



PNC Firstside Center

Size: 647,000 sq ft

Location: Downtown Pittsburgh, PA

Owner: PNC Financial Services Group

LEED™ Rating: 2.0 Silver

Costs: \$167 per square foot

Completion Date: 2001

Building Overview

This five-story building established PNC as a corporate leader in green building and employee friendliness. The building houses multiple functions, including training, human resources, bank operation and the O'Brien Family Center, the first corporate-operated childcare program in downtown Pittsburgh.

Green Highlights

An innovative hybrid system of air distribution improves energy efficiency, comfort and maintenance. The system includes a raised floor that also makes the workspace flexible for reconfiguration. The day-lit interiors afford 90% of the occupants with an outdoor view. The urban infill site is adjacent to a bike trail and a light rail transit stop and has helped to revitalize a downtown area. Read more about the Firstside Center in *The Cornerstone* at http://gbapgh.org/Publications_cornerstone_spring_01.pdf. It was the largest LEED Certified - Silver level commercial building in the nation.

Sustainable Sites

- Light colored/high-albedo materials were used for at least 36% of the site's non-roof impervious surfaces, reducing the urban heat island effect.
- The building is situated on post-industrial brownfield site, previously an urban rail yard.
- Located adjacent to public transportation--the city bikeway, light-rail commuter transit and municipal parking deck, the facility promotes alternative transportation.
- No staff parking was provided on the site, where a typical suburban greenfield would have required 120 acres of parking.
- Site selection minimizes additional truck traffic in the main downtown Pittsburgh corridor.
- Reduced site disturbance by tightening program needs and stacking floor plans and thus exceeded local open space requirements by more than 25%.
- Storm water management was achieved by filtering settlement basins which capture and remove 40% of the phosphorous and 80% of the suspended solids.

Water Efficiency

- Sub-surface irrigation system reduces water use for irrigation by more than 50%.
- Water conserving toilets, electronic flush valves and faucets.

Energy & Atmosphere

- Energy modeling used to select insulation, window glazing, and shading.
- HVAC system focused on flexibility, simplicity, energy conservation, and life cycle cost.
- Detailed and formal building commissioning for most efficient HVAC design.
- No CFC refrigerants or Halon fire suppression systems used.
- Modular wiring for power; direct/indirect pendant mounted fluorescent lighting with T8 lamps, electronic ballasts and three-level switching throughout.
- Lighting design exceeds energy saving requirements of ASHRAE/IESNA 90.1-1999.
- 11-foot window used walls to reduce energy costs.
- Natural gas HVAC system.
- Under-floor HVAC to minimize ongoing energy demand and future materials consumption.
- Exceeds ASHRAE 90.1-1999 by 33% using exterior passive sun shading, interior motorized window coverings, underfloor ventilation systems, and air handling units with full economizer capabilities.
- Curved Southern facade comprised almost entirely of windows.
- Best practice commissioning applied.
- Contains four rooftop solar panels that relay the sun's position to a Building Automated System for temperature control.

Indoor Environmental Quality

- According to the Construction IAQ Management Plan, the underfloor plenum was cleaned and a two-week building flush-out was conducted after construction and before occupancy.
- CO₂ is monitored by sensors located in the return air duct.
- Low-VOC carpeting was installed.
- The building meets ASHRAE 55-1992 through integrated temperature controls, independent humidifying systems, and economizers.
- Ventilation air is distributed through a raised floor plenum and comfort control is provided through a dedicated variable air volume overhead air conditioning system, allowing controls to be significantly more flexible and simplistic.
- Cost of ventilation system is significantly less than conventional overhead variable air volume system, considering "churn" rate.
- Hybrid chiller plant able to utilize natural gas or electricity as its power source based on utility prices.
- Maximized use of outside air to provide general ventilation and reduce the amount of internal building contaminants.
- Fresh air intake located away from loading areas, building exhaust fans, cooling towers, and other contamination sources.
- Light wells bring natural light into the depths of the interior to increase staff comfort while supplementing artificial lighting.
- Exterior solar shades have been properly sized and located.
- 93% of the occupied space has exterior views; 79% of occupied space is daylit through a large southern exposure, skylights, atrium, glazed partitions and doors, and clerestory windows.
- Employee cafeteria features rooftop terrace with views of the Monongahela River.

Materials & Resources

- Recyclable materials used during construction.
- Carpet is made of 72% recycled material, which is 100% recyclable and is installed in replaceable squares
- The steel used was 90% post-consumer recycled steel
- 100% recycled materials for hard floor surfaces made from sawdust and soda bottles
- Recyclable linoleum product was used in bathroom and cafeteria floor spaces
- 500,000 sf of raised access floor provides office flexibility
- 54% of the materials by cost were manufactured within 500 miles of the project site; 11% of the materials were extracted, recovered, or harvested locally.

Team

- ▶ Astorino [<http://www.astorino.com/>]
- ▶ Dick Corporation [<http://www.dickcorp.com/dickcorp/markets/market.asp?mktnum=12>] & [<http://www.dickcorp.com/dickcorp/dickbuilds/default.asp?vol=20&num=3&art=44>]
- ▶ LLI Technologies [<http://www.llitechnologies.com/>]
- ▶ Lighthouse Electric [<http://www.lighthouseelectric.com/index3.html>]
- ▶ Center for Building Performance & Diagnostics
- ▶ Paladino & Company [<http://www.paladinoandco.com/services/team/index/pages/detail.cfm?Project=3&List=2,3,30,10,9,11>]

