



CHEYENNE BOTANIC GARDENS

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NEWS RELEASE

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Cheyenne Botanic Gardens, Paul Smith Children's Village celebrates LEED Platinum Certification



22 April 2010 (CHEYENNE, WY) – The Cheyenne Botanic Gardens announced today that the Paul Smith Children's Village and the Lowes Discovery Lab has been awarded LEED® Platinum certification, the highest achievable level of the LEED (Leadership in Energy and Environmental Design) program established by the U.S. Green Building Council (USGBC) and verified by the Green Building Certification Institute (GBCI). The Children's Village has an overall theme of sustainability and is a centerpiece of the Botanic Gardens and provides families and children with indoor and outdoor hands-on classes, displays, events, and tours. LEED is the nation's preeminent program for the design, construction and operation of high performance green buildings. The Cheyenne Botanic Garden is one of less than 300 projects worldwide to achieve Platinum status and the second commercial project in Wyoming to earn LEED Platinum, it is also the first

public children's garden to receive such recognition.

"We are excited to receive LEED certification. Given the fact that our Children's Village has a theme of sustainability, we felt it was important to document our sustainability through the LEED certification process. The Friends of the Cheyenne Botanic Gardens took a leap of faith in deciding to pursue the highest green certification available," states Shane Smith, Director of the Cheyenne Botanic Gardens. "We were pleased with the process and enjoyed working with The Design Studio, AECOM, Dohn Construction, and the Institute for the Built Environment, who all have excellent experience in green projects." Smith also mentioned the high level of community enthusiasm about the many sustainability lessons the Paul Smith Children's Village provides, "This community feels both pride and ownership in this project because they were involved in the design, funding and overall development of the project."

"As we began the LEED process, the team had to be practical and flexible with our design strategies," stated Mark Kosmos, AECOM landscape architect. "An early walk of the site revealed a quantity of discarded stone and a vast supply of concrete slab on site from a previous era. We were able to reuse these materials in the walls and amphitheater in artful ways. It turned out this was not only sustainable but also practical and cost effective."

"The Children's Village project is exemplary in several ways," said Randy Byers, TDSi lead architect. "It shows the value of preserving and repurposing a historic structure. The stone work on the 1930's Works Progress Administration (WPA) building and the garden walls are great examples of traditional craftsmanship. Additionally, that the project was completely funded by donations, with no tax dollars, is a testament to the importance that the citizens of Cheyenne place on the Botanic Gardens. Finally, the only other LEED Platinum project in Wyoming is the Laurance S. Rockefeller Preserve in Grand Teton National Park. This is an iconic project for Wyoming and was designed and constructed with a much higher budget than the Paul Smith Children's Village. The LEED Platinum level certification is the result of a committed owner and project team. Cheyenne should be very proud of this project and all that it represents."



Students and staff at the Institute for the Built Environment (IBE) at Colorado State University were hired to coordinate the LEED certificate work, facilitate the project's green design process and provide research into green building strategies. Brian Dunbar, Director of IBE stated, "The Children's Village is a model of regenerative, 'living' architecture – to transform a maintenance building and yard into a vibrant place that teaches children and families about water, plant life, solar and wind energy, recycling and reuse makes this an exemplary project for Cheyenne, the region and the nation."



About the Children's Village

The overarching theme of the Paul Smith Children's Village is sustainability at a scale that appropriately engages children's imagination and wonder. The three-quarter acre site includes the Lowe's Discovery Lab, a renovated solar heated and powered 3,000 square foot 1930's stone building, and many interactive landscapes including a natural wetlands, gravity powered water works, farmers windmill, vertical axis wind turbine, solar pumps, sculptures, world vegetable garden, prairie plantings, waterwheel, Archimedes screw pump, a "Secret Garden," art and crafts plazas, green roof demonstration, historic sheep wagon, tipi village, picnic orchard, and puppet theater.



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"The waterworks system is a sustainable message in itself since it is powered by the wind and gravity," said Kosmos. "There are layers of educational concepts for all age groups including a cooperative fountain that runs faster as more people interact with it." With so many elements, the challenge beyond the sustainable design was to blend everything into a beautifully designed, cohesive plan using the concept of a village. Through play and adventure, this first of its kind children's garden gives children hands-on experience to understand practical methods of sustainable living.

The garden master plan was organized around the following subthemes:

- *Sustainable Art:* Where kids express themselves with reused materials. Kinesthetic art is emphasized by making pinwheels and whirligigs, which are placed in drifts, like wildflowers.
- *Sustainable Water:* Where kids move and direct the power of water using hand pumps, an Archimedes screw, windmill, siphons, gates and channels, and a water wheel. Water quality issues are also addressed using "flow form" technology and wetlands.
- *Sustainable Building:* Where kids construct and observe modern and ancient methods of building structures using rammed earth, green roofs, recycled and reused materials. This portion of the garden will change over time with community involvement.
- *Sustainable Community:* Where kids come together socially in a village square to celebrate friendship, cooperation, education, and culture.
- *Sustainable Energy:* Where kids can see how wind, sun, and biofuels are used to light and heat the buildings and greenhouse.

The Cheyenne Botanic Gardens achieved LEED Platinum certification for building reuse, construction waste recycling, solar energy, efficient lighting, water conservation and material use. "Cheyenne Botanic Garden's LEED Platinum certification demonstrates tremendous green building leadership," said Rick Fedrizzi, President, CEO & Founding Chair, U.S. Green Building Council. "The urgency of USGBC's mission has challenged the industry to move faster and reach further than ever before, and Cheyenne Botanic Gardens serves as a prime example with just how much we can accomplish."

LEED certification of Cheyenne Botanic Gardens Children's Village was based on a number of green design and construction features that positively impact the project and the broader community. These features include:

- Building envelope and energy use was optimized to save 71% of annual energy cost and 78% of total annual energy over the ASHRAE 90.1-2004 energy standard
- In-floor radiant heating and natural cooling and ventilation
- Installed on-site photovoltaic (solar electric) panels, vertical axis wind turbine, and solar thermal renewable energy to offset energy cost by 35%

- Careful deconstruction of existing on-site structures
- Over 77% of construction waste was diverted from the landfill
- Over 50% of the site was protected and restored with native vegetation and habitat
- Landscape water needs reduced by 70% through the selection of native and low water vegetation and the use of innovative watering techniques
- Sustainable landscape design treats storm water on-site, reducing demand on municipal sewer system
- Treated non-potable water used for on-site watering reduces potable water use
- Indoor water usage reduced by 60% with ultra low flow water closets, waterless urinals, and low flow lavatories and faucets
- Building envelope and energy use optimized to save 71% of annual energy cost and 78% of total annual energy over standard construction (ASHRAE 90.1-2004 energy standard)
- In-floor radiant heating and natural cooling and ventilation
- Maintained over 50% of interior, non-structural building elements
- Selected building materials that were harvested and manufactured regionally, contain recycled content, were salvaged or repurposed, and contain low- and no volatile organic compounds
- 100% of spaces are adequately daylight and offer adequate views to the outdoors
- Facilities for employees to commute to work by bicycle



The project serves as an excellent educational opportunity for the Rocky Mountain Region. Students in the Wind Energy program at Laramie County Community College assisted with the installation of the vertical axis wind turbine. Also, graduate students in Construction Management and Interior Design at Colorado State University were instrumental in the LEED coordination and documentation process via CSU's Institute for the Built Environment. Furthermore, visitors to the Children's Village are greeted by interactive and informational touch screens intended to educate guests about the green design elements of the building.

The Children's Village project team included TDSi – The Design Studio, Inc, AECOM, West Plains Engineering, Dohn Construction, Institute for the Built Environment, Sustainably Built, and E-Cube. For more information about the Cheyenne Botanic Gardens' Children's Village project, refer to the IBE website, www.ibe.colostate.edu/projects.

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U.S. Green Building Council

The Washington, D.C.-based U.S. Green Building Council is committed to a prosperous and sustainable future for our nation through cost-efficient and energy-saving green buildings. With a community comprising 80 local affiliates, more than 18,000 member companies and organizations, and more than 155,000 LEED Professional Credential holders, USGBC is the driving force of an industry that is projected to contribute \$554 billion to the U.S. gross domestic product from 2009-2013. USGBC leads an unlikely diverse constituency of builders and environmentalists, corporations and nonprofit organizations, elected officials and concerned citizens, and teachers and students. Buildings in the United States are responsible for 39% of CO2 emissions, 40% of energy consumption, 13% water consumption and 15% of GDP per year, making green building a source of significant economic and environmental opportunity. Greater building efficiency can meet 85% of future U.S. demand for energy, and a national commitment to green building has the potential to generate 2.5 million American jobs.

LEED

The LEED system assures that project teams integrate healthy, eco-friendly features in five main categories: Sustainable Sites; Water Efficiency; Energy and Atmosphere; Materials and Resources; and Indoor Environmental Quality. Beyond these categories, projects also seek Innovation and Design Process credits. The U.S. Green Building Council's LEED green building certification system is the foremost program for the design, construction and operation of green buildings. Over 32,000 projects are currently participating in the commercial and institutional LEED rating systems, comprising over 9.6 billion square feet of construction space in all 50 states and 114 countries. By using less energy, LEED-certified buildings save money for families, businesses and taxpayers; reduce greenhouse gas emissions; and contribute to a healthier environment for residents, workers and the larger community. USGBC was co-founded by current President and CEO Rick Fedrizzi, who spent 25 years as a Fortune 500 executive. Under his 15-year leadership, the organization has become the preeminent green building, membership, policy, standards, influential, education and research organization in the nation.

For more information, visit www.usgbc.org.

For more information visit: <http://www.botanic.org/ChildrensGarden.asp>

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