

## "Greener" Exterior Environments at Hotels/Resorts: All Gain, No Pain

By Andrew Witkin, ASLA



When guests think "green hotel or resort", they often think about what they'll be asked to give up-daily linen service, for example. While many will happily re-use a towel to help save the planet, eco-friendly features utilized in a property's exterior environment require no sacrifice at all from guests while saving money and energy for owners.

These features include everything from green roofs and energy-efficient lighting to natural pesticides, sophisticated irrigation systems and even on-site amenities that showcase a property's natural endowments.

For example, at a resort being developed as The Negril Hotel, Jamaica, Witkin Hults Design Group is working with the developer to transform a natural underground cavern into a unique resort restaurant. Guests will descend via a winding rock staircase being built from ground level into the rear of the cave, and dine as gentle sea waves lap just below the cave's entrance. A cantilevered deck will extend out over the water to accommodate additional diners. Renewed interest in natural amenities and the propensity of natural caves in this area of Jamaica are prompting a number of hoteliers to find creative uses for these overlooked features.

Here are some sustainable solutions for exteriors that make sense for virtually all resorts and hotels, whether or not owners are seeking formal "green hotel" designations:



**Grey Water, Water Harvesting:** Water harvesting is usually a simple, low-cost process when part of initial construction, though existing buildings can be transformed fairly easily into rainwater collection surfaces. Grey water treatment systems are costlier, but non-potable water becomes a more important landscaping tool every year, as climate changes diminish groundwater supplies. Grey water landscape watering must be done at night and halted during high winds, to limit guest exposure. Proper levels of filtration and purification can ensure public safety, eliminate trace odors and prevent system clogs.

**Innovative Irrigation:** Multiple control systems are essential to detect line breaks and leaks before plant life is compromised. At the recent renovation at Cap Juluca on Anguilla, Irrigation Design Group (IDG), Boca Raton, implemented a computer-based control system which can detect a leaking valve at the resort from a Miami control center. IDG also worked closely

with Witkin Hults Design Group to create irrigation zones carefully tailored to individual plant needs, reducing water consumption while protecting plant materials.

**Lighting, Wind & Solar Power:** The Cap Juluca renovation also included replacing 30 watt halogen fixtures with 3 watt LEDs. Result: an astounding 90% energy savings which quickly compensates for LEDs' higher purchase costs. A sophisticated control system utilizes an astrological backup clock so timers remain accurate even after power outages. This is far more efficient than photo cell controls which keep lights on all night when only safety and pathway lights are typically needed after 1 a.m. Other good ideas: Small, virtually noise-free wind turbines that can be installed on parking lot and amenity light fixtures to power lamps even with minimal wind. Solar lighting and heating products are also becoming a hallmark of smart exterior design.

**Natural Pesticides & Fertilizers:** To protect the environment without jeopardizing plant performance, use compost tea to supplement or replace traditional pesticides and fertilizers. Compost teas can balance PH and eliminate fire ants and other pests with no toxic side effects. Miami's 18-acre Parrot Jungle, an expansive tropical oasis, now uses no commercial pesticides. Compost teas can be purchased or created on-site using cut grass and other organic materials such as food scraps. Compost helps prevent erosion, reduces runoff, improves downstream water quality, improves soil quality and effectively removes sediment from storm water.

**Paving, Paths, Pools & Fountains:** For large parking lots, use permeable pavers to partially filter automobile oils before they reach the water table. Also use them when paving near existing trees to give roots adequate air and moisture. Discourage on-site use of motorized vehicles by providing attractive paths for walking and biking. Provide segways and other vehicles powered by renewable resources. Install chemical-free filtration and solar heating systems in pools and spas. Use harvested water in fountains and install a tree canopy overhead to reduce evaporation.

**"Green Roofs":** It's a term that covers everything from roof gardens to roofs equipped with some form of "green" technology, such as solar panels, wind generators or water harvesting systems. When used for vegetation, planting is done over a waterproofing membrane and may have additional layers such as a root barrier and drainage and irrigations systems. Roof gardens can be delightful amenities where guests commune with nature while enjoying panoramic views.

**Landscape Design & Maintenance:** Avoid traditional sod, a "water hog" that requires mowing which creates air and noise pollution. Better choices: drought-tolerant sods, decorative rocks and sand, and native grasses studded with wildflowers. Mulch from tree-trimming makes attractive ground cover and reduces evaporation/erosion while nourishing the soil. Instead of sodding beachside areas, plant railroad vines which grow on sand and require no watering. In arid locations, use drought-tolerant materials around amenities to maintain a consistently lush look. Use decorative, flowering plants sparingly, clustered into accent beds to boost their visual impact.

Like many "green" elements used for hotel/resort interiors, many sustainable exterior elements can be implemented at existing hotels and resorts. But they are usually most effective and least costly when part of the initial development strategy. Early involvement of the landscape architect and civil engineer can also help prevent unintended environmental mishaps which can be costly to reverse.