



# Blue Springs Nature Preserve

Steering Committee Newsletter / Oct. 2008

## Letter from the Chairman

Dear Steering Committee Member,

The environment continues to be a topic of interest nationwide, and nowhere is this more evident than in the construction industry, where the concept of green buildings is becoming more popular.

From the beginning, we have expressed interest in employing a green building strategy for Blue Springs Nature Preserve. Given our mission of establishing Blue Springs as a destination for environmental education, it only makes sense that any construction at the Preserve would embrace environmentally-friendly attributes. That is why in this issue of the newsletter we have taken the opportunity to explore the possibilities in the green building realm.

In closing, we appreciate your continued interest in Blue Springs Nature Preserve. We are making further progress towards our goal of opening Blue Springs to the public. Despite the tough economic times that are projected in the near-term, we are optimistic that we will continue to move forward with this exciting project.

Sincerely,  
*Spencer Weitman*



## Blue Springs Nature Preserve Steering Committee

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### Green Buildings at Blue Springs



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# Green Buildings at Blue Springs

## How Blue Springs Nature Preserve can LEED the way

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Environmental issues are a hot topic in America. With fears of global warming and depletion of resources running rampant, implementation of practices that benefit the environment are becoming more and more prevalent. One of these practices is sustainable development.

Sustainable development is a design and construction philosophy that seeks to minimize the impact of development on physical or social environments. According to the United States Green Building Council (USGBC), buildings consume 70 percent of electricity and produce 39 percent of all carbon dioxide emissions in the United States alone.

Through sustainable development approaches, so-called “green buildings” are designed to consume less energy and natural resources and to integrate within the existing community.

The recognized standard of green building is Leadership in Energy and Environmental Design®, or LEED, certification. LEED certification is awarded to projects that are designed under LEED standards issued by the



*Water collection systems, shown on the roof of this building at the Ladybird Johnson Wildflower Center in Austin, Texas, are an example of a green building design that could be implemented at Blue Springs Nature Preserve.*

USGBC. Originally developed in 1998 through collaboration of architects, engineers, developers and other construction professionals, the LEED standards have since expanded to cover all facets of development and construction.

While the LEED system is voluntary, the General Services Administration, the agency that procures new building contracts

and leases for all federal agencies, has mandated that all of its new construction projects must meet minimum LEED certification. LEED certification has steadily gained support from the private sector as well. Industry estimates state that approximately 3-4 percent of new construction is designed by the LEED standard; the rate is expected to rise to 25 percent in the future. According to the

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### About National Cement

National Cement Company of Alabama, Inc. is a major producer of cement in the Southeastern United States, employing approximately 450 people.

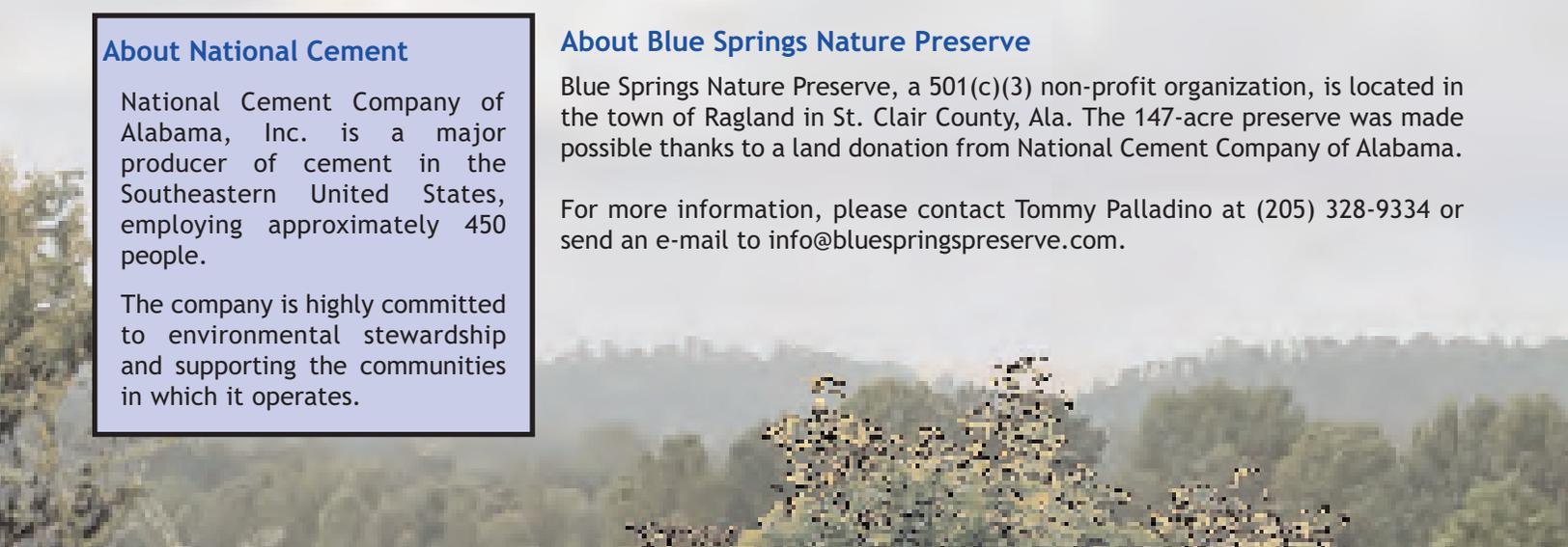
The company is highly committed to environmental stewardship and supporting the communities in which it operates.

### About Blue Springs Nature Preserve

Blue Springs Nature Preserve, a 501(c)(3) non-profit organization, is located in the town of Ragland in St. Clair County, Ala. The 147-acre preserve was made possible thanks to a land donation from National Cement Company of Alabama.

For more information, please contact Tommy Palladino at (205) 328-9334 or send an e-mail to [info@bluespringspreserve.com](mailto:info@bluespringspreserve.com).

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USGBC, approximately 2,200 projects in various states of design or construction were LEED-registered by mid-2005. By the end of 2006, more than 4,600 LEED-registered projects were recorded. Industry projections reveal that LEED registrations should pass 12,000 by 2010.

One of the goals for the Blue Springs Nature Preserve, as stated in the master plan, is to construct environmentally friendly structures to facilitate educational tours, classes and exhibits. By using LEED design on buildings throughout its campus, Blue Springs also gives visitors the opportunity to learn firsthand about green buildings and their applications.

While designs for the planned buildings have not yet begun, there are numerous possibilities for LEED buildings at Blue Springs. Here are some potential scenarios:

**Choice of materials:** One of the simplest strategies available in a LEED design approach is selection of materials. Buildings account for

40 percent of material and energy use, so an approach that reduces this usage is beneficial.

For instance, a project can earn credits by using regional materials from within a 500-mile radius of the project site – such as cement from National Cement! By reducing the distance materials travel, less fuel is consumed and fewer emissions are exerted from transportation. Using recycled materials, which reduces the amount of waste deposited in landfills, is another option. Adding fly ash to a concrete or using concrete from a demolished building as a base material is just one example of using recycled material. Also, using interior organic materials, such as paints, establishes a better indoor air quality for building occupants to breathe.

**Water conservation** features in new or existing buildings, which account for 12 percent of potable water use in the United States, benefit the entire community.

Water conservation helps maintain the fresh water supply, reduces the energy expended in treating water, and preserves wildlife habitats.

A typical example of water conservation techniques in buildings is to install more efficient low-flow water fixtures that reduce wasted water. A more innovative example is capturing stormwater for reuse on-site, or installing a water treatment plant for recycling water. More radical water conservation approaches include reuse of filtered gray water – such as water for washing machines, dishwashers and sinks – in non-potable uses, such as toilets.

**Green roof:** A green roof is exactly what it sounds like – a roof covered with vegetation and underlain by waterproofing material. One of the main advantages of a green roof is that it reduces the “heat island effect.” Asphalt roofs and pavement absorb, rather than reflect, sunlight and in turn raise the temperature of the air around it. The increased heat also affects air quality by trapping ground-level ozone pollution. Green roofs also mitigate stormwater runoff by absorbing rainfall instead of discharging the volume into the sewer system.

In addition to green roofs, use of light-colored and/or permeable paving and maximizing vegetation can also reduce the heat island effect and reduce stormwater runoff.

**Energy conservation:** As stated previously in this article, buildings account for 70 percent of energy consumption in the United States.



*The new Social Security Administration Building in Birmingham features a green roof.*

*continued*

Reducing overall energy consumption, therefore, is an important facet of green building design.

One of the basic strategies for energy conservation is the use of energy-efficient electrical appliances, such as HVAC. Using renewable energy systems, such as solar or wind power, is another strategy.

Other energy-saving features typically come from the building design itself. Using larger windows and orienting a building on an east-west angle maximizes natural lighting. Choosing natural materials with higher insulation properties, such as brick, can also help reduce HVAC loads.



*An early sketch of proposed building layouts for Blue Springs Nature Preserve emphasizes integration of structures into the lay of the land.*

**Transportation:** Many LEED projects provide facilities that encourage mass transit, carpooling or bicycling for employees and building occupants, in turn reducing the amount of emissions from single-occupant automobile commuting.

One of the proposals in the Blue Springs Nature Preserve master plan that reflects such a green strategy is the use of a tram system to minimize automobile use throughout the preserve. Such a tram system would utilize electric vehicles.



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