



ARIZONA STATE UNIVERSITY NEWS RELEASE

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## **Biodesign Institute at ASU earns Arizona's first top rating from US Green Building Council**

### **Award recognizes environmentally friendly construction and design**

TEMPE, Ariz. — The Biodesign Institute at Arizona State University has garnered the highest designation for environmentally friendly design and construction from the U.S. Green Building Council (USGBC). The platinum certification for "Leadership in Energy and Environmental Design" (LEED®) was issued for Building B, which opened in 2006. This marks the first time a building in Arizona has received the platinum award.

Building A, which opened in 2004, received gold-level certification. The two buildings were constructed separately, but are connected on all levels by glass walkways.

The USGBC granted the certificates based on a stringent rating system that recognizes design and construction processes that minimize negative impact on the environment. So far, there are 40 platinum and 257 gold LEED certified buildings in the United States. ASU President Michael Crow has called for all new construction at the university to meet LEED standards.

"The certifications of both buildings A and B send a message that ASU leadership cares about the health of the buildings' users and employees. Everyone's comfort, safety and well-being will benefit from the fresh air and natural daylight," said Rick Fedrizzi, president, CEO and founding chair, USGBC.

The Biodesign Institute facilities were designed by architectural team of Gould Evans+Lord, Aeck & Sargent. They were built via a joint venture of Sundt Construction and DPR Construction. Certification assistance was provided by Green Ideas. In addition to LEED certification, the team's work won Biodesign the 2006 Lab of the Year award from *R&D Magazine*.

At 172,000 square-feet, Building A was funded by university capital funds and opened in 2004. It earned a gold-level LEED certificate, despite being a fast-track construction project that originally had not targeted certification. Experience from raising Building A was incorporated into Building B, making it possible to earn the platinum-level certificate. The slightly larger Building B, at 175,000 square-feet, was completed in 2006, utilizing funding from a 2003 Arizona legislative appropriation to support infrastructure improvements at the state's three universities.

"Our research attempts to imitate nature's design. So in constructing our facilities, we strove for minimal impact on the natural environment that inspires us," said George Poste, director of the Biodesign Institute.

Featuring large expanses of glass, the facilities attempt to bring the scientific source of inspiration indoors. All offices have views of a Sonoran Desert garden. A central atrium skylight runs the length of both buildings, allowing natural light to infuse all four levels.

Environmentally friendly features range in scale from site and urban planning to interior finishes. The facility entry is near the new light-rail station set to open in 2008. Overall the project exceeded LEED criteria for use of recycled materials, at 15 percent, including aluminum ceiling panels, recycled-content carpet and rubber stairwell flooring. A construction waste management plan reduced landfill construction waste by more than 60 percent.

The facilities foster cross-disciplinary interaction to support the Biodesign Institute's goals. Its height was limited to four levels to encourage using stairs, rather than elevators. Glass-walled laboratories and office space offer transparent views of each other and the atrium that separates them. This design encourages researchers to cross public spaces, which provides ample opportunities for impromptu meetings in the spacious hallways and stairwells.

"The idea of the atrium was bold for a university, where space is at a premium," said Barbara Hendricks, project manager, Gould Evans.

Larry Lord, FAIA, LEED AP, is a science principal with Lord Aeck & Sargent. "What we created was the idea of a large connecting space, or as we call it, a three-dimensional collaborative space," he said. "So, all the floors are associated with an atrium that goes north and south, and then in the future, east and west so that everyone is connected in a bigger sense within the buildings."

The Biodesign Institute's master plan includes two additional east-west buildings, which will bring the total space to nearly 800,000 square feet.

The facilities represent the largest investment in biotech research infrastructure in Arizona. The investment is paying off. The institute is the largest generator of federal biomedical research funding in the valley. Its research integrates biology, medicine, engineering, nanotechnology and advanced computing in new ways to inspire new solutions to disease, injury, sustainability and security.

Other green elements to the institute include:

- Fly ash – a waste by-product of coal burning power plants – was used to offset the energy demands of a typical concrete structure.
- A reflective roof membrane and high-albedo paving materials mitigate the Phoenix area's urban heat island effect.
- A 5,000-gallon irrigation water cistern collects air conditioning condensate water, which eliminates the use of potable water in landscape irrigation. Rain water from the roof and paving are routed directly via pipes to the drought-resistant native desert landscaping.
- Low-flow lavatories, kitchen sinks, showers and waterless urinals use 30 percent less water than conventional fixtures.

- An exterior shading system on south and west facades controls unwanted heat from the hot desert sun.
- The top portion of the interior shade louver system is automatically controlled to maximize daylight penetration by reflecting diffuse light onto the ceilings.
- Office occupancy sensors automatically control artificial lighting, reducing both lighting energy demand and associated cooling loads. These strategies reduce energy use by 29 percent.
- Terrazzo floors were made with locally available materials, including area river rock. This pays tribute to the Salt River that flowed through the site long ago.
- Ozone-friendly refrigerants were used to help mitigate ozone depletion.
- An innovative variable-volume exhaust system was designed in place of a conventional, constant-volume system, reducing energy demand associated with meeting laboratory ventilation requirements in the desert.
- A two-week flush-out was performed to improve indoor environmental air quality before occupying the building.

#### **About the Biodesign Institute at ASU**

The Biodesign Institute at Arizona State University is focused on innovations that improve health care; provide renewable sources of energy and clean our environment; outpace the global threat of infectious disease; and enhance national security. Using a team approach that converges the biosciences with nanoscale engineering and advanced computing, the goal is to find solutions to complex global challenges and accelerate these discoveries to market. The institute also educates future scientists by providing hands-on laboratory research for more than 250 students per semester. For more information, visit <http://www.biodesign.asu.edu/>.

#### **About the U.S. Green Building Council**

The U.S. Green Building Council is the nation's leading coalition of corporations, builders, universities, government agencies, and nonprofit organizations working together to transform the way buildings are designed, built and operated. Green buildings are environmentally responsible, profitable and healthy places to live and work. Since its founding in 1993, the Council has grown to more than 7,700 member companies and organizations, an 85-person professional staff, a broad portfolio of LEED® green building products and services, the industry's popular [Greenbuild International Conference and Expo](#) and a network of over 70 local chapters, affiliates and organizing groups.

#### **About Lord, Aeck & Sargent Architecture**

Lord, Aeck & Sargent is an award-winning architectural firm serving clients in scientific, academic, historic preservation, arts and cultural, and multi-family housing and mixed-use markets. The firm's core values are responsive design, technological expertise and exceptional service. In 2003, the Construction Specifications Institute awarded Lord Aeck & Sargent its Environmental Sensitivity Award for showing exceptional devotion to

the use of sustainable and environmentally friendly materials and for striving to create functional, sensitive and healthy buildings for clients. In 2007, Lord, Aeck & Sargent was one of the first architecture firms to adopt The 2030 Challenge, an initiative whose ultimate goal is the design of carbon-neutral buildings, or buildings that use no fossil-fuel greenhouse gas-emitting energy to operate, by the year 2030. Lord, Aeck & Sargent has offices in Ann Arbor, Michigan; Atlanta; and Chapel Hill, North Carolina. For more information, visit the firm at [www.lordaecksargent.com](http://www.lordaecksargent.com).

#### **About Gould Evans**

Gould Evans is a multi-faceted design firm, providing architecture, planning, graphic and interior design to a range of public and private clients. Since the firm's founding in 1974, Gould Evans has grown to more than 200 professionals in eight offices. The Phoenix office, formed in 1996, has grown to a staff of 40 and emerged with an award-winning portfolio of projects, 85% repeat client ratio, and reputation for unique, fresh design solutions. We believe in the power of superior design, but more importantly, we believe in the power of the collaborative process. For more information, visit [www.gouldevans.com](http://www.gouldevans.com).

#### **About Sundt Construction Inc.**

Tempe-based Sundt Construction Inc. is the 65th largest construction company in the United States. The employee-owned company is a highly diversified provider of construction services and has won more national Build America Awards for construction excellence than any other contractor in the United States. Sundt currently has 71 LEED-accredited professionals. The company builds projects for both public and private clients, including buildings of many types; roads, bridges and other infrastructure projects; and projects to support national defense initiatives such as military family housing and a variety of operational facilities. For more information visit [www.sundt.com](http://www.sundt.com).

#### **About DPR Construction Inc.**

DPR Construction Inc., a forward-thinking national general contractor and construction manager, consistently ranks in the top five percent of general contractors in the country in its four core markets of advanced technology, biopharmaceutical, corporate office and healthcare. The privately held company currently has more than 185 LEED-accredited professionals, making it a leader among general contractors with the highest percentage of professionals on staff accredited and trained in green building. DPR also is the sixth largest laboratory, research and biopharmaceutical builder in the nation. The firm's 130-person Arizona office has been "building great things" since 1994 and, with more than \$112 million worth of work under way, is ranked one of the largest general contractors in Arizona. For more information, visit [www.dprinc.com](http://www.dprinc.com).

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