

Chapter Six

Green Principles

Sustainable development is an important part of the Ladera Ranch master plan, complementing its ranch heritage and multi-faceted living environment. Sustainable development or “green building” at Ladera Ranch includes walkable neighborhoods and pedestrian linkages, an extensive open space system that includes over 1,600 acres of preserved natural area, drought-tolerant landscape, a continuous “riverine” drainage feature called Sienna Botanica, and green home-building standards. Sienna Botanica provides biofiltration cleansing of nuisance water from Ladera Ranch Neighborhoods. The goal of the Green Development Program is intended to create healthy homes, use natural resources wisely, and preserve the natural environment.

Green home-building encompasses landscaping, water supply, energy efficiency, indoor air quality, and natural resource conservation. Green home-building uses technologies to reduce energy use, create healthier living environments and to save renewable resources. Green home-building is a “whole system” approach to the design, construction, and operation of a home – from the early stages of design through the final finishes. Sustainable-building benefits are spread throughout the home from the mechanical systems to the interior amenities. Green homes consume less energy and water, have better indoor air quality, and reduce their impact on the environment.

Green home-building can be broken into three elements:

- Energy efficiency
- Indoor environmental quality
- Natural resource conservation

Energy Efficiency

Energy efficiency is the cornerstone of any green building project. Power generation and the use of energy are major contributors to air pollution, global climate change and monthly utility costs for homeowners. Improving energy efficiency and using renewable energy sources are effective ways to improve outdoor air quality, reduce the impacts of global warming, and save money.

Indoor Environmental Quality

On average, Americans spend 80% to 90% of their time indoors, making the quality of indoor air an important consideration. Elements that can improve the indoor environment include materials that release fewer contaminants, efficient air handling systems, reduction of mold and mildew, indoor lighting, and views to the outside.

Kitchen cabinets, countertops, shelving and furniture are typically made from particleboard held together by formaldehyde-based adhesives. The formaldehyde is released into the home for years after these products have been installed. Many paints, adhesives and floor finishes also contain unhealthy volatile organic compounds (VOCs).

Natural Resource Conservation

The choice of building materials is an important part of green home-building. Conventional building practices consume large quantities of wood, plastic, cardboard, paper, and water that leads to the depletion of our natural resources. For example, wood is one of the most common building materials, but is often used wastefully. Engineered lumber products such as wood I-joists, wood fiber laminates, and oriented strand board (OSB), can use as little as 50% of the wood fiber to perform the same structural functions and are typically stronger, straighter and lighter than solid-sawn lumber. There is a rapidly-expanding range of building materials from which to choose that provide quality and durability often exceeding conventional materials. New home construction is also a major contributor to landfills. Recycling construction waste helps keep the landfills open. Water conservation is another increasingly important issue. Wise water usage reduces the strain on resources while lowering expenses.

Covenant Hills Green Program

Green building has been implemented at many villages and community facilities within Ladera Ranch and is strongly encouraged at Covenant Hills. Homeowners are asked to consult with the Design Reviewer and members of the Design Review Board for more information about the Green Development Program. A checklist of optional features and mandatory requirements is available from the Design Reviewer. Green landscape techniques are also identified in *Chapter 5: Landscape Design Criteria*.