

Let there be light

Buildings get friendlier

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Jul-10-09, 02:29 PM

Topics: Architecture, Utilities, Energy, Health & Wellness



Grandmas everywhere know lots of fresh air and daylight are good for you and now doctors and architects say it, too. But most office buildings provide the opposite effect.

Mindful of the health benefits and energy savings fresh air and sunlight can provide to workers, a pair of doctors and an internationally renowned architectural firm have teamed up to create the 37,000-square-foot LandWorks Professional Center in Fishkill, the first LEED (Leadership in Environmental Energy Design) and silver certified building in the Hudson Valley. Using glass walls for “light harvesting,” geothermal heating and cooling and other features, it is designed to help those using the facility to thrive, while reducing energy usage and costs.

Medical advantages originally drove Kenneth K. Hansraj, a spinal surgeon, and Marcia D. Griffin-Hansraj, a physical medicine specialist, to seek a healthy building as new medical quarters. They learned there was no truly healthy space available that met their needs and so they founded LandWorks L.L.C.

The medical case for a healthy building is compelling said Hansraj. “Lots of studies show that natural lighting will profoundly affect your happiness. Natural air will do the same thing.”

They teamed up with Dermot Sweeny, principal and co-founder of Sweeny Sterling Finlayson & Co. Architects Inc., a Canada-based firm known for state-of-the-art interior environments that feature fresh air and sunlight for companies including Adidas and Microsoft.

The LandWorks Center in Fishkill utilizes technology married with the simplest measures. “The vast majority of the external skin, the building envelope is glass,” said Sweeny. “And the primary reason is that we know light is a phenomenal positive force on people it’s a stimulant, people feel better, increases productivity and is healthier”.

The second and “equally important reason” are energy savings natural light makes possible. The LandWorks system will save 40-60 percent of the typical energy use connected to lighting the structure. Additionally the geothermal heating and cooling system will further reduce energy use.

LandWorks takes advantage of the latest light harvesting ideas, such as using particularly high ceilings and windows, at roughly 11 feet as opposed to the normal office height of about nine feet. This not only allows 20 percent more light through the windows, but enables use of a light harvesting system.

Daylight harvesting is essentially two devices, an external sunshade and interior light shelf both set about eight feet above floor level. They don’t obstruct the view but allow light to reflect off sunshade and interior light shelf onto interior ceiling that disperses it down to floor level. “So we get a tremendous amount of light penetrating much deeper into the building,” said Sweeny.

The sunshade and shelf also reduce glare, aiding the eyes. On overcast days or in darkness, the interior lighting is indirect and again bounced off the ceiling for even lighting.

But the LandWorks is efficient literally from floor to ceiling, with a raised floor system that serves as conduit for wires that allows companies to customize their space in a variety of ways to meet expansion or reorganization needs. The package of measures could result in \$10 to \$15 per square foot annually in operational savings compared with traditional office space. And Sweeny pointed out that such features aid landlords too, if they need to remodel to accommodate new tenants.

Sweeny said that another advantage for such smart workplaces is attraction and retaining tenants and employees. He said, for example, that while Microsoft used to conduct job recruitment operations at colleges, now they send buses to colleges and bring would be employees to their smart building to let them see for themselves the advantages of working at the Microsoft building.

He said building an intelligent building costs more and said when his company first started preaching the intelligent building approach 15 years ago, it encountered resistance because of higher costs for what were perceived as ephemeral benefits, particularly since energy costs were so low then.

“Now you are starting to see a much different approach, a lifestyle approach,” Sweeny said, which considers long-term factors such as productivity, reduced employee

absenteeism and stable energy costs. And he said such new approaches in buildings call for new landlord-tenant relationships, so that for example, a landlord who rents space to a company that controls its own energy costs should see some return on the initial investment in energy efficiency. “If you are saving a dollar per square foot in energy savings, perhaps the landlord gets 50 cents per square foot of that,” he said.

He said building owners and tenants need to be educated about the new approaches and how to integrate them economically. “The fundamentals of the deal have to change,” Sweeny said.

He noted that the new approach “is starting to pick up speed,” but said that the recession is an enormous hindrance to construction.

Dr. Hansraj said the LandWorks Center is on the verge of receiving approval for proceeding in Fishkill, but is waiting to complete the process, because approval brings with it a ticking clock to complete a project. He said LandWorks has already leased some 14,000 square feet in the building but needs to find tenants for another 14,000 square feet to make the project feasible in the current economic situation. “No one is doing spec these days,” said Hansraj.