



ENVIRONMENTAL INITIATIVES BARDESSONO, NAPA VALLEY

Mission for the Design Team:

The decision to make environmental responsibility one of the key design criteria for the hotel was a choice based on values. Unfortunately, today it is still less expensive to build a property in an environmentally neglectful manner because environmental costs are not charged to the party creating the cost. The society as a whole bears the burden of environmental damage. However I believe our environment is seriously suffering from our collective disregard. Therefore I am committed, as are my investors in this project and the people working on the project, to take as many steps as we can to minimize the environmental cost of the hotel's construction and operation. We are certainly not perfect. We operate within the limits of our knowledge and our budget. But we believe we have taken many steps that are worthy of emulation by others similarly concerned about our environment.

The members of the design team were given the direction to recommend all the environmental actions that they considered practical for this project in their area of their responsibility. We also searched for other ideas that could reduce the impact of the hotel on the environment. What follows is a description of the initiatives we have undertaken.

Heating and Cooling:

One of the most important environmental needs is to reduce the demand for energy. The goal for this project was to reduce the demand for external energy supplies-electricity, gas, or oil by at least half of a typical hotel's consumption. Heating and cooling are the main sources of energy demand in a hotel. We designed the buildings with overhangs to reduce the heat gain from the summer sun yet allow the winter sun's rays to enter and warm the rooms. Each room has 200 square feet of glass to allow for natural lighting. The rooms have doors and windows opening onto private patios for natural ventilation. When sensors detect that guests are not in their room the automatically controlled thermostats allow the temperature to raise or lower a few degrees reducing energy demand. When cooling is required the first stage of intervention is for motor controlled exterior venetian blinds to lower to reduce the heat gain from the sun. While common in Europe we have yet to adopt this approach in this country. Internal shades and drapes do almost nothing to keep out the heat from the sun. If the guest is in the room and wants the shades up they can over-ride the automatic system and raise the shades. Another method we have used to reduce heat gain in the rooms is to use reflective materials on the roofs to minimize heat absorption.

Architects: Wimberly, Allison, Tong and Goo; Mechanical Engineers: Ecotope

When heating or cooling of the guest rooms is required we use water from eight two 300 foot wells on the property. We have developed a ground source heat pump system based on these wells. The difference between the constant temperature of the ground water and our desired temperature for the rooms is used by heat exchangers and heat pumps as the source of heating or cooling the guest rooms. This system also pre-heats domestic water. The only electricity used is to run the pumps. This system involves a significant capital investment but it will serve to heat and



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cool the guest rooms for the long term with virtually no use of electricity, gas or oil. **Key Suppliers and Subcontractors:** Roofing: Durolast Roofing and Fidelity Roofing Company; Blinds: Warema Venetian Blinds and Solar Shading Systems; Geothermal System: Air Connections, Carrier and Peterson Mechanical

Lighting:

The large amount of glass reduces the daytime requirement for lighting. For our light fixtures we have specified LED or fluorescent lamps throughout the property. These lights use much less energy, generate less heat and last much longer than incandescent bulbs. Incandescent bulbs are used only when the more energy efficient bulbs are not available or suitable for a particular application. We also minimized the amount of exterior up-lighting to limit light pollution. The same system that senses occupancy of the units and adjusts the thermostat also turns off the lights in the guest rooms if the rooms are unoccupied. **Lighting Design: Luminae-Souter; Lighting suppliers: Independent Electric Service, Lightform, and Borden Lighting; Controls and Occupancy sensors: Inncom Systems**

Electrical Generation:

Solar energy will very likely be part of the solution to the excessive and destructive reliance on petroleum. We have maximized the use of solar energy on this project, covering the roofs of our buildings with the most efficient solar panels available. As a 200 kilowatt system solar energy will provide at least half of our electrical energy requirement. The system will not be visible to neighbors as the roofs of the buildings are flat and have parapets surrounding them. The solar panels lie flat on the roof, invisible to surrounding properties. While the solar installation was a major investment, with the current and anticipated price of electricity and the subsidies available for solar installations, the payback period will likely be less than eight years. **Solar Panels: Sunpower; Solar Design and Installation: Premier Power**

Reuse of Material:

When Steve and Pat Bardessono built their home on the property in the early 70's they incorporated into it an existing stone wine storage building. An underground wine cellar was not possible due to the high water table so in the late 19th century their family built this stone "cellar". When we demolished the Bardessono home to make way for the hotel, we took the stone building apart and saved the stones for reuse on the exterior of the Inn. The stone is a local limestone called Tufa. The large blocks of stone were sliced into tiles and placed on the outside of prominent locations on the buildings. **Wheeler, Zamarone and Frazier Masonry**

Salvaged Monterey Cypress was milled into siding which we used on the exterior of parts of the buildings. These trees would normally have been ground up or burned. Walnut trees that were pulled out by farmers at the end of their production life were milled into flooring for the hotel rather than being burned. Veneers of the walnut are also used for the entry doors into the guest rooms and to several public rooms. Redwood recycled from wine barrels is being used on the ceilings of some of the public spaces in the hotel and on several public room doors. Salvaged

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California Bay trees are being cut into slabs for the desks in the guest rooms. The large tables in the public areas and dining room tables are all out of salvaged trees. Room dividers were created out of salvaged Eucalyptus trees. **Wood Material:** Evan Shively, Arborica

The concrete used on the property has significant recycled fly ash content and the steel has a high recycled content. We have also sourced a considerable amount of our material from within 500 miles of the project site to reduce the environmental impacts of deliveries. **Devencenzi Concrete, Sonoma Cast Stone.**

Landscaped features and signage monuments are made from rammed earth. Local soil is compressed in forms with water and a small amount of concrete. When the forms are removed the beautiful soil is expressed as a building material. This is a method of construction long used around the world. We have done it to celebrate the soils of the local valleys. **Builder: David Easton and crew.**

Air Quality in the Rooms:

All glues, adhesives, finishes, paints, carpets and fabrics used in the project are required to meet low VOC (volatile organic compounds) standards to minimize the degrading of indoor air quality. Prior to putting furniture into the rooms the air goes through a high number of air exchanges to get rid of any residual construction odors. **Cello-Maudru Construction.**

Interior Furnishings:

The fabrics used are green certified. The use of vinyls and plastic has been minimal. Carpeting is certified "Green Label". Area rugs are based on soy fibers. Porcelain and concrete tiles are all natural and recyclable products. The glass tiles have a high recycled glass content. The linens and terry used in the room are all organic products. Carpeting was not used in the guest rooms to avoid dust retention. The combination of low VOC compounds, absence of carpeting and the use of all organic linens, terry and cleaning supplies will greatly reduce any potential allergens in the rooms. **Interior Design: Inside Out Design; Linens and Terry: Coyuchi Linens; Tile: Oceanside.**

Low Water Use:

Indoors, low water flow fixtures are utilized along with dual flush toilets and waterless urinals. Outdoors the landscaping has been designed to minimize water demand and the watering system has been designed to be maximally efficient. Drip irrigation and drought tolerant plants are utilized. All grey and black water is treated and recycled for irrigation uses by the Town of Yountville. **Toilets: Toto; Urinals: Kohler; Faucets: Cifial; Plumbing Supplier; Seattle Interiors; Landscape Design: Girvin and Associates; Landscape contractor: Bertotti Landscaping**
Creekside Protection:



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Development is held back from the creek a minimum of 35 feet and the area in between is planted in native riparian plants. The goal is to create a healthy vegetative environment for animals and fish and to minimize any silting of the creek through runoff.

Construction Waste:

The Contactor set up a system to recycle the construction waste and has amazingly been able to recycle over 93% of it. All the subcontractors have been involved in recycling their waste. **Cello-Maudru Construction**

Inn Operations:

The Inn will have a strong recycling and composting program. The goal is to put as little material into the waste stream as possible. The planted areas will be managed organically. The vegetable waste will be composted in an "Earth Tub" and reused in the planted areas. The hotel will utilize organic and locally produced food products wherever possible. The Inn will have two gardens, one on site and one a few blocks away (Lily's garden and Noel's garden) and will utilize many local organic suppliers of fruits, vegetables, and meats. Paper products used in the hotel will have a high recycled content. Dispensers for shower products will be used to avoid the supply and waste of small plastic bottles. The bath products will all be organic. The laundry will utilize water saving methods and organic cleaning products. The cleaning supplies used in the hotel will be organic. Electric and biodiesel vehicles will be used by the hotel to minimize air pollution. **Inn Management: MTM Luxury Lodging; Earth Tub: Green Mountain Technologies; Bath products: In Fiore; Laundry Products: Ecolab; Cleaning Supplies: Several.**

Spa Services:

The spa will use many organic products in treatments. **Spa Consultant: Loma Alexander; Spa Products: In Fiore, Decleor, among others**

LIST OF ENVIRONMENTAL INITIATIVES:

- 200 kilowatt solar power system on roofs
- Eighty-two 300 foot wells as part of a geothermal system provide heating and cooling of rooms and preheating of domestic hot water
- Automated external venetian blinds on windows to limit heat gain and reduce air conditioning load
- Occupancy sensors that turn off lights and alter thermostats to reduce energy while guest is out of room
- LED and fluorescent light fixtures to reduce electrical demand

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- Low water use fixtures, dual flush toilets, drip irrigation, drought resistant plants to reduce water usage
- All grey and black water will be recycled through the Town's treatment program and sold for irrigation water
- Salvage trees-Monterey Cypress, Orchard Walnut, Bay and Eucalyptus milled for siding, flooring and furniture
- Redwood ceilings from old wine tanks
- Glues, adhesives, paints, and wall coverings with low VOC (volatile organic compounds)
- Concrete with a high potash (recycled product) content
- Tile with a high glass recycled content
- Steel with a high-recycled content
- Organic linens and terry
- Organic cleaning products
- Furnishings with environmentally friendly fabrics
- Spa ingredients with organic ingredients
- Restaurant food organic and local whenever possible
- Vegetable waste composted for use in the gardens
- Laundry done with limited hot water and non-detergent cleaners
- Recycling throughout the hotel
- Recycled paper products
- Electric and bio-diesel vehicles for hotel use

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