

How to Move in a Green Direction

Mention *building green* and a few imagine a long-haired man in a tie-dyed shirt living in a tree for several years to keep it from being chopped down for lumber. When we talk about green for designing distribution facilities, we mean adopting environmentally-friendly features in a building with a footprint as small as possible.

Our client Patagonia is leading the way. The company designs and distributes clothing and equipment for those who enjoy the outdoors—hiking, surfing, climbing, kayaking, fishing and more. Organically grown cotton is used in manufacturing.

When they sought a location for a new service/ fulfillment center, company executives mandated its design cause the least amount of harm to the environment. It made sense to create the new building to include environment-friendly methods and recycling.

Patagonia found a brownfield location for their new building on the banks of the Truckee River in Reno, Nevada, at the site of an old lumber mill.

"We wanted an energy-efficient building, construction-waste recycling, and didn't want to use new-growth lumber," said Patagonia's director of environmental assessment. All wood used is either reclaimed or sustainably harvested.

The design called for:



Large, shaded windows to take advantage of the river view and sun exposure for heating and lighting efficiency



Storm water runoff from the facility through bioswales to a holding pond where it would be

treated before being released into the storm drains



Solar-tracking skylights that receive sunlight reflected from rotating panels on the roof which increase natural-light levels and reduce energy use



Energy-saving light controls to be kept on a minimal setting, then planted motion sensors in storage and picking aisles to raise the lights when someone is detected entering the area while also changing with the ambient light



Reduced heat retention in the summer and heat loss in the winter, with a combination of natural ventilation and radiant heating



Photoelectric cells installed to obtain electrical power directly from the sun, which shines about 340 days a year in Reno



Radiant heat, to eliminate the need to heat large portions of open space, and panels suspended from the ceiling filled with hot water to provide heat at a 30% lower cost than forced-air systems



A *night flush* system to allow natural ventilation to store cool evening air for use during the summer days



Break areas connected to a river park adjacent to the facility, for public and employee comfort



Lobby storage for employee cyclists to safely keep their bicycles and designated special parking spaces for carpoolers



Permeable paving stone drives and parking to reduce heat island effect and water runoff

Carpet is 100% recycled polyester, the restroom counter tops 100% recycled plastic, and portions of the office walls are made of compressed field straw that's formaldehyde-free. Wallboard, paint, floor coverings and ceiling and shower tiles also use recycled content.

The design of the distribution operation inside the new facility intentionally fell in line with Patagonia's commitment to leaving a small footprint on the earth. Use of automated equipment was kept at an only-what's-necessary level and processes were streamlined, made possible by implementing a warehouse management system from Manhattan Associates.

The trash conveyor was designed with a *decision point* where employees select emptied inbound cartons for reuse as shipping cartons. They sort and place cans, glass and plastic in large containers destined for recyclers. Break room food scraps are tossed in a compost pile for use in a garden behind the building, where employees are encouraged to grow vegetables. Incredibly, the trash compactor only needs to be emptied once every seven months.

Low-energy design decreases maintenance costs and prevents the building from becoming obsolete as quickly as those using systems that are less economical and less friendly to the environment. It may cost more to do it, but most green innovations will pay for themselves through 30-35% en-

ergy savings within three to eight years. This could translate into millions of dollars in savings, as well as provide a nice story to tell your customers, investors or employees.

We're currently working with Patagonia, designing an addition to the facility we designed in the mid-'90s. The company is including design features to obtain LEED (Leadership in Energy and Environmental Design) certification. The LEED Green Building Rating System® is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings.

We're working with several companies which, like Patagonia, believe being good stewards of the earth means more than recycling paper and encouraging composting at home.

If you want to join the movement, here's the official definition of *building green* from Wikipedia, an online encyclopedia:

Building green is the practice of: (1) increasing the efficiency with which buildings and their sites use and harvest energy, water and materials and (2) reducing building impacts on human health and the environment, through better siting, design, construction, operation, maintenance, and removal.

"Treat the earth well:
We do not inherit the Earth from our
Ancestors, we borrow it from our Children."

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216.206.4700
www.jasedlak.com
info@jasedlak.com