

2015 Governor's Environmental Excellence Awards Ceremony



March 31, 2015

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GOLD MEDAL WINNERS

Chesapeake Bay Foundation

Brock Environmental Center

The Chesapeake Bay Foundation (CBF) recently opened the Brock Environmental Center at Pleasure House Point in Virginia Beach. Keeping with CBF's history of raising the bar for green buildings, the Brock Environmental Center is one of the most energy efficient, environmentally smart buildings in the world. The new Virginia offices for CBF have solar panels, wind turbines, geothermal wells, rain cisterns, waterless toilets, and natural landscaping. Elevated 14 feet above sea level, it is also a prototype for coping with climate change in a region increasingly prone to flooding. By obtaining a permit from the Virginia Department of Health, the Brock Environmental Center will be the first public, commercial-scale building in the United States to capture and safely treat rainwater to federal clean water standards for both hand washing and drinking.

CBF expects significant operational savings, the first of which will be calculated in March of 2015. Through the use of composting toilets, greywater and captured rainwater for drinking water, the Brock Center will use 90% less water than a typical public building. It will also not send any waste to a wastewater treatment plant. The Center was designed to use 80% less energy than the typical commercial building, which relates to 80% less air emissions. Energy for the Brock Center is provided by two 10 kW wind turbines and a 38.88 kW photovoltaic array. The renewable energy installations were designed to generate more energy on-site than used over the course of a year. During construction of the offices, no new materials were purchased. All building materials came from previous construction sites or were reclaimed. CBF believes the office can be used as an innovative teaching tool for all on how to live in concert with nature.

Virginia Conservation Legacy Fund, Inc.

Natural Bridge Preservation

The Virginia Conservation Legacy Fund (VCLF) was formed after the private owner of the Natural Bridge property announced that the property would be subdivided into 35 parcels to be sold at auction. The VCLF successfully worked to permanently protect the Natural Bridge, a total of 1,669 acres. The property will be conserved for future generations through donation to the State Parks system where it will be used to develop a regional education center focusing on the environment, history, ecology, and geology and to expand the outdoor recreation opportunities at Natural Bridge.

In addition to permanently preserving the area, the VCLF is working to overhaul energy systems to focus on renewable energy sources, protect water quality through the use of bioretention and other best management practices, restore fields to native vegetation and support wildlife habitats. Natural Bridge will become a new State Park once all debt is retired and the property can be transferred to the Commonwealth of Virginia.

Virginia Living Museum

Living Green in the Bay Watershed

The Virginia Living Museum (VLM) is a private non-profit museum and education center in Newport News where the elements of a native wildlife park, science museum, aquarium, botanical preserve and planetarium are combined. The VLM is a certified Virginia Green Attraction, committed to minimizing its environmental impacts by preventing pollution wherever feasible in its operations. The museum's mission is to promote stewardship of the earth and conservation practices. The VLM has a Green Team, which is a cross departmental volunteer committee of staff members that has helped lead "green" practices and programs for over 20 years.

The museum has a strong partnership with numerous environmental groups (e.g., US Green Building Council, Hampton Roads Green Building Council, Chesapeake Bay Foundation, Chesapeake Bay Gateways Network/NPS, Virginia Department of Game and Inland Fisheries, Virginia Department of Environmental Quality, Virginia Green Travel Alliance, etc.) and has been successful with grant applications allowing the development of permanent exhibits about energy conservation, green building practices, solar energy applications and conservation gardening/landscaping. These include the 46.2 kW roof mounted solar photovoltaic panel installation, the change from asphalt walkways to permeable paver pathways, green roof installations, stream buffer plantings of native species and recirculating stream systems in outdoor exhibits. The sustainability efforts go beyond the exhibits to include the reuse of cafe frying oil to power staff vehicles, reuse of newspapers for animal cage bedding replacing the need to purchase commercial bedding and a switch to non-toxic materials for cleaners, inks, and deicers.

The VLM is also one of the largest environmental education centers in the state and has put enormous planning and investment into creating permanent, engaging exhibits to promote sustainable practices by Virginia residents. For instance, the Goodson House demonstrates green building products and practices by displaying the house "unfinished" with cut-away windows into the walls to expose green building systems to visitors.

SILVER MEDAL WINNERS

Evonik Corporation

Sustainability and Cost Savings Program

Evonik Corporation's facility in Hopewell produces various chemical products. Evonik's Sustainability and Cost Savings Program was developed to systematically track all cost savings and waste/material reduction initiatives made on site. The guiding principle of the group is that sustainability goes hand in hand with profitability. Evonik believes that wasteful practices are harmful to the environment and the company.

Within the first year of development, several major process improvements have already been identified and implemented. Phase I of a multi-phase project to reduce material loss has resulted in more than 50,000 kg of material being removed from wastewater. A project analyzing raw material usage has reduced the amount lost by more than 60,000 kg while reducing the total nitrogen level in wastewater. A process change in catalyst type has reduced solid waste generation by over 9,000 kg and steam usage over 3,000 decatherms. A process change to maximize efficiency of chilled water pumps has reduced energy usage by over 165,000 kWh. A process change in hydrosilation reaction has reduced usage of precious metals by over 1,300 g. Together, these changes have saved Evonik over \$300,000 during the first year. In addition to these completed projects, the Hopewell Evonik site has several other initiatives in various development phases.

SKW Constructors

Elizabeth River Tunnels Project

SKW is a joint venture of three large construction firms, Skanska, Kiewit, and Weeks, to design and build the second midtown tunnel across the Elizabeth River. One of the first things that the Midtown Tunnel Project undertook was the development of an Environmental Management Program and Plan. The program consists of many sustainability goals, including recycling/reusing/reducing wastes, best management practices, and staff and community involvement. Since the beginning of the project, the recycling/reuse rate has been 99%, with only 1% of waste going to landfills. SKW implemented onsite treatment of lead contaminated soil using a process called "Fesi Bond" which has reduced hazardous waste and saved the project over \$100,000 in disposal costs. The Project not only uses at least three types of controls on all stormwater inlets, but has also moved to the use of environmentally-friendly oil for all marine equipment. The Project also makes oyster boxes to foster spats from what would be waste concrete. By using a portable concrete washout system called Envirowash, SKW has been able to reduce the amount of concrete wash water from more than 200 gallons to less than 20 gallons, per concrete pour.

SKW also requires the use of an "Environmental Check List" which is required for all tasks and must be approved by all department heads. SKW developed "Environmental Excellence Reports" to share the environmental processes being used with personnel, parent companies and regulatory agencies. SKW's goal is to use these reports and their membership in the Virginia Environmental Excellence Program (VEEP), as tools to educate the construction world on ways that construction can be done to help benefit the environment while saving the project money.

BRONZE MEDAL WINNERS

Crop Production Services, Inc. – Petersburg Agri-Terminal

Engineered Living Stormwater Runoff Treatment System

Crop Production Services, Inc.'s Petersburg Agri-Terminal, used for bulk storage and distribution of agricultural chemicals, designed and installed a sustainable living treatment system to treat and minimize stormwater runoff. The treatment system included using engineered topsoil, native vegetation and barriers to slow the flow of surface water. Living treatment systems have been shown to address a variety of pollutants including nutrients, pesticides, organic substances, metals and suspended materials. Once the vegetation is established it will become a low maintenance treatment system. The elimination of the point source discharge allowed Crop Production Services, Inc. to terminate the Virginia Pollution Discharge Elimination System (VPDES) permit. The total money saved as a result of this project is approximately \$510,000 based on the estimates provided by SiteWise and a cost accrual matrix used for internal accounting obligations.

Hilton Garden Inn – Richmond Downtown

Food Waste Composting

The Hilton Garden Inn Downtown has been an active member of Virginia Green since joining in early 2010, always looking for new environmental projects. In late 2010, the Hilton Garden Inn decided to reduce waste by establishing a food waste composting program and has been composting all raw food waste since then. They continue to be the only hotel in Richmond with a composting program. The waste is diverted from the hotel's compactor and picked up by the Natural Organic Process Enterprise (NOPE) of Virginia. In a typical month, 2,000 lbs of raw food waste is converted into usable compost. Over the course of the program, over 100,000 lbs of food waste have been composted. Some of the compost has been donated to non-profits for use in bedding areas. The cost of the composting program is offset by reduced waste pickups, which leads to a net neutral cost.

Virginia Tech

Advancing Sustainability through Student Engagement

Virginia Tech takes a hands-on approach to education, preparing scholars to be leaders. In May 2013, Virginia Tech President Charles Steger approved the revised Virginia Tech Climate Action Commitment which lays out the sustainability goals of the institution, including the creation of a sustainability office. A number of programs have been initiated to help the University meet its sustainability goals. A Green RFP Program was created to direct university funds to student-generated sustainability projects. To date, 27 student proposals have been approved totaling more than \$210,000. Virginia Tech's Dining Services has implemented a "Reusable To-Go" program that involves reusable water bottles and to-go containers. In May 2014, over 300 graduating students signed the Graduation Pledge Alliance, pledging to consider social and environmental consequences of potential jobs. Student engagement and participation has always been a critical part of sustainability at Virginia Tech. The Office of Energy and Sustainability works with student interns who are given the opportunity to organize events focused around peer-to-peer interactions and behavior change.

HONORABLE MENTION WINNERS

Delaware North at Shenandoah National Park

GreenPath®

Delaware North at Shenandoah National Park operates a 10 year concession contract with the National Park Service. GreenPath, which originated at Yosemite National Park in 2001, has been implemented since Delaware North acquired the concession contract in February of 2013. Through GreenPath, Delaware North defines stewardship through five key indicators which include environmental management, asset protection, interpretation and education, community outreach, and healthy food/healthy living. The primary benefit of GreenPath stems from accountability. The platform was designed to be compatible with the International Organization for Standardization (ISO) 14001:2004 Standard for Environmental Management Systems. In 2014, the primary focuses were associate training, waste management, environmental purchasing, water/energy conservation initiatives, environmental management system (EMS) and Green Key certification.

NASA Langley Research Center

Revitalization through Sustainability

The goal of NASA Langley Research Center's (LaRC) environmental program is to facilitate the successful completion of the organization's mission while ensuring responsible environmental stewardship and planning for the environmental challenges of the future. The latest accomplishment in the implementation of LaRC's Sustainability Program is the completion of New Town Phase II, the Integrated Engineering Services Building (IESB). During construction over 85% of construction waste was diverted from the landfill, 20% of building materials were recycled materials and 20% of materials were sourced regionally. IESB is expected to use 60% less energy and 75% less water than the average LaRC building. In addition to recent accomplishments for new facilities, retrofits and engineering improvements have also played a significant role in helping to reduce the Center's footprint.