11th Annual LEED Green Building Showcase
The Lofts of Washington University

July 8, 2014

Photos courtesy of Washington University of St. Louis (http://loopliving.wustl.edu/)
Owner- Washington University of St. Louis
Architect- WILLIAM RAWN ASSOCIATES, Architects, Inc.
Landscape Architect- Stephen Stimson Associates
Assoc. Landscape Architect- [details]
Structural Engineer- LeMessurier Consultants
MEP/FP Engineer- Ross & Baruzzini
Civil Engineer- Cole
Construction Manager- PARIC Corporation
LEED Consultants- Open Field Designs & Forum Studio
• Phase 1/Phase 2
  • Phase 1 Stats
    • 4 Buildings
    • 4.37 acre site
    • 1 Story Underground Parking Garage (218)
    • 206,038 GSF
    • 22,000 GSF Retail Space
    • 165 Units/413 Beds

Project Overview
Photo courtesy of Washington University of St. Louis
(http://loopliving.wustl.edu/)
Currently...

- Registered under LEED-NC v.2009
- Anticipate 59 Credits (based on early LEED design submittal review comments)
- Tracking for 25 additional credits

(Platinum requires 80-110 points)
Evolution of the Design
Evolution of the Design

- Washington University established a clear goal for the project to attain LEED Platinum certification.
- Energy conservation measures had to provide a positive Net Present Value (NPV) over the life of the proposed system.
- Numerous Life Cycle Cost (LCC) analyses were performed to confirm energy savings and NPV.
- Result - Projected annual energy savings are 47%, or approximately $250,000 (both phases), compared to model energy code, with life cycle payback < 10 years.
Design Features
Design Features

- Extensive use of indoor and outdoor LED lighting
- Heat recovery wheels for ventilation systems
- Variable ventilation and occupancy setback controls
- Low friction-loss duct design, with static regain
- Low-flow plumbing fixtures
- Water-cooled chillers and condensing boilers
  - Variable primary configuration for both systems
- Solar PV power generation
  - 10% peak demand
- Solar thermal domestic hot water heating system
  - 30% peak demand
Project Photos

Solar PV Panels-
Bldgs 1A, 2, 3

Photo courtesy of Ross & Baruzzini
Project Photos

Solar Thermal Collectors-
Bldgs 1A, 2, 3

Photo courtesy of Paric Corporation
Design Features (cont.)

- High performance building envelope
  - External shading fins on south facing glass walls.
- Green roofs over portions of the buildings
- Cistern to collect rain water for irrigation

Project Photos

External Shading Fins-
Bldgs 1A and 1B

Photo courtesy of William Rawn Architects
Project Photos

Building 1A - Roof Terrace

Photo courtesy of Paric Corporation
Project Photos

Bike Storage Room - Bldg 2

Photos courtesy of Paric Corporation
Construction Credits
Construction Credits

- **MR Credit 2- Construction Waste Management**
  - Tracking 81% Diversion (2pts) + 1pt Regional Priority
  - Eco-Recycling & Refab STL
- **MR Credit 4- Recycled Content**
  - Tracking 25% (2pts)
- **MR Credit 5- Regional Materials**
  - Tracking 52% (2pts) + 1pt Regional Priority + 1pt ID Credit
- **MR Credit 7- Certified Wood**
  - Tracking >50% (1pt)
Current View from Enright Avenue
Photo courtesy of Paric Corporation

Project Photos

Current View from Delmar Blvd