

**The Plaza at PPL Center:
I Want to Work Here**

By: Kim Abbott
November 11, 2004

Introduction



Developer:
Liberty
Property
Trust

Primary
Tenant: PPL
Corporation

- Located in Allentown, Pennsylvania
- 280,000 SF commercial office/retail

Design/Construction and Financing

- LEED Gold certification was target
- Integrated design from the beginning; developer, tenant and contractors part of all design meetings
- Contractor appointed a site manager specifically to manage sustainable design aspects
- Some financing through Keystone Opportunity Grant
- PPL contributed a significant amount to cover green design solutions
- \$1.5 million 'premium' for Gold certification; payback through operating efficiency will be a little over 4 years

Awards



American Institute of Architects
“Top Ten Green Projects of 2004”



First Place: “Places of Work:
Large Buildings”



Finalist:
“Award for Excellence 2004”



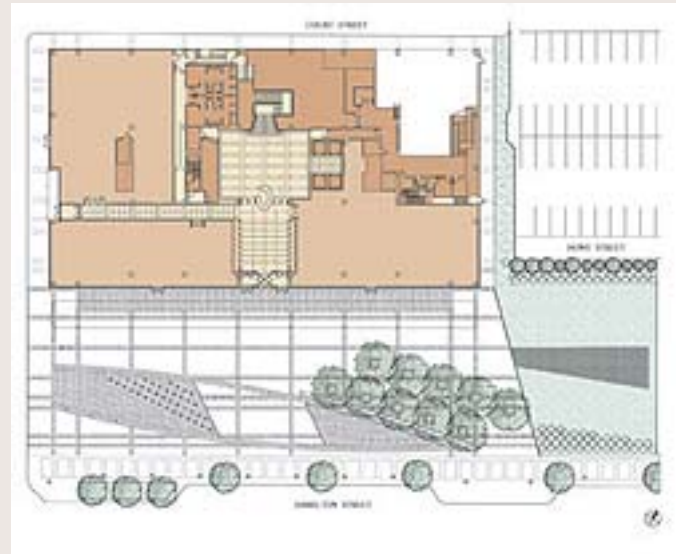
Honorable Mention, “Excellence in Design”,
Environmental Design and Construction Magazine

Sustainable Sites – 9/14

- Choice of site important to developer and tenant; PPL had opportunity to choose a suburban location, but decided on Allentown because it was interested in stimulating revitalization/regeneration
- Urban location maximizes existing public transportation infrastructure
- Pre-existing parking garage retrofitted with alternative fuel stations
- Covered bike storage for 5% of occupants; locker and shower facilities

Sustainable Sites – 9/14

- Building purposely set back from street to incorporate 1-acre plaza; plaza encourages PPL employees and public to interact
- Plaza and side garden qualify for heat island reduction credit
- Qualifies for Reduced Site Disturbance, since the site exceeds requirements for open space by 25%



Sustainable Sites – 9/14



- Incorporates multiple storm water treatment techniques
- Filters at ground level remove 80% of suspended solids, grease and oil before water enters storm sewers.
- The vegetated roof of the sixth floor soaks up excess storm water

Water Efficiency – 4/5

- Side garden planted with native species that does not require special irrigation
- Waterless urinals and sensor-activated faucets conserve water indoors – 1.2 million gallons/year
- Outdoor fountains retain rainwater



Energy and Atmosphere – 9/17

- Two ‘winter gardens’ shade the southern exposure, reducing solar gain and improving indoor air quality
- Canopies further reduce cooling costs
- Low-e, high performance glass



Energy and Atmosphere – 9/17

- 90% of all the office space has ‘line of sight’ to an outside window – 30% operating savings
- High efficiency lighting and office sensors also conserve energy
- Ice storage system
- High performance, HCFC free HVAC system will save 6 million kilowatt-hours per year



Energy and Atmosphere – 9/17

- 100% of the building's energy supplied by PPL's 'EnergyPlus' division
- EnergyPlus is Green-e certified and specializes in renewables such as biomass, geothermal, solar and wind



Materials and Resources – 6/13



- Over 20% materials used were from recycled material
 - 25% materials manufactured locally
 - 85% of wood from sustainably managed forests
-
- Over 95% construction waste was recycled, a cost savings for the developer

Indoor Environmental Quality – 9/15

- Low emission paints and carpet and composite wood products reduce VOCs and urea-formaldehyde
- As part of IAQ management plan, building was flushed with outside air for two weeks before occupancy



Indoor Environmental Quality – 9/15

- Carbon dioxide sensors regulate flow of fresh air when necessary; this saves money and energy in addition to improving indoor air quality
- Areas like janitorial closets and print/copy rooms have separate plumbing/exhaust to prevent cross-contamination
- As previously noted, over 90% office space has ‘line of sight’ to an outside window

Innovation in Design – 3/5

- One credit for ‘Exemplary Performance in Water Use Reduction’
- One credit for ‘Sustainable Education’
- One credit for using a LEED certified professional



More Credits?

Some suggestions for more credits:

- Choose a brownfield site; could also apply for an EPA Brownfield Redevelopment grant
- Reduce stormwater runoff by making hardscape plaza a green park or garden
- Renewable energy on site (solar panels)
- Use rapidly renewable resources such as bamboo or wheatgrass cabinets
- Use low-emission adhesives and sealants; install individual diffusers

Conclusion

- LEED Gold certified – 40 credits
- Premium (\$1.5 million) payback in just four years
- Conserves resources
- Healthy environment for employees
- Community outreach and urban revitalization

“Although green buildings are not being clamored for,
they make sense!”

- Jim Lutz, Sr. Vice President, Liberty Property Trust