

PNC Firstside

Pittsburgh, Pennsylvania

Project Type:
Commercial/Industrial

Case No:
C033009

Year:
2003



SUMMARY

PNC Firstside Center is a large-scale, environmentally sustainable facility that is used for operations, processing, and many other traditional back-office functions for PNC Financial Services Group in Pittsburgh, Pennsylvania. Completed in September 2000, this five-story, 650,000-square-foot (6,038-square-meter) structure has achieved the distinction of being a LEED-certified green building under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. Located on a former brownfield in downtown Pittsburgh, the edifice offers an employee-friendly environment with plenty of natural light, fresh air, and sustainable building systems. As a benefit to the city of Pittsburgh, the redevelopment of this formerly idle site brought new life and activity to this underutilized section of downtown.

FEATURES

- Large-scale, environmentally sustainable office building
 - First structure in the nation to earn Silver LEED certification
 - Urban infill/brownfield redevelopment
-

PNC Firstside

Pittsburgh, Pennsylvania

Project Type: Commercial/Industrial

Subcategory: Office Buildings

Volume 33 Number 09

April–June 2003

Case Number: C033009

PROJECT TYPE

PNC Firstside Center is a large-scale, environmentally sustainable facility that is used for operations, processing, and many other traditional back-office functions for PNC Financial Services Group in Pittsburgh, Pennsylvania. Completed in September 2000, this five-story, 650,000-square-foot (6,038-square-meter) structure has achieved the distinction of being a LEED-certified green building under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. Located on a former brownfield in downtown Pittsburgh, the edifice offers an employee-friendly environment with plenty of natural light, fresh air, and sustainable building systems. As a benefit to the city of Pittsburgh, the redevelopment of this formerly idle site brought new life and activity to this underutilized section of downtown.

SPECIAL FEATURES

- Large-scale, environmentally sustainable office building
- First structure in the nation to earn Silver LEED certification
- Urban infill/brownfield redevelopment

PROJECT ADDRESS

500 First Avenue
Pittsburgh, Pennsylvania 15219

OWNER/DEVELOPER

PNC Financial Services, Realty Services
Two PNC Plaza
620 Liberty Avenue
Pittsburgh, Pennsylvania 15222
412-762-5544
Fax: 412-768-2078
www.pncbank.com

ARCHITECT

L.D. Astorino Companies
227 Fort Pitt Boulevard
Pittsburgh, Pennsylvania 15222
412-765-1700
Fax: 412-765-1711
www.ldastorino.com

STRUCTURAL, MECHANICAL, AND ELECTRICAL ENGINEER

Astorino/Branch Engineering
227 Fort Pitt Boulevard
Pittsburgh, Pennsylvania 15222
412-765-1700
Fax: 412-765-1711
www.ldastorino.com

GENERAL CONTRACTOR

Dick Corporation
1900 State Route 51
Large, Pennsylvania 15025
412-384-1000
Fax: 412-384-1150
www.dickcorp.com

GENERAL DESCRIPTION

PNC Firstside Center is a large-scale, environmentally sustainable facility that is used for operations, processing, and many other traditional back-office functions for PNC Financial Services Group in Pittsburgh, Pennsylvania. Completed in September 2000, this five-story, 650,000-square-foot (6,038-square-meter) structure achieved the distinction of being a LEED-certified green building under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. The USGBC LEED system is a voluntary program comprising four rating levels (Bronze, Silver, Gold, and Platinum). The environmentally friendly green building principles used in the design and construction of a building are evaluated based on a weighted scoring system.

At the time of construction, the PNC Firstside Center was one of only 12 buildings to achieve LEED-certified green building status. Firstside Center also holds two impressive distinctions: it is the first structure to be certified at the Silver level under the stricter Version 2 LEED guidelines; and it has been determined to be the world's largest certified green building.

Located on a former brownfield in downtown Pittsburgh, the edifice offers an employee-friendly environment with plenty of natural light, fresh air, and sustainable building systems. As a benefit to the city of Pittsburgh, the redevelopment of this formerly idle site brought new life and activity to this underutilized section of downtown.

THE SITE

An extensive site selection process was undertaken by PNC's Realty Services Group, the in-house team responsible for all aspects of PNC's real estate needs. Seventeen sites throughout the metropolitan area, each of which possessed its own unique qualities and benefits, were investigated. The 4.8-acre (1.9-hectare) site selected is located in the historic Firstside area at the southern edge of Pittsburgh's central business district, along the Monongahela River. PNC ultimately chose the former Baltimore & Ohio Railway Terminal site located at the corner of First Avenue and Grant Street. The property was a parking lot and a Pennsylvania Department of Environmental Protection-recognized brownfield that had, heretofore, remained relatively undeveloped due to concerns regarding its past usage.

The decision to locate the company's new operations center within downtown Pittsburgh was influenced by a survey indicating that most employees to be housed in the new facility utilize public transportation to get to and from work. The city's public transit lines radiate outward from the city center, so a central location provides the easiest access and the lowest number of transfers for the majority of employees.

There is no parking for employees on site, but a new structured parking garage for 1,200 cars built by the Pittsburgh Parking Authority at PNC's request is located nearby. Many bus lines serve the area and a new light-rail transit (LRT) station was constructed next to the building after extensive discussion by PNC with the Port Authority and a PNC contribution to the project. In fact, all of PNC's downtown office facilities sit next to LRT stations and the company considers the system its "corporate transit system."

According to Gary Jay Saulson, senior vice president, director of corporate real estate, it was "the best infill site within downtown Pittsburgh." The company estimates that, if the same facility were built in the suburbs, not only would commuting hardships for employees increase, but also a 20-acre (eight-hectare) site (rather than a 4.8-acre/1.9-hectare site) would be necessary to meet parking and stormwater management needs.

Two-thirds of the site is developed and one-third is devoted to open space. In addition, an extension of the Eliza Furnace cycling and running trail runs along the southern, riverfront edge of the site. On the north side of the building, an urban plaza provides an attractive outdoor setting with water elements such as falls, cascades, and streams.

DEVELOPMENT PROCESS

PNC Financial Services Group (referred to herein as "PNC") has been experiencing excellent growth. This, coupled with the sale of the PNC Fort Duquesne Building to the Sports and Exhibition Authority to make way for the expansion of the David Lawrence Convention Center, made it necessary for PNC either to purchase or build a new facility. The decision was made to construct a new regional operations center to house 1,500-plus employees from over 20 departments within PNC.

Locating the new facility on an urban brownfield ultimately influenced the design process because an emphasis was placed on creating an environmentally sustainable building. Pittsburgh's Green Building Alliance and Paladino Associates, a green building consultant from Seattle, also played a strong advocacy role in convincing PNC Realty Services Group to adopt a sustainable development/green building design approach. According to Astorino, the architect on the project, considerable effort was made researching sustainable design and construction throughout the design process.

The decision to make Firstside Center a USGBC-certified green building, however, was not made until the design was approximately 80 percent complete. Achieving the LEED Silver rating, therefore, was all the more significant because green building design aspects were not planned from the very beginning and some retrofitting was consequently necessary.

The USGBC provided technical assistance. The Carnegie-Mellon University Center for Building Performance and Diagnostics also assisted by developing computer models to analyze daylight alternatives.

PLANNING AND DESIGN

The project team consisted of PNC Realty Services, which served as the developer, and architects, engineers, and construction managers who met on a weekly basis to address design and construction issues. Literally hundreds of different planning, design, and development criteria and decisions went into the project. The USGBC LEED standards provided a checklist for actions to be taken to achieve high performance goals.

PNC began the planning and design process of the Firstside Center with the primary goal of creating an employee-friendly building. Natural light, fresh air, and pleasant surroundings were important considerations. Because of the aforementioned growth that PNC has experienced in recent years, space planning and flexibility also were key design issues.

The final structure—a steel-frame building—is five stories high and has a total area of 650,000 square feet (60,385 square meters). Fitting a building of this size into a downtown street grid required sensitive planning and design. To reduce its overall visual impact, the building is tucked into the sloping contour of the site, which angles downward toward the Monongahela River. The lower level on the riverfront-facing side houses service areas and loading docks. The main entrance to the building is at the main level on First Avenue.

The facades of the structure complement the diverse features of its surrounding environment, ranging from low-scale historic buildings to the north, to the river and an elevated highway at the southern edge of the site. To achieve this, the building mass was articulated into three smaller components, each with distinctive forms, window treatments, and materials. The western and northern facades align with the historic riverfront warehouses along Fort Pitt Boulevard and the nearby landmark H.H. Richardson Allegheny County Warehouse. The southern facade reflects the curve of the river and the elevated highway that defines the edge of the site.

Other green building design aspects include landscaping, paving, and roof materials that were designed to reduce the “heat island” effect created by common paving materials. In addition, the lighting systems are intended to minimize sky glow and off-site illumination.

Major entrances to the building respect urban circulation patterns, both new and old. The primary employee entrance, on First Avenue, lies at the terminus of Ross Street, an important visual and functional connection to downtown. The other major entrance, at the corner of Grant Street and First Avenue, is located for the convenience of employees entering the building from PNC’s other downtown offices.

The building was designed to provide a flexible and functional work space for a high-tech workforce. A horizontal design and expansive floor plates measuring 125,000 square feet (11,612 square meters) allow the clustering of large work groups. The elimination of walled offices also contributes to greater interaction among employees. Wide corridors with skylights and light wells that let in abundant daylight also facilitate circulation. Furthermore, pendant fixtures provide indirect lighting and all workstations feature stackable furniture systems with lower heights.

The introduction of natural light into the deep floor plates of the building is maximized by 11-foot-high (3.3-meter-high) window walls. A generous skylight known as “the slice” runs along the entire roof elevation and allows light to filter down through the fifth, fourth, and third floors. Exterior sun-screening devices and motorized interior shades are used to reduce glare and heat gain. Heating, ventilation, and air-conditioning systems use natural gas to conserve energy and reduce costs. A unique hybrid air-distribution system was developed to provide improved control and comfort, while affording maximum flexibility. It distributes fresh air through the raised floor as well as through overhead air volume units that recirculate conditioned air. Vertical shafts servicing each floor saved money by eliminating the need for horizontal ductwork. A hybrid-type chiller plant can utilize natural gas or electricity to take advantage of the lowest utility price.

It is estimated that nearly one-third of the 1,500 employees at Firstside Center are relocated over a five-year period due to shifting market trends and changing business practices. To allow for maximum flexibility for future changes in technology and the work environment, 95 percent of the floor area has accessible raised floors topped with carpet tiles that permit easy reconfiguration of workstations. The underfloor space is used for communication wiring and modular power wiring.

Recyclable materials are used extensively—carpet is made up of 72 percent recycled material and hard floor surfaces in the cafeteria and restrooms are made of 100 percent recycled materials, including plastic soda bottles and sawdust. Hog’s-hair carpeting used in entry areas not only is durable but it also grips dirt and therefore helps to reduce cleaning costs. Some materials can be returned to the manufacturer at the end of their useful life for another round of

recycling. The production location of materials was considered also: 61 percent of the materials were manufactured within 500 miles (804 kilometers), thus allowing for ease in delivery and service.

Water-conserving plumbing fixtures are used throughout the building. A purification system for drinking water eliminates the need for the delivery of bottled water. Even the decorative water features were designed to use recirculated water that is purified without chemicals. The HVAC system relies on an electromagnetic system rather than on chemicals for water treatment.

Art is integral to the design of the building. A long gallery space on the main level features revolving art displays. There also are major permanent artworks that evoke the themes of water by Koryn Rolstad of Seattle and Reiner John of Germany. On the terrace are eight boldly colored, whimsical aluminum sculptures that double as benches by Pam Castano of Phoenix.

Employee amenities include a 24-hour full-service cafeteria with a rooftop terrace overlooking the riverfront. There also are two employee break rooms with kitchen areas per floor. The O'Brien Family Center is the first corporate-operated child-care program in downtown Pittsburgh. This on-site facility provides backup child-care services for all employees in PNC's downtown facilities. The building also features shower facilities for those who bike to work and an electric vehicle recharging station. Furthermore, the building's occupants, as well as all other parties visiting and working in the downtown area, are affected by the positive contribution and aesthetic significance the building has made on a site that formerly was a brownfield. Not only is the structure pleasant to look at, but it also is pleasant to work in and look out of.

Management of the building is outsourced to Oxford Realty Services, a professional management company. To ensure that sustainability is a component of ongoing operations, employees of the building management company have undergone training programs. Even environmentally friendly cleaning products are used.

The design and construction of PNC Firstside took three years. An excellent relationship with the city of Pittsburgh ensured that the approval process went smoothly. The architects and PNC Realty Services note that the key to this was to initiate contact with appropriate municipal officials and staff early in the process and update them regularly on the progress.

In addition, to speed up the process, a fast-track construction management system was used. For example, excavation of the site began before interior plans were completed. During construction, erosion and sediment control systems were used to ensure sustainability. Total construction cost for the project was \$114 million, which was \$5 million under budget.

EXPERIENCE GAINED

PNC Realty Services Group found that most sustainable development concepts are actually good business practices. Creating an environment in which workers can thrive may increase productivity and lessen employee turnover.

The project team found that, in general, the costs incurred for sustainable features tend to average out over the total life of a project. In many cases, the higher upfront cost of one material or system was offset by the upfront savings in another.

Documenting and meeting LEED requirements can take extra effort and time, but the standards provide an excellent checklist for the project team to follow.

Developers of large-scale projects have clout with manufacturers. PNC Realty Services actively worked with manufacturers to create customized, environmentally sustainable products such as floor coverings, light fixtures, and accessible floors.

Technology and building systems change rapidly. Building designs must be flexible enough to accommodate future innovations. By using the LEED system as a design guideline and third-party certification tool, the Firstside Center building incorporated enhanced occupant comfort factors, environmental performance, and economic return on investment.

In addition, because sustainable development and green building principles were promoted throughout planning, design, and development, substantial quantities of natural resources and raw building materials were conserved during construction, and the ongoing reliance on energy supplies and additional building materials has been greatly minimized.

More important, the project has demonstrated the cost-effectiveness of utilizing sustainable development and green building design techniques and contains numerous engineering and architectural design innovations.

PROJECT DATA	
LAND USE INFORMATION	
Site area (acres/hectares): 3/1.2 Gross building area (square feet/square meters): 648,833/60,276 Net rentable area (square feet/square meters): 592,016/54,998 Building type: low rise Class: A	
LAND USE PLAN	
Use	Square Feet/Square Meters
Buildings	129,000/11,984
Hardscape	60,002/5,574
Landscaping/open space	18,202/1,690
Site total	207,204/19,249
DEVELOPMENT COST INFORMATION	
Site acquisition cost: land lease	
Construction Costs	
Shell and core: \$70,451,830	
Tenant fitout: \$29,833,170	
Security: \$735,815	
Signage: \$164,477	
Utilities and miscellaneous expenses: \$579,156	
Furniture systems: \$5,949,571	
Total: \$107,714,019	
Soft Costs	
Architecture/engineering: \$5,298,253	
Project management: in house	
Leasing/marketing: none	
Legal/accounting: in house	
Relocation costs: \$1,223,742	
Title fees: land lease	
Construction interest and fees: self-financed	
Total: \$6,521,995	
Additional costs associated with green building features such as LEED certification and downtown location: \$95,244	
Total development cost: \$11,331,258	
ANNUAL OPERATING EXPENSES	
Taxes: \$2,636,542	
Insurance: \$434,616	
Security: \$680,100	
Repair and maintenance: \$1,885,524	
Janitorial: \$1,288,130	
Utilities: \$1,520,466	
Legal: \$0	
Management: \$266,441	
Miscellaneous: \$44,658	
Tenant improvements: \$0	
Total: \$8,716,477	
Operating costs per square foot/per square meter: \$13.43/\$144.40	
DEVELOPMENT SCHEDULE	
Construction started: October 1998	
Project completed: October 2000	

DIRECTIONS

From Pittsburgh International Airport: Merge onto PA-60 south toward Pittsburgh/I-79/Pennsylvania Turnpike east. Merge onto US-30 east. Take the I-376 east/US-22 east/US-30 east exit, number 6A. Merge onto Grant Street. Follow Grant Street to First Avenue.

Driving time: 25 minutes in nonpeak traffic.

Anne Frej, report author
Leslie Holst, editor, *Development Case Studies*
David James Rose, copy editor
Joanne Nanez, online production manager

This Development Case Study is intended as a resource for subscribers in improving the quality of future projects. Data contained herein were made available by the project's development team and constitute a report on, not an endorsement of, the project by ULI—the Urban Land Institute.

Copyright © 2003 by ULI—the Urban Land Institute
1025 Thomas Jefferson Street, N.W., Suite 500 West, Washington D.C. 20007-5201



pNC Firstside Center is a large-scale, environmentally sustainable facility that is used for operations, processing, and many other traditional back-office functions for pNC Financial Services Group in Pittsburgh, Pennsylvania.



Located on a former brownfield in downtown pittsburgh, the edifice offers an employee-friendly environment with plenty of natural light, fresh air, and sustainable building systems.



The south elevation of pNC Firstside Center with the pittsburgh skyline behind it.



The main employee entrance on First Avenue includes a security clearance area.



The central atrium allows in plenty of natural light.



The employee cafeteria features a seating area along a large bank of windows.



Views of light wells and skylights. Wide corridors with skylights and light wells that let in abundant daylight also facilitate circulation.

