

# The GREEN Children's Hospital



Children's Hospital of Pittsburgh of UPMC adopted a philosophy of a "green" campus, including LEED (Leadership in Energy and Environmental Design) certification for two major buildings on our new campus—the hospital building and the research building.

What is a "green" building? "Green" or "sustainable" buildings use key resources like energy, water, materials, and land more efficiently than buildings that are just built to code. With more natural light and better air quality, green buildings typically contribute to improved employee and building occupant health, comfort, and productivity.

## GREEN DESIGN

Children's Hospital's goal was to achieve LEED certification for its hospital building and LEED Silver certification for its research building. Mandatory requirements were met and included such things as erosion control on the construction site, basic commissioning, minimum energy performance, elimination of CFC refrigerants, recycling programs, basic indoor air quality, and tobacco smoke control. Once the mandatory requirements were met, the specific certification level was dependent on our ability to gain optional points. In the end, our point total for the hospital resulted in a Certified rating and for the research building resulted in a Silver rating.

Children's achieved its points largely via substitutions of green materials and designs in place of more conventional systems. Most notably, they were as follows:

1. Appropriateness of site selection.
2. Redevelopment of urban area.
3. Access to alternative transportation (buses, trains, etc.).
4. Availability of bike racks and showers.

## A Green Way of Life

Children's Hospital's philosophy goes beyond the construction of sustainable buildings and extends into operating the facility with green practices wherever possible. This requires environmentally sustainable operating policies and procedures in areas of facility maintenance, housekeeping, food service, and waste management to name a few.

In addition to buildings and building operations, it is Children's goal to foster a green philosophy by engaging in active clinical programming and by partnering with various community and academic organizations to conduct research on the subject of sustainability and effects on the health of children. Likewise, Children's teaching programs will include emphasis on sustainability and the role that environmental health has on the practice of pediatric medicine.

5. Preferred parking for car pools.
6. Reducing heat islands. Parking under cover and green roofing systems.
7. Minimizing light pollution from the site.
8. Water-efficient landscaping.
9. Elimination of HCFCs and Halon.
10. Measurement systems for building utilities' utilization.
11. Construction waste management plan for the site (Research only).
12. Use of building materials with recycled content. 100% post-consumer structural steel.
13. Maximize use of local/regional construction material to minimize transportation burden.
14. Use of rapidly renewable materials (Research only).
15. Use of certified wood products.
16. CO<sub>2</sub> monitoring.
17. Internal air quality management plan throughout construction and flushing building prior to occupancy with filter changes as appropriate.
18. Use of low VOC materials such as sealants, adhesives, paints, woods, and carpets. No formaldehyde-containing materials.
19. Chemical storage and management control (Hospital only).
20. Individual temperature controls at 50 percent of non-perimeter areas (Research only).
21. Provide for thermal comfort including humidity controls.
22. Maximize use of daylight and views. 75 percent use of diffuse daylight and views from 90 percent of occupied spaces (Research only).
23. A green education program for staff, patients, and visitors.
24. Reducing the use of vinyl- and mercury-containing products.
25. Systems integration.
26. Healing gardens.
27. Use of the Zaltman Metaphor Elicitation Technique (ZMET) in the design process as a means of making a building that is more responsive to the individual and the environment.
28. Use of LEED Certified Designer.

### GREEN OPERATIONS

Children's recognizes that, from a "green" perspective, the ongoing operation of the buildings in a sustainable manner is of equal importance to "green" design and related construction activities. Children's Hospital best practices have been integrated into daily operations to ensure a sustainable environment.

1. No VOC paints, sealants, and other building materials.
2. Adoption of a green cleaning process, including use of nontoxic cleaning chemicals and microfiber mops and rags.
3. No mercury-containing solutions and medical equipment.
4. Recycling lab chemical waste of toxic solutions such as xylene and alcohol.
5. Use of paper products produced primarily from recycled material.
6. Recycling program for paper, cardboard, plastic waste, batteries, and light bulbs.

In addition to these opportunities, Children's has taken steps toward an environmentally preferred purchasing policy and model. In such a model, decisions about products used in the facility are given consideration for the sustainability of products, their content, their disposal requirements, recyclability, packaging, and effects on staff and patients.

