Sullivan Park (2014 Green Park Award Winner)
City of Easton, Northampton County

Site Context
Sullivan Park is an urban neighborhood park located in the northern boundary of the City of Easton along a fairly steep slope that extends south to the Bushkill Creek and east to the Delaware River. Natural springs in the Park flow constantly; and at one time residents living in the College Hill section of the City were subject to flash flooding and property damage from stormwater runoff during moderate to large rainfalls. Since the establishment of the wetland in 2009 there has been no reported incident or sign of stormwater runoff or flooding during rain events, not even during Hurricane Sandy. Lafayette College students continue to research wetland performance, flow data, nutrient dynamics, vegetation monitoring, and wetland habitat.

Project Overview
Project partners came up with an innovative solution to alleviate the impacts of runoff while trying to preserve the natural aesthetics of the Park. They used the natural features of the area, such as the high water table, to address the problem. A Lafayette College civil engineering junior design class evaluated the peak flows and feasibility of stormwater detention and produced preliminary plans showing the proposed elevation and depth of a constructed wetland and planting plan. The preliminary designs and planting plan were reviewed by a consultant with expertise in constructed wetland design and sealed by an engineer. This innovative solution now allows Sullivan Park to successfully control stormwater while providing recreational opportunities for the community and improved habitat for wildlife.

Sustainable Practices
Water- The constructed wetland eliminates onsite runoff and reduces the amount of siltation that occurs during both small and large storm events. The wetland includes a diversion structure and associated piping to allow water to be conveyed to a retention area during periods of high stormwater flow. The objective of the wetland is to retain as much water as possible while simultaneously providing increased detention time for water that cannot be retained. The wetland reduces non-point source pollution, re-establishes a wetland habitat for wildlife, integrates stormwater protection and flood management, improves water quality, and incorporates natural design features that minimize long-term maintenance and repair costs.

Natural Landscaping- Approximately one-acre of Sullivan Park was revegetated with native wetland plants used to attract wildlife and provide habitat. Throughout the Park you can find native trees, plants, grasses and shrubs. The natural landscaping enhances the physical and biological condition of Sullivan Park and ultimately the Bushkill Creek. Selected plants include, but are not limited to, swamp milkweed, white and pink turtlehead, joe pye weed, cardinal flower, ironweed, fox sedge, blue flag iris, red bud, spice bush, marsh elder, silky dogwood, arrow-wood viburnum, winterberry holly and service berry. The monarch butterfly, though rapidly declining, has been seen feeding on the swamp milkweed.

Materials Selection and Construction- Materials were purchased locally and regionally to benefit local communities, reduce energy for transportation, and support the use of local resources. Certified lumber was used to make educational signage that describes the importance of the constructed wetland. Soils disturbed during construction and in areas of bedrock were restored to support healthy plant growth and water infiltration.
Sustainable Practices Cont.

Existing soil and large rock were used in the native landscaping of the park (tiering) and in the stormwater channel to divert the water flow into the wetland. A turtle basking site was built. Blue bird boxes and a bat house were installed.

**Connecting People to Nature** - Sullivan Park provides opportunities for wildlife viewing, bird watching, playground and walking trail, picnicking, and nature exploration for people of all ages and abilities. The Bushkill Stream Conservancy provides community outreach events at the Park educating about the Bushkill Creek Watershed. The Park also serves as an outdoor classroom for local school districts, Lafayette College, municipalities, and the local community on how to handle stormwater in a sustainable way, while enhancing wildlife habitat and providing outdoor recreation and play. Lafayette college environmental studies and sustainability classes regularly visit the site to conduct research. Sullivan Park demonstrates the compatibility of different park uses in the restoration of the natural environment and the balance of providing recreation opportunities in appropriate places that fit within the landscape.

**Operations and Maintenance** - The majority of the Park maintenance is on the wetland and vegetated swale, especially the operation of the aerator to maintain proper oxygen levels. Staff clean and maintain the swale, control water level, and remove invasive plants. Barley straw is used to reduce algae and a person manually removes algae three times during the summer months. Lafayette College students regularly monitor the site and conduct ongoing research of the native plants, wildlife and water quality. Site plantings are contained, naturally reproducing, and any plants pulled for maintenance are composted onsite.

**Environmental Stewardship Messaging** - Interpretive and educational signage explains the objectives and benefits of the constructed wetland. The City of Easton Environmental Advisory Council utilizes the site as an example of urban environmental stewardship. Bushkill Stream Conservancy and Lafayette College Professor David Brandes showcase the Sullivan Park wetlands on their website to educate the public about this innovative, green and sustainable project. Bushkill Stream Conservancy’s Streamkeeper Program educates residents about the Bushkill Creek and importance to not dump in storm drains. The City has seen an increase in park visitation by the local neighborhood and surrounding community since the rehabilitation of the Park.

*Information provided by: Sherry Acevedo, Delaware & Lehigh National Heritage Corridor, Inc.*