

Council of State Governments 2010 Innovations Awards Application

Deadline: March 1, 2010

ID # (assigned by CSG): **10-S-12NC**

Please provide the following information, adding space as necessary:

State: __North Carolina

Assign Program Category (applicant): Natural Resources/Parks and Recreation

1. Program Name: LEED Certification Initiative

2. Administering Agency: N.C. Division of Parks and Recreation

3. Contact Person (Name and Title): Donald G. Reuter, Assistant Director

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9. Please provide a two-sentence description of the program. In 2007, DPR Division Director Lewis Ledford issued a staff directive, to pursue Leadership in Energy and Environmental Design (LEED) certification through the U.S. Green Building Council's LEED Green Building Rating System for all new, or significantly renovated, buildings having 5,000 square feet or more. The division recently completed construction of a 22,600-square-foot Coastal Education Center at Fort Macon State Park in Carteret County, NC, a 9,500-square-foot Visitor Center at Merchants Millpond State Park in Gates County, NC, a 7,200-square-foot Visitor Center at Raven Rock State Park in Harnett County, NC; in process of constructing a Visitor Center at Cliffs of the Neuse State Park in Wayne County, NC, a 3000-square-foot maintenance facility at Pettigrew State Park in Washington and Tyrrell Counties, NC, 5,100-square-foot Bathhouse at Lake James State Park in Burke and McDowell Counties, NC; and currently finishing up the design of a 8,500 square-foot Visitor Center at Gorges State Park in Transylvania County, NC that are candidates for receiving LEED certification.

10. How long has this program been operational (month and year)? Three years

11. Why was the program created? What problem[s] or issue[s] was it designed to address?

The initiative allows the Division of Parks and Recreation to set an example through performance and education as a model for environmental stewardship and sustainability. More importantly, the division is able to eliminate, reduce and minimize environmental impacts associated with such large construction projects. The state parks system's mission is to conserve and protect representative examples of the natural beauty, ecological features and recreational resources of statewide significance; to provide outdoor recreational opportunities in a safe and healthy environment; and to provide environmental education opportunities that promote stewardship of the state's natural heritage. As part of the Division's on-going efforts to promote planning and construction practices of infrastructure and buildings that are environmentally responsible, profitable, and healthy places to live, work and enjoy. Our plans and projects should be beautiful and sustainable, humane and functional, and responsive to the identity of North Carolina, along with the cultural and natural forces in the region. According to the U.S. Department of Energy, buildings use 39 percent of the energy and 74 percent of the electricity produced each year in the United States. The Energy & Atmosphere category in LEED

Certification evaluation encourages a variety of energy strategies: commissioning; energy use monitoring; efficient design and construction; efficient appliances, systems and lighting; the use of renewable and clean sources of energy, generated on-site or off-site; and other innovative strategies. During both the construction and operations phases, buildings generate a lot of waste and use a lot of materials and resources. This credit category encourages the selection of sustainably grown, harvested, produced and transported products and materials. It promotes the reduction of waste as well as reuse and recycling, and it takes into account the reduction of waste at a product's source.

12. Describe the specific activities and operations of the program in chronological order.

The recently completed visitor centers and other projects under construction or design were designed to meet standards of the U.S. Green Building Council's Leadership in Energy and Environmental Design program (LEED). DPR is pursuing LEED certification for the facilities. Project construction materials and devices include recycled steel structural members, concrete block with high fly ash content, daylight sensors that contribute to energy savings by only allowing certain lights to come on when needed, low-flow plumbing fixtures in restrooms, recycled construction materials, locally harvested materials, rainwater collection cisterns for landscape irrigation, low VOC paints and adhesives, preferred parking for alternative fuel vehicles and carpooling, daylighting and natural ventilation. Environmentally friendly practices were also used during construction, such as the use of recycled materials and diverting debris from the landfills, including cement pilling cutoffs that went to the N.C. Artificial Reef program from the Fort Macon project. The Merchants Millpond project also includes exterior cypress wood siding harvested from felled trees as a result of Hurricane Isabel, standing seam metal roof which allows for high solar reflectivity, and geothermal heating and cooling. LEED is a voluntary certification program and is an internationally recognized green building certification system, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts. LEED promotes a whole-building approach to sustainability by recognizing performance in key areas.

13. Why is the program a new and creative approach or method? The State's requirement for sustainability facilities is for 20,000 square feet or larger. We are unique in that we committed to LEED for all new or significantly renovated projects over 5,000 square feet.

14. What were the program's start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.) A typical LEED project adds approximately 1% – 3% to the design cost of the facility and approximately 5% - 10% for construction costs when compared to traditional design and construction practices. These additional costs associated with the LEED design and construction is typically "paid back" by means of operational and utility savings in a matter of years.

15. What are the program's annual operational costs? Each individual project has different annual operating costs. At this time we have not had a completed LEED facility for more than a year, so we really don't have actual operating costs. Although we believe the projected annual operating costs will be significantly less than a typical building of similar size and use without LEED design incorporated into the projects.

16. How is the program funded? The Parks and Recreation Trust Fund, supported by revenue generated through the state's real estate transfer fee, is the principal funding source for state park capital projects and land acquisition.

17. Did this program require the passage of legislation, executive order or regulations? The division's initiative to build environmentally conscious and sustainable structures did not require legislation or new regulations, it was established as an agency commitment through a staff directive from the division director to clearly identify goals and objectives for setting an example of responsible stewardship of natural resources. The sustainability efforts are also incorporated into the organization environmental education/outreach efforts. What equipment, technology and software are used to operate and administer this program?

18. What equipment, technology and software are used to operate and administer this program? New technologies designed to reduce waste, energy consumption and the particular facility's overall carbon footprint were incorporated into the design and construction processes associated with the projects. Contractors were selected for the projects based upon their experience and expertise in green building and the LEED certification program.

19. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator's name, present address, telephone number and e-mail address. Yes, Lewis Ledford, Director, N.C. Division of Parks and Recreation, 1615 Mail Service Center, Raleigh, N.C. 27699-1615; 919-733-4181; lewis.ledford@ncdenr.gov.

20. Are you aware of similar programs in other states? If YES, which ones and how does this program differ? The LEED for 5,000 square feet is a very stringent guideline. The N.C. Division of Parks and Recreation is not aware of any other agency with that requirement.

21. Has the program been fully implemented? The effort is a work in progress. Several new facilities have been developed under the LEED guidelines and the division and designers are awaiting designation. Future construction projects will incorporate what we have learned and other information to continually improve efforts and the quality of our facilities. If NO, what actions remain to be taken? LEED is a voluntary certification program and is an internationally recognized green building certification system, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO₂ emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts. LEED promotes a whole-building approach to sustainability by recognizing performance in key areas: Our facilities were designed and built with the strategies listed above. The sites minimized the impact on natural resources and maximized energy efficiency when compared to typical new construction that easily translates into savings.

22. Briefly evaluate (pro and con) the program's effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples. Measuring the effectiveness and success of various energy reduction and sustainability efforts presents a challenge due to limited data and relative infancy of the initiative. Determining how much energy is being saved will require comparison of before and after records and require an evaluation of costs of LEED construction in comparison to long-term energy savings, and water consumption and waste reduction.

23. How has the program grown and/or changed since its inception?

DPR continuously applies lessons learned to all current and future projects. In addition, DPR makes its knowledgeable staff available to all State agencies (and many other public agencies) for reviews, comments, discussions, etc... about any engineering or construction issues or our projects.

24. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program? Current statutes, regulations and limitations in administrative programs, such as state construction, design, procurement have required considerable discussion, negotiation and education. Recognition of cost savings, the right thing to do and setting the example have not been incorporated in the low-bid, lowest cost, restricted considerations evaluated during the bid process need to be improved.

CSG reserves the right to use or publish in other CSG products the information provided in this application. If your agency objects to this policy, please advise us in a separate attachment. 2

Save in .doc or rtf. Return completed application electronically to innovations@csg.org or mail to:

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This application is also available at www.csg.org.