

You look great in green: Green design or sustainable operations

By Bill Gregory

Green design and green operations converge with facility managers. As FMs become increasingly sophisticated about sustainable solutions, the floodgate of product choices, technology advances and information is opening full force. With that situation, the sustainable design team model is particularly effective for FMs balancing multiple green building design considerations. Whether you are seeking LEED® certification from U.S. Green Building Council, following industry guidelines for your facilities or using a variety of benchmarks moving forward, you'll find that you look great in green.

General Design Trends

Eco friendly innovations are emerging to address broad concerns as well as those with higher priority for a building category such as commercial properties, health care, government and education, among others. The goals are healthy interiors on a healthy planet for a better future. What we are seeing in the marketplace are more educated buyers and specifiers that are pulling back the onion layers. They are asking informed questions to determine which products and actions truly support the claims. Green design must be supported by quality products manufactured in a sustainable manner. As noted in various business and consumer media, green attributes represent one dimension of a complex story around practices focused on reducing environmental impacts while remaining financially stable and sincerely committed to employee and community well-being.

As Tim Cole, Director of Environmental Initiatives and Product Development with Forbo Flooring, notes, "The decisions made by today's facility manager affect the health and well being of every person that enters their facility. The link between green products and building operations is a no-brainer if you use products with a low environmental footprint, which is supported by LCA data, and then your building is going to have a lower environmental impact."

While indoor air quality (IAQ); safety; and efficiencies in cost and energy are important across the board, different industries are developing benchmarks and standards around design and operations which allow FMs to easily judge the sustainability of products. Most producers of building materials are implement end of life strategies that allow for the recycling of products thereby eliminating waste to landfills and protecting the technical nutrients in the products for a new life.

Commercial Properties

Superior design balanced by product performance that does not have a negative impact on environment or employees drives decisions in commercial settings. Products that are totally reclaimable and contribute to energy efficiencies are of increasing interest. Healthy interiors free of toxins indicate employers that are concerned about employee well being, as well as productivity.

When Citi, the leading global financial services company, celebrated the grand opening of its Elk Grove Village Citi Cards Center, green design and employee health were considerations. More than 700 employees currently work in the 176,800 square foot center, with the opportunity for growth. The building contains a modern 5,000 square foot fitness center, classroom training facility and on-site cafeteria. From the eco-friendly carpet and furniture selected, to the local recycling efforts, the site proves going green is good for business.

The QS/1 Data Systems Corporate Headquarters in Spartanburg, South Carolina demonstrates how LEED® has increased the practice of bringing the outside indoors through color, natural light and materials choice. Every floor overlooks the site's public plaza with a cascading waterfall. Granite benches are salvaged remnants of the site's original storm water collection system. Several terraces on the building's upper floors afford dramatic views of the city skyline.

Health Care

According to a Health Technology Center (HealthTech) study released earlier this year, U.S. hospitals are discovering that sustainability principles are lowering energy costs, creating environments less prone to the spread of infection, and reducing the carbon footprint of health facilities. Technologies – such as motion sensors for lights, faucets, and doorways – reduce the transmission of infections as well as lowering the \$5.3 billion spent annually on energy. The high energy requirements and unique needs of healthcare provide a challenge.

However, reducing infections through product choice and building design is evolving. Findings from healthcare industry studies show what would seem to be common sense. Reducing noise and stress helps prevent medication errors caused by distractions when dispensing drugs. Calming environments promote healing in patients. To bring these concepts into practice, designers and architects are working with manufacturers and suppliers to ensure more soothing spaces.

In health care design reinforces the need for green solutions and the industry is taking an aggressive approach to implement change. Priorities include eliminating PVC and other questionable chemistries to offer healthy facilities; increasing attention to wellness for employees, patients and community; incorporating designs that lower infection and risk of error; and presenting soothing environments indoors and outdoors.

Government

Government is leading by both mandate and example at the federal, state and local level addressing building design and maintenance, as well as Environmentally Preferable Product (EPP) guidelines. Green posturing is not sufficient. Third party certification and manufacturing details are standard inquiries. While we are seeing more legislation from the federal level requiring construction to meet LEED certification, communities like Boston are adopting regulations that meet similar criteria, but will be certified at the local level.

The federal government has embraced green building from design as well as resource use. In moving from its 1940s era building to a state-of-the-art eco-compound, the U.S. Census added earth-friendly advantages that included planted roofs to help insulate the building and reduce storm-water runoff, intelligent lighting that brightens as the sun goes down, and modular carpet tile that is 100% recyclable. To maximize the amount of natural light hitting desks, the building is just 75 feet wide, with open workstations in the 25-foot sections closest to the windows. Paints and adhesives used in construction were nontoxic, as are the products used to clean the building.

Education

The importance of interior finishes and aesthetics on the learning environment continues to be an integral step in creating high performance schools. A myriad of sustainable design elements from daylighting to color choice are included to favorably impact the learning setting. As a result well-designed schools are more marketable and draw a higher tax base from both business and homeowners adding value to the community. These communities are then better positioned to attract quality teachers.

Indoor air quality is a particular priority in schools. Since children are especially susceptible to air pollution, keeping schools safe and clean is even more vital when selecting products and related maintenance supplies. In fact, New York and other governments require the use of environmentally sensitive cleaning and maintenance supplies. Modular carpet increasingly offers a cost effective way to improve design and health benefits that contribute to impacting the learning environment.

The Arabia Mountain High School in DeKalb County Georgia is designed by Perkins+Will to meet criteria as Georgia's first LEED-Silver public high school. When students enter in 2009, eco features will include light-colored roof areas to reflect sunlight and minimize atmospheric warming; reduced water use with low-flow plumbing fixtures, waterless urinals, and sink sensors; North-South positioning to reduce energy use; construction materials that are 10 to 20 percent recycled; 30 percent more ventilation than code requires; exclusion of materials that emit noxious, harmful odors; and individually controlled HVAC to reduce energy waste in unoccupied areas.

Looking Good in Green

A broader range of available materials and a design community that understands the value of multi-disciplinary project teams allows more diversity in green design. Continued innovations in green chemistry to incorporate renewable resources; advances in technology to better monitor manufacturing processes; the introduction of industry product standard, starting with carpet; and broader acceptance of LEED® and other building guides, indicate that this holistic approach is reaching the tipping point. You'll look good in green with healthier, safer and more productive interiors.

Bill Gregory, Director of Sustainable Initiatives for the Floor Covering Division of Milliken & Company (www.sustainablecarpet.com), has actively participated in establishing sustainable standards for the carpet industry. In speaking with audiences around the world and working with leading business organizations concerned with sustainability, he stays current on green topics and building trends.