

The Solaire

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1.964 – Design for Sustainability

20 River Terrace, Battery Park City, NY

Overview

- 27 Stories – 293 Units – 350,000 ft²
- Battery Park City Residential Environmental Guidelines
- LEED Gold Certification
 - First Urban Residential High Rise in the US
- Opened 2003

Design Goals

- 35% Less Energy Consumption
- 50% Less Potable Water Consumption
- 60% Recycled Construction Waste
- 40% Materials Produced within 500 miles

Energy

- 35% less energy consumption
- Compact Fluorescent and Dimmable Lighting
- Energy Star appliances
- Central HVAC system
 - Gas Fired Heating and Cooling
 - Variable frequency fans and motors
- Photovoltaics
 - Integrated in building façade
 - Generates ~5% of energy demand

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Photovoltaic Panels

Materials

- 93%(!) of construction waste recycled
- Interior materials
 - Renewable/recycled sources
 - Minimal outgassing
 - Paints with low VOC, non-toxic household cleaners
- Local Materials
 - 67% produced within 500 miles
 - Others transported using most energy efficient methods

Water

- On-site blackwater system recycles 100%(!) of wastewater
 - Treated water reused for
 - toilet flushing
 - cooling tower
 - irrigation
- 100% of stormwater captured (~170,000 gal/yr)
 - Irrigation of green roof and near-by park
- Municipal potable water demand decreased by 50%

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Green Roofs

Indoor Air Quality

- Advanced central air filtration and conditioning
 - Fresh air brought in twice a day
 - Regulated moisture content
- Low or no VOC materials

Operations

- Comprehensive training for operation personnel
- Emphasis on preventative maintenance (vs. reactive)
- Frequent progress and status reports
- Integrated monitoring system

Conclusion

- Breakthrough project for residential green buildings
 - First LEED Gold Residential High Rise
 - Leads the Battery Park Green Initiative (first of eight proposed green buildings)
- Total Cost: \$115 mil
 - \$2.8 mil saved through NYS Green Buildings Tax Credit Program
 - “Greening Cost” = \$17 mil (~15%)
 - Rental prices 4-5% more than average in area