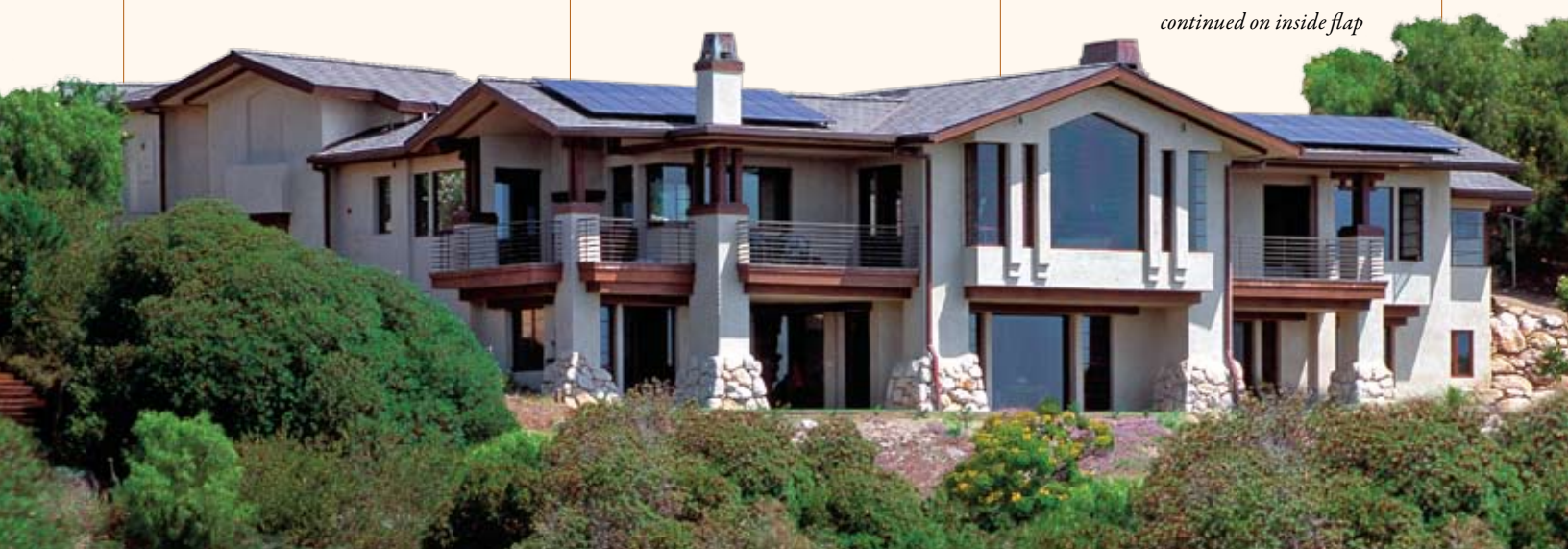
**Energy Conservation:** It's readily attainable, affordable and affects two of the biggest issues of our day—global warming and energy security. With the majority of our oil imported from countries whose interests don't always align with ours, conserving energy not only makes sense, it's patriotic.

California's new homes are energy efficient already, especially with our Title 24 energy code, one of the toughest in the nation. Where energy conservation can make the biggest difference is in the remodeling of existing homes. Consider simple improvements like weatherstripping and additional attic insulation or replacing old forced-air heaters and water heaters with new high-performance models.

Taking advantage of your local microclimate is one of the easiest ways to attain energy savings. You'll want sunshine in the winter, shade in the summer, prevailing breezes and cross ventilation, natural daylighting and windows on two walls in every room. If you have an existing home, contemplate how you can improve on its qualities, such as dual-pane glazing, when remodeling.

**Design:** The biggest part of Green Building takes place in the design and engineering phase. Numerous sources address these topics in depth. Peace

*continued on inside flap*



## Our Perspective *continued from cover*

of mind comes from knowing that your construction professionals have a good understanding of how design choices and implementation work together in the actual performance of your finished home.

**Solar Power:** Photovoltaic (PV) solar systems are now financially viable with a reasonable payback, provided you obtain the state rebate and federal tax credits. Take for example a 4,000-square-foot home that uses about $350 worth of electricity a month, with 60% of those costs resulting from the expensive Tier 4 & 5 billing rates. A 6kW PV system, requiring about 365 square feet of PV panels, would take away those two tiers.

Say it costs $7 a watt to install that 6Kw system, totaling $42,000. However, you get to apply the current 18% state rebate, bringing out-of-pocket expenses down to $34,000. The federal tax credit is 30% of net costs, contributing another $10,000 deduction. The installed cost of the $42,000 system is about $24,000. The 60% savings out of your monthly $350 bill equals $210 a month. The cost of $24,000 divided by $210 gives you a payoff in ten years at today's rates. Factoring in annual utility rate increases, the payoff will likely be in eight years.

Another form of solar power is for pools. The typical pool costs about $700 a month to heat with gas. A solar heating system costs around $14,000. In less than three years, you've paid for heating the pool.

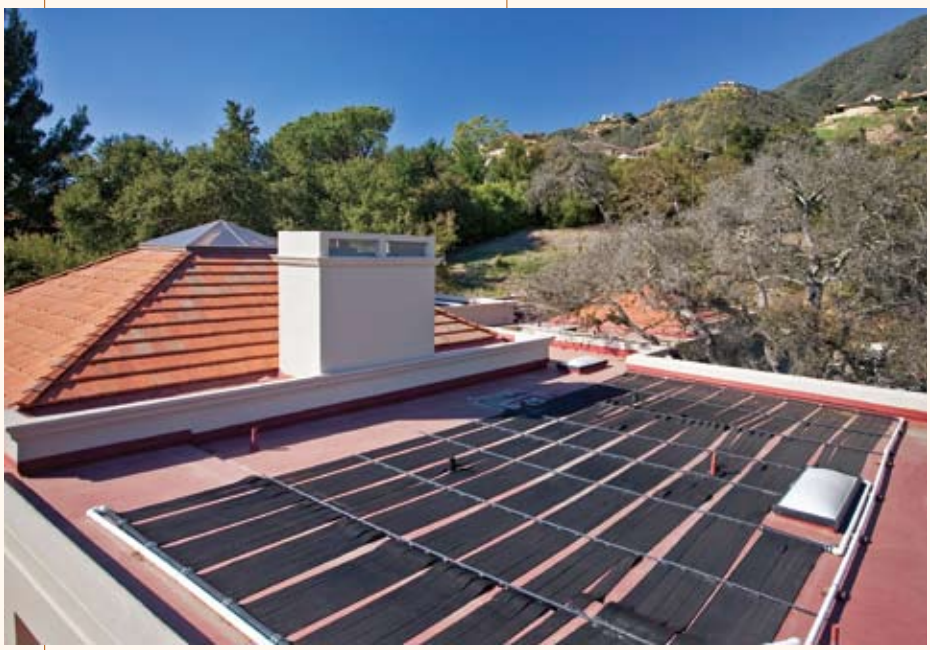
**Resource Efficiency:** To us, as efficient builders, that means fewer trips by tradesmen to the site. Yet, resource efficiency addresses not only on-site construction practices but also the whole life cycle of manufactured products. As consumers, we have to ask, "Where's this product coming from, what's involved in getting it to me and when I'm done using it, how does it get recycled?"

**Embodied Energy:** Closely related to Resource Efficiency, it is defined as an accounting methodology which aims to find the sum total of the energy necessary for an entire product lifecycle. This lifecycle includes raw material extraction, transport, manufacture, assembly, installation, disassembly, deconstruction and/or decomposition.

However, as a builder, I think of embodied energy as the physical work it takes to get craftspeople to the site and apply their skills to creating a building. The structure literally contains the embodied energy of their efforts. It particularly comes into play when renovating historic buildings and honoring the efforts that took place to create what stands today.

**Advanced Framing:** I used to think, as a young framing carpenter, the more lumber the better. Later I learned to utilize just the right amount of timber for efficiency and simplifying life for the mechanical trades. Advanced Framing takes it a step further. It works best in less active seismic zones and in production housing where the same floor plan gets replicated. Yet, in a custom home, it can be utilized to reduce the amount of lumber by ten

*continued on back*



***Above:*** *A recently installed solar pool heater is hidden from view on this flat roof.*

***Cover Photo:*** *Completed in 2002, the rooftop solar PV system almost zeroed out the home's electrical bill.*

# A Historic Home Gets a New Lease on Life

## Q & A with Geoff Crane and Dan Formanek

*This 1894 house was developed along with four other adjoining homes to be winter vacation rentals for wealthy Easterners who could arrive in town via the newly constructed railroad. Arthur Page Brown, whose body of work includes the Ferry Building in San Francisco, was the architect.*

**Q** Tell us about the project.

**A** The owners asked us to do a historic restoration. That means bringing the house up to current building standards and codes while keeping the historic fabric as intact as possible. Reminiscent of where she grew up, the owner loves old houses in older neighborhoods. Walking in them and appreciating the architecture is a favorite pastime.

**Q** Can you provide some specifics?

**A** Even though it was originally advertised as a "cottage," it is a large home at 3,760 square feet. It was built on a sandstone foundation. The first thing was to perch the house in the air. It couldn't be raised any higher because the framed stucco columns in front are deemed historically significant. So the challenge was to keep it in place and get concrete where we needed it. We ended up using shoring jacks. The original sandstone will re-clad the foundation when we're finished and it will look exactly the same as before we began.

Also, it's one of Santa Barbara's first homes with stucco over wood framing (earlier homes were constructed mostly out of adobe blocks). The stucco was held off of the wood framing which allowed the walls to get wet, yet dry out. There was no insulation in the walls which allowed the air to migrate through the wood.

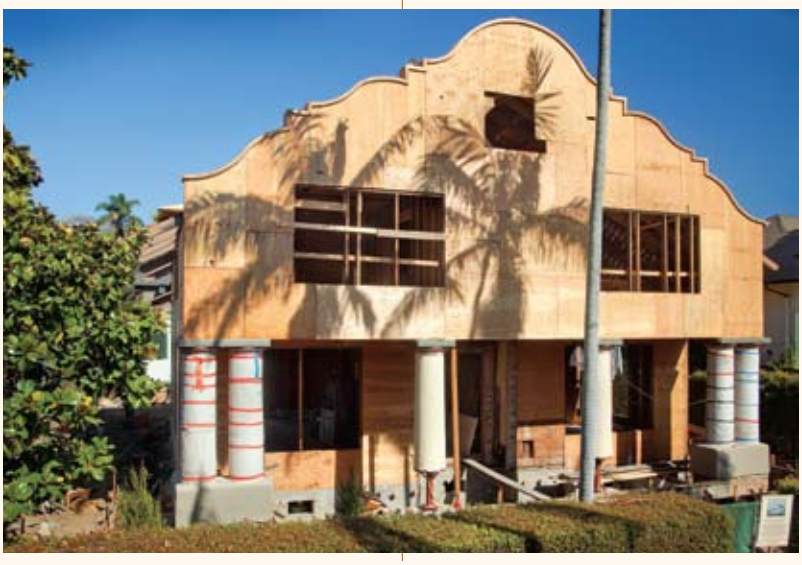
You look at the rough framing and you have to admire how good the carpenters were—every cut perfect, by hand! All the original windows, doors and hardware have been removed and are being restored. Much of the home appears to have been pre-fabbed off-site, perhaps in the Bay area.

There was a cistern in the attic. We think it was filled slowly during the night and then gravity fed the few plumbing fixtures in the old house. Back then, any indoor plumbing was state of the art technology. So was the house's dual-fuel lighting system—gas and electric. Just like today, where we run various kinds of wiring to accommodate future technology, the builders weren't sure whether gas lighting or electric lighting would prevail.

**Q** What are some of the challenges you and the team are facing?

**A** Well, even though the Historic Building Code allows a little grace from today's standards, it's still a challenge to get all the engineering and waterproofing in place while still maintaining the historic material as much as possible.

Another challenge will be incorporating new systems and finishes without disrupting that "old house feeling." Towards that goal, we'll be installing an HVAC system with hidden supply and return-air registers.



**Q** Any special acknowledgements to key trades or vendors?

**A** Mike Kelly's concrete crew did a great job on the main house. Todd Wiekel is restoring all the windows. KamFab built all the structural steel work. Gordon & Fiano's framers integrated new framing with old. We are fortunate to have Charlie Starbuck building the cabinets for the project.

**Giffin & Crane team:**
Geoff Crane – *Principal*
Dan Formanek – *Project Manager*
Deb Treadway – *VP of Operations*
Karen Mills – *Contracts Administration*
Chris Renelli – *Project Estimator*

**And the extended team:**
Tony Spann – *Principal Architect, Harrison Design Associates*
Bernard Austin – *Project Architect, Harrison Design Associates*
Barbara Lowenthal – *Interior Designer, Harrison Design Associates*
Pamela Post and Tim Hazeltine – *Historical Consultants*
Joey Tasca – *Structural Engineer, Studio Engineers*

# Featured Home

## *A late '80s California Contemporary Reinvigorated*

The late '70s and early 80's were times when custom home architecture went through a metamorphosis. A style of Contemporary Mediterranean became popular—simple forms of large cubes, flat roofs and sizeable open spaces. At its best, Contemporary Mediterranean is a style that celebrates indoor-outdoor living with big windows, sliders and exterior patios that blend seamlessly with interior floors.

Twenty-five years later, it's still a viable concept, given good floor plans and great views. This home, which the owners purchased two years ago, already had that. Yet, certain elements were tired and needed updating. The roof was shot, as was the pool's solar system. The kitchen and baths were dated. There was no interior connection between the lower level's family room, pool, sauna and home office with the upper level main living area.

To solve these problems, while still in escrow, the owners brought in Harrison Design Associates to map out the existing conditions, design the improvements and obtain permits. Meanwhile, a construction budget and schedule was developed by Giffin & Crane. As soon as escrow closed, the demo process began.

To create an interior connection between the two levels, a crawlspace was opened up, the main level shored up and the existing foundation underpinned. It was tough work for the crew from Ehrenborg Geotechnical and they handled it with aplomb. A new stairwell and passageway was constructed as per the structural engineer's recommendations.

On the lower level, the family room off the pool was enhanced with new flooring and a bar area. A new bath and sauna were installed and the existing office was upgraded.

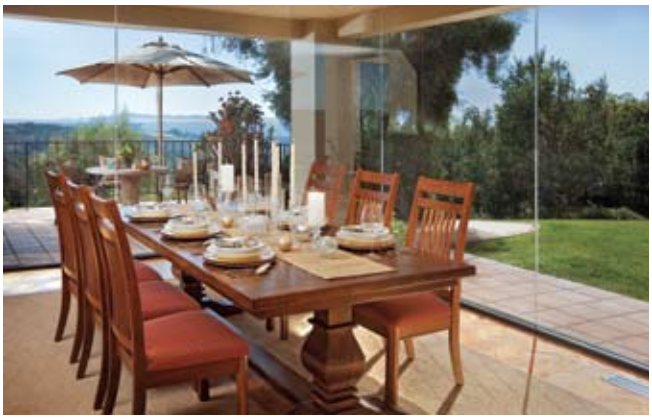
On the main level, all the baths were completely re-finished with new plumbing fixtures, lighting, cabinetry, stone and tile finishes. The kitchen was re-oriented and a wall that blocked the kitchen from the dining room and its ocean view was removed. A set of pocketing glass panels was installed between the dining room and kitchen for privacy while entertaining.

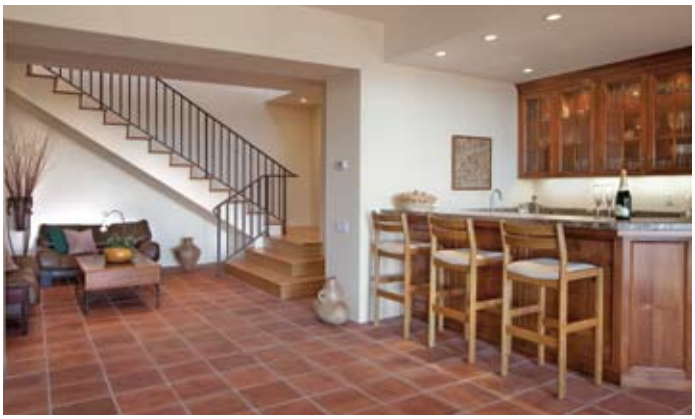
On a more pragmatic level, the roofs were completely re-done with a number of improvements and repairs.

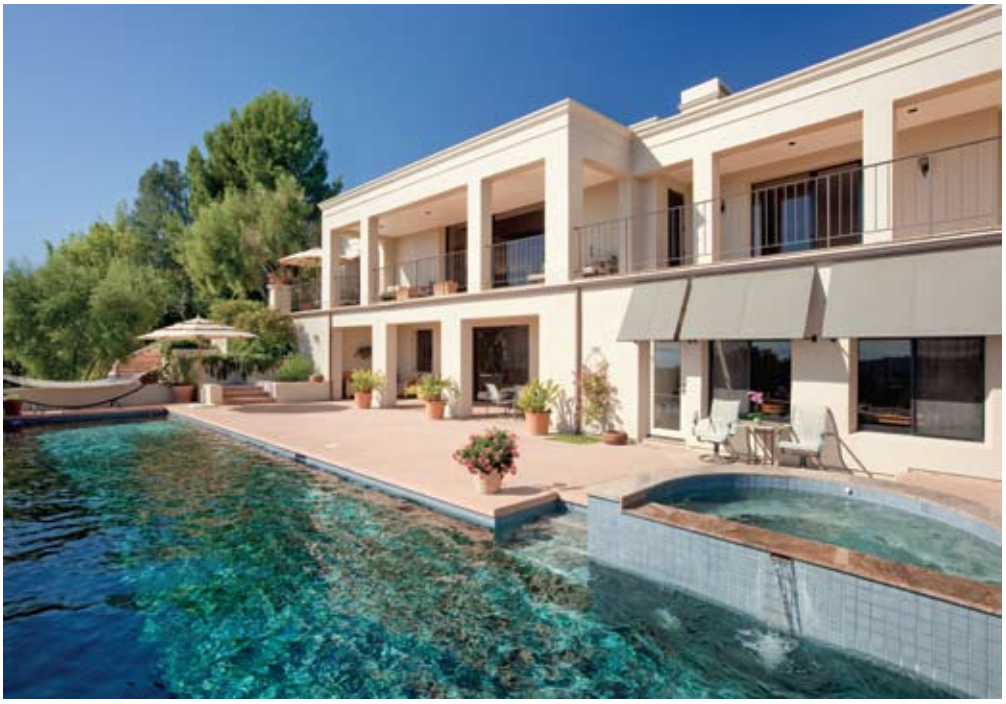
The end result—"We have a home that we love!" declare the owners.

### A Job Well Done

A special note of appreciation goes out to Jerry McCombs and his crew at Jorgensen Cabinets. They built beautiful cabinets for the kitchen and baths. Jerry gave a lot of input into meeting the design requirements of the owners. Adding a beautiful finish to this woodwork was Chuck Theriot and his longtime painters, Luis and Antonio.





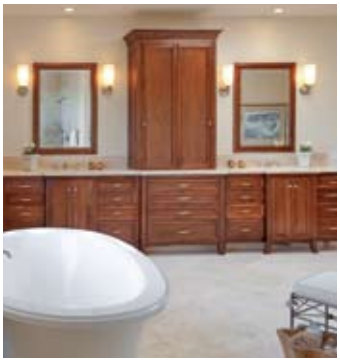


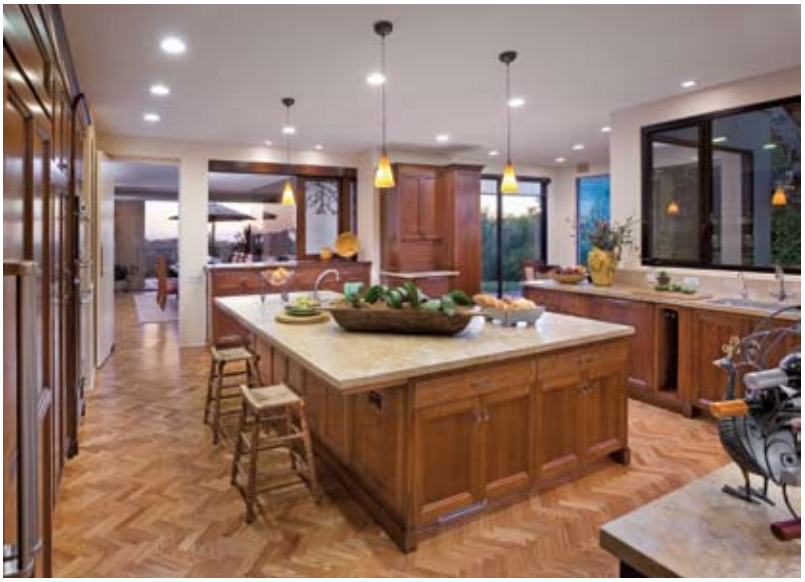
# The Team

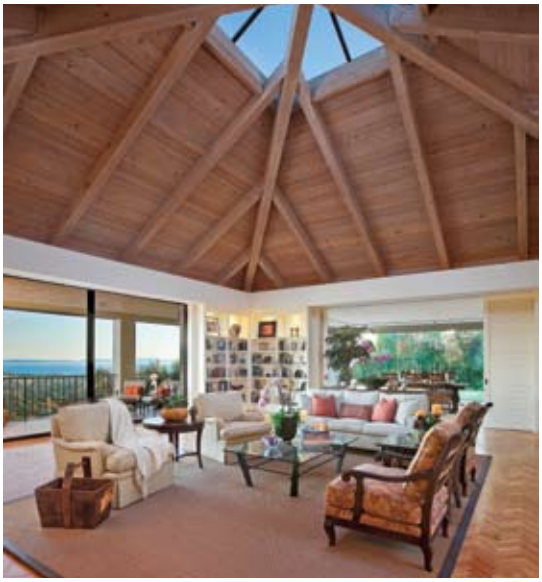
**Suzanne Kortz Tejada**
*Project Architect,*
*Harrison Design Associates*

**Joey Tasca**
*Structural Engineer*

**Mike Staniforth**
*Project Manager, Giffin & Crane*







**Our Perspective** *continued from flap*

to fifteen percent, as long as adequate forethought is given during the design and engineering phases.

**Adaptive Reuse:** Many older structures start out by serving one purpose and then adapt to serve another. A great example can be found in New England where many old public schools became aging-in-place senior living facilities. The first construction project I worked on in the early '70s was reclaiming, then relocating and finally rebuilding abandoned log homes into new dwellings for an artist's family compound in northern Idaho. Seeing these 100-year-old structures get set for another lifetime of use is what inspired my career in the building business.

**Home Technology:** Today's high-end homes have control systems that integrate heating, cooling, security, entertainment, lighting, pools, fountains and window treatments with even more to come. It's not seamless yet and a lot of the various components require considerable technical work to insure a successfull integration. However, control systems are leading edge and will soon be standard fare.

In existing homes, there are simpler technologies to take advantage of – for instance, if you have a pool, one of the biggest energy consumers is the pump. Replacing your old pump with a variable speed pump will reduce the electricity required to maintain your pool by 75%.

**Building Science:** A green home is a comfortable home. It's a warm, dry home that sheds and wicks moisture effectively. Building Science is the evolving understanding of how all of your homes' systems perform together, for the longevity of the structure and the health of its inhabitants.

**Net Zero Certified:** An emerging concept is designing and engineering buildings so they produce at least as much energy as they require, i.e., Net Zero. In looking at an award-winning Net Zero building in San Jose (z2building.com), a reasonable conclusion is that it's simply the careful application of many existing technologies.

**w**What are the ongoing maintenance and operating costs of the finished structure? Does it stand the test of time? And, most importantly, is it comfortable and convenient to live in? In our opinion, those are the true marks of Green Building.

*by Bruce Giffin*

## Home Maintenance Checklist: Fall & Winter

Walk perimeter of structures on your property and inspect for the following:

- Make sure gutters, site drains and catch basins are free and clear of debris and function properly.
- Ensure that built-up soil immediately around your home is lowered to be several inches below the weep screed or wood framing elements.
- See that finish grade around your structures slopes away at a ¼" per foot fall for every six feet.
- With colder days and rainy weather, reduce irrigation watering times and frequency.
- For the interior, test smoke detectors and change out batteries.

*Call us at 805.966.6401 if you would like assistance with these or other home maintenance projects. we'd be delighted to help*

## ADDITIONAL RESOURCES

Rocky Mountain Institute
www.rmi.org

Building Science Corp
www.buildingscience.com

Environmental
Building News
www.buildinggreen.com

FSC Recycled 100% Supporting responsible use of forest resources www.fsc.org Cert no. SCS-COC-001075 © 1996 Forest Stewardship Council

PRINTED WITH SOY INK

Please recycle.

GIFFIN & CRANE
GENERAL CONTRACTORS, INC

224 South Milpas Street, Santa Barbara, CA 93103 | phone 805.966.6401 | fax 805.965.8722 | www.GiffinAndCrane.com | License 611341

PHOTOGRAPHY BY JIM BARTCH, DESIGN BY MEDIA 27.