



1000 Connecticut Ave.



One Thousand Connecticut Avenue

At the intersection of K Street and Connecticut Avenue in northwest Washington, D.C., a new office building is close to earning a rare distinction. The 12-story 1000 Connecticut Ave. project is seeking to become one of only a handful of area office buildings to achieve LEED® Platinum certification. Sustainability was always a priority for the owner, Connecticut and K Associates, LLC, and the group was integral to pushing the project beyond its original goal of earning LEED Gold. With assistance from general contractor Clark Construction Group, architects WDG Architecture and Pei Cobb Freed & Partners, and sustainability consultant SD Keppler & Associates, 1000 Connecticut Ave. expects to earn a minimum of 48 LEED points.

From the project's inception, sustainability was a priority. Ninety-four percent of all construction waste generated during demolition of the site's existing structure was recycled or otherwise diverted from landfills. In

total, nearly 97 percent of all construction waste was recycled or diverted.

The office building, which reached substantial completion at the end of January, is the future home of Arent Fox, LLP. Sustainable materials and features, including FSC-certified wood and recycled materials, are integrated with luxurious and high-end finishes, including the lobby's European white oak, Japanese stainless steel, and Italian Bianco Carrara marble.

The curtain wall system that faces Connecticut Ave. and K Street is comprised of stainless steel, stone, and glass. The owner requested the manufacturer add argon gas between panes of glass, to make the stunning façade more thermally efficient. On top of the building, a green roof of more than 16,000 square feet combines planters and sedum to reduce the heat island effect and reduce stormwater runoff by more than a third.

1000 Connecticut's efficient MEP systems are a large factor in the building's long-term sustainability. Low-flow fixtures and dual-flush toilets contribute to a total water savings of over 40 percent and an Innovation and Design

credit for Water Use Reduction. The building reduces energy use by over 20 percent compared to a building built to code minimum. The owner accepted a change order to purchase and install three water-cooled frictionless chillers that use magnetic levitating bearings instead of oil. These chillers require less maintenance and generate less noise. They can be utilized in series or parallel, depending on the season and time of day.

The project's commitment to sustainability will be evident to future tenants and visitors. LED lights in the below-grade parking garage are energy-efficient and make the underground space brighter and more welcoming. Throughout the building, signs mark the project's energy efficient features and detail how 1000 Connecticut will earn its LEED Platinum certification.

Other sustainable design "green" things to consider:

- Improved the Previous Land
 - An investigation of the existing building determined that asbestos and PCBs were present and needed to be properly disposed of during demolition.



- Alternative Transportation:
 - Within .5 mile of bus and metro, promoting sustainable transportation for occupants
 - Bicycle Storage and Changing Rooms promotes zero emission way to get to work.
- Parking is 100% underground
 - Parking Garage is not taking up useable land and reduces overall heat-island effect.
- Implemented LEED® Tenant Design and Construction Guidelines
 - Ensures that Tenants apply “green” elements to their spaces
- Construction Materials:
 - Up to 20% of materials by cost were recycled
 - Up to 20% of materials by cost were sourced locally (with 500 miles of the project site)
 - * Promotes local economies
- Low Emitting Materials:
 - Only used Adhesives/Sealants and Paints/Coatings that are considered to have low VOC’s (volatile organic compounds). This improves the overall indoor air quality by minimizing emissions from these types of products
 - Carpet Systems: Green Label Certified Carpets
 - All composite wood (doors, plywood, etc.) do not contain any added urea formaldehyde.
- The building was designed to incorporate the controllability of thermal comfort systems by the occupants, as well as having direct access to daylight and exterior views.

Eight Hundred Fifteen Connecticut Avenue

Located on a prime site just one block from the White House, 815 Connecticut Avenue is being converted to a trophy green facility in order to support the owner’s vision for a high-performance, sustainable facility, projected to achieve LEED Gold Certification. Slated for completion in early 2012, the trophy structure will feature 215,000 square feet of space on 12 floors.

With an objective to maintain occupancy and tenant satisfaction throughout the repositioning, the project team (consisting of Transwestern Commercial Real Estate Services, DRI Development Services, VOA



Associates, and Forrester Construction Company) developed a multi-year phasing strategy, sequencing first a complete MEP systems and equipment retrofit in 2009, followed by a thorough overhaul of common areas, amenity spaces, tenant lobbies, and core restrooms throughout 2010.

Used recently as platform by President Barack Obama and former President Bill Clinton to launch the Better Buildings Challenge, 815 Connecticut is a model of how energy efficient upgrades to existing buildings can have a measureable impact on reducing not only carbon emissions and energy consumption, but also operational costs. To date, the energy efficiency measures that have been completed are saving almost \$200,000 per year, or over \$0.99 per square foot. Examples of unique high efficiency measures include:

- Replacing the façade with a high efficiency glass curtain wall system
- Utilizing two 275-ton McQuay TurboCor chillers and two new EVAPCO AT series forced-draft cooling towers with variable frequency drives (VFDs).
- New dampers with very low leakage rates were installed in the air-to-air economizer section of the building’s air handler.
- Direct Digital Control (DDC) lighting and window shade system with daylight sensors.
- Redistributing the duct work system to include new VAV boxes, and floor and quadrant zone control with DDC thermostats and dampers.
- Low water consuming plumbing fixtures and devices.

Logistics of the construction work had to be meticulously planned, including working in twenty foot vertical bays at a time in lieu of entire horizontal floors. **B**