SULPHUR CREEK NATURE CENTER

Wildlife Rehabilitation Hospital Gets a Green Upgrade

The popular Sulphur Creek Nature Center in Hayward, California, is home to a wildlife rehabilitation hospital and environmental education center. Each year, thousands of school children and adults visit the center and explore the 10-acre grounds, which include a native wildflower meadow surrounded by native plants of the oak woodland.

The center, which is owned and operated by Hayward Area Recreation and Park District, is one of a number of sites in Alameda County where the public can experience Bay-Friendly Gardening techniques. StopWaste.Org's Bay-Friendly Landscaping and Gardening Program advocates an approach to gardening and landscaping that works in harmony with the natural conditions of the San Francisco Bay Watershed. At Sulphur Creek, visitors can learn about local watersheds, creek life, and the animals and plants that depend on this important habitat.

By 2002, Sulphur Creek's 30-year-old buildings were due for expansion and upgrades. The cost of the proposed changes exceeded the park district's budget, so the project team chose to split the project into two phases. New bathrooms, improved sanitary and environmental controls in the hospital, and more space for the bird washing area were given priority as Phase 1,

FAST FACTS

LOCATION
1801 D Street
Hayward, California

PARCEL SIZE
10 acres

BUILDING TYPE
Education center/animal hospital

TOTAL SQUARE FEET
1,400 sq. ft. (Phase 1);
7,800 sq. ft. (both phases)

COST
$900,000 (Phase 1)

COMPLETION DATE
Spring 2004

OWNER/DEVELOPER
Hayward Area Recreation and Park District

ARCHITECT
George Miers & Associates
Moraga, CA

GENERAL CONTRACTOR
D.L. Falk Construction Inc.
Hayward, CA

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which was completed in 2004. The district is raising funds for Phase 2, which will include new classrooms, parking and bicycle facilities, and footpaths.

In keeping with the center's educational mission, signage on the building explains the building's green features, which include energy and water efficient technologies, and durable, nontoxic and recycled-content materials. "People can see first-hand how we incorporated green strategies and products," says Karl Zabel with the park district, "And the sign board itself is made of recycled materials."

What Makes it Green

WASTE REDUCTION & RECYCLING

The project team reduced construction waste by being conscientious about reusing and recycling materials from the existing structures. Fencing and plywood from the original hospital building were reused for new animal enclosures, a garden house and other projects. The framing lumber was reused in the new hospital building. Roofing and the concrete slab were also reused, thus avoiding demolition and disposal. Other salvaged and reused items included plumbing and electrical components, animal cages, office furniture and some fixtures. In addition, at least 50% of the construction waste was diverted from the landfill and recycled.

To close the recycling loop, the project team looked for ways to include recycled-content materials in the construction and renovation work. The new hospital foundation base rock consists of recycled aggregate, and the concrete slab itself contains 30% recycled flyash. The ceramic flooring tile contains 45% post-industrial recycled content sourced from roofing industry byproducts.

ENERGY EFFICIENCY & REDUCED CARBON FOOTPRINT

The hospital has deep overhangs on its south side to reduce summer heat gain; the walls are thicker than standard for greater insulation; and the double-pane windows are operable to allow for natural cooling and air circulation on temperate days. Combined, these measures reduce the need to use air conditioning on most days. "These features definitely make this building more energy efficient than others in the district," confirms Zabel.

Other features that reduce the buildings' energy and carbon footprints include low-mercury fluorescent lighting, ENERGY STAR® appliances and exhaust fans, daylighting, and occupancy sensors, photocells and timers that turn off unneeded lights. Zabel notes that while features like lighting controls may seem like small steps, "every little bit helps when you're looking at energy savings."

IMPROVED AIR QUALITY

As an education center that serves children and houses sick animals, it was especially important to consider the buildings' indoor air quality. The new animal hospital and bathrooms at Sulphur Creek demonstrate healthy building practices with their use of low-VOC paint; cabinetry and insulation made with no added formaldehyde; and natural linoleum, which is made from non-toxic materials and installed with a solvent-free, water-based adhesive.

GREEN at a GLANCE

MATERIALS & RESOURCES

- 50% recycling of construction and demolition waste
- Recycled aggregate used in new slab
- 30% flyash content in concrete for new slab
- FSC lumber used for structural framing and plywood
- Durable flooring tile made with minimum 45% roofing industry byproducts (Dal-Tile)
- Low-mercury T-8 fluorescent lamps and electronic ballasts (Philips Alto)

ENERGY & CLIMATE

- Deep overhangs on south-facing windows to reduce solar heat gain
- Double-paned, operable windows
- ENERGY STAR® refrigerators and clothes washer
- ENERGY STAR® bathroom ventilation fans (Panasonic Whisper Ceiling)
- Hardwired compact fluorescent fixtures
- Room occupancy sensors (Watt Stopper CB 100)
- ENERGY STAR LED exit signs (Emergi-Lite Prestige)

This case study was written by StopWaste.Org as part of its Green Building in Alameda County program. For information about waste reduction and green building, visit www.StopWaste.Org or call 510-891-6500