Sustainable Landscapes & Buildings

In August 2004, the Queens Botanical Garden began construction of the first phase of our Master Plan: new gardens showcasing native plant communities and water management, a new facility for our horticulture and maintenance departments, a parking garden, and a new home for our visitor services and administrative offices that has achieved LEED® Platinum rating (Leadership in Energy and Environmental Design) from the U.S. Green Building Council.

Sven Johnson Illustration

Illustration of Queens Botanical Garden Master Plan, adopted in 2001

Every aspect of the project exemplifies the Garden's mission of environmental stewardship and fostering cultural connections. Visitors will enjoy comfortable and inspiring spaces created by considering sun, wind, water, and plants, with new places for community gatherings and individual contemplation. Sustainable practices in design, construction, and operations protect the health of the environment, community, and future generations.

For more information, please visit www.queensbotanical.org/sustainable, or contact Jennifer Ward Souder, Director of Capital Projects, at 718.886.3800 x220

Leadership Supporters

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New York State's Community Capital Assistance Program

Project Team

Queens Botanical Garden
New York City Department of Cultural Affairs
New York City Department of Design and Construction

BKSK Architects, LLP
Conservation Design Forum, Landscape Architects
Atelier Dreiseitl, Landscape/Water Design
P.A. Collins, M.E.P. Engineer
Weidlinger Associates, Structural/Civil Engineer
Viridian Energy & Environmental, Environmental Building Consultant
STV Incorporated, Commissioning Consultant
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Reginald Hough, AIA, Concrete Consultant
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Bluestone + Associates, Interpretive Wayfinding and Exhibit Consultant
Fat Spaniel Technologies, Incorporated, Interactive Exhibit Consultant
altPOWER, Incorporated, Photovoltaics Contractor

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Interpretive Wayfinding and Exhibits are sponsored in part by the Institute of Museum and Library Services, Independence Community Foundation, Consolidated Edison Co. of New York, Inc., KeySpan Energy, New York State's Community Capital Assistance Program, New York State Council on the Arts, The Hyde & Watson Foundation, & The Louis Calder Foundation.

INSTITUTE of Museum and Library SERVICES

This brochure was printed with vegetable inks on 100% recycled paper using a chemical-free CTP production process and wind power.

Cover photo: Nicole De Feo

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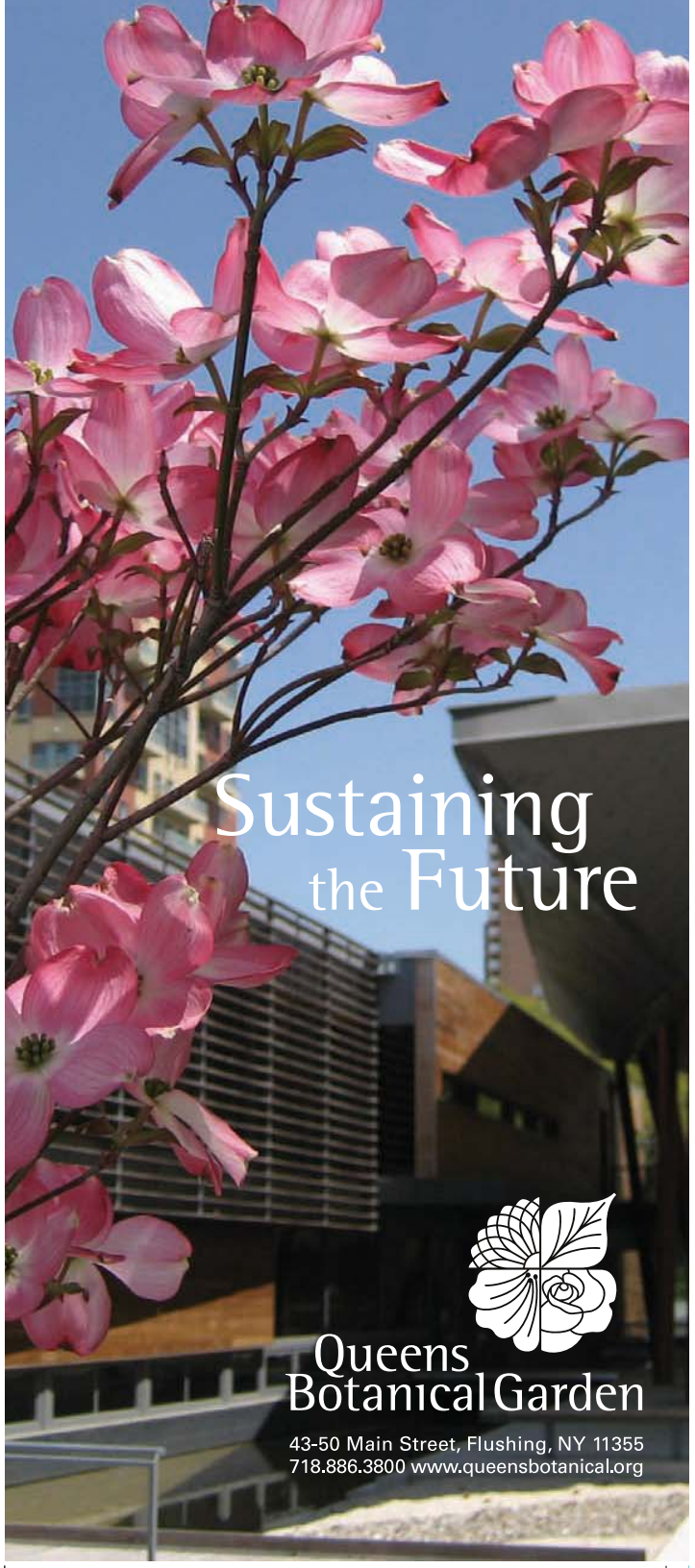


Sustaining the Future

Queens Botanical Garden

43-50 Main Street, Flushing, NY 11355
718.886.3800 www.queensbotanical.org

Visitor & Administration Building with cleansing biotope in the foreground

Water is conserved, collected, cleansed, and recycled

Low maintenance, drought resistant plants are used in Garden landscapes to reduce the need for irrigation. Throughout the project, rainwater runs off hard surfaces into planted depressions, called bioswales, where it is filtered and absorbed into the soil. Rainwater that falls on the auditorium is absorbed by a planted green roof. At the Horticulture/Maintenance Building, rainwater is collected for washing vehicles and tools.

Graywater from the Visitor & Administration Building's sinks and shower is piped to a Constructed Wetland, while rainwater cascades off the terrace roof into a Cleansing Biotope. In both places, water is filtered and treated naturally through bacterial activity on the roots of carefully selected plants. The treated graywater is returned to the building for use in toilet flushing, while the cleansed rainwater supplies a meandering water channel and fountain.

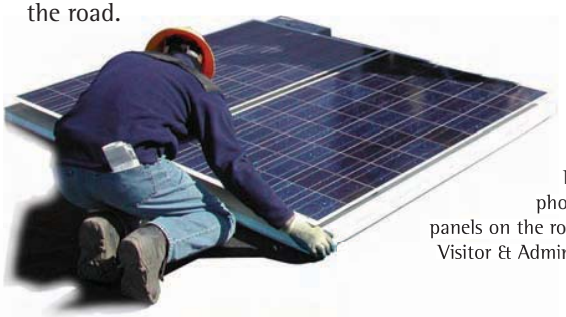
Conserving fresh water and recycling water to use in place of fresh water reduces the burden on the city's water supply system and vulnerability to drought. The building reduces its use of fresh water by more than 80% compared to a traditional building of the same size.

Collecting, storing, and recycling graywater and rainwater onsite diverts it from the city's costly, energy-intensive wastewater treatment process. These strategies also prevent the release of polluted water into local waterways during large storms, when the city's wastewater treatment system is overwhelmed.

Innovative design and technology reduce energy use

The Visitor & Administration Building's siting and long, narrow architecture allow 90% of the interior space to receive daylight and maximize natural ventilation. A geothermal system uses the earth's constant temperature to provide seasonal heating and cooling. Rooftop photovoltaic cells transform sunlight into electricity to operate high efficiency ventilation and lighting systems.

Overall, the Visitor & Administration Building will use approximately 40% less energy from nonrenewable sources than a typical building of its size, reducing annual energy costs by $7,000. Every year this will prevent the release of over forty tons of the greenhouse gas CO2 into the atmosphere, the equivalent of removing nine cars from the road.



Installing photovoltaic panels on the roof of the Visitor & Administration Building

Materials demonstrate responsibility for the environment and human health

In the Garden's new structures, building materials and furnishings incorporate a high percentage of locally manufactured and recycled content. Over 75% of the waste produced during the construction of the Visitor & Administration Building has been recycled and reused.

Interior products, such as fabrics, sealants, caulks and paints, contain no or very low levels of volatile organic compounds (VOCs), chemicals found in many common products and building materials that can escape into the air and cause illness and allergic reactions.

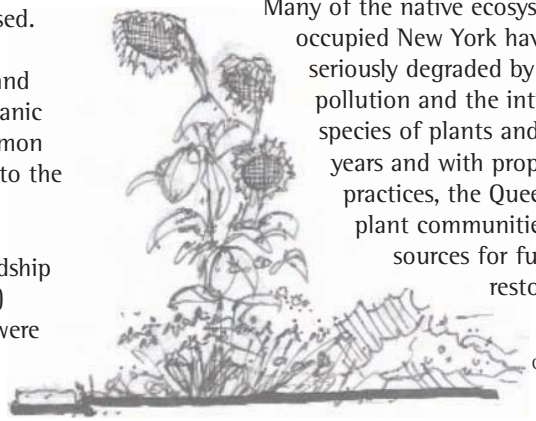
Almost all wood-based materials are Forest Stewardship Council certified. Forest Stewardship Council (FSC) certification ensures responsible forestry methods were used in the harvesting of timber products.

Green roof of Visitor & Administration Building

Native plant communities welcome insects, birds, and people

Almost all the plant species installed in the current project are native to the New York area, including those in the Visitor & Administration Building's Cleansing Biotope, Constructed Wetland, bioswales, and Green Roof. The structure itself is built on the former site of a parking lot, protecting open space.

The Queens Botanical Garden master plan calls for maintaining distinct areas for culturally significant plant displays, as well as rebuilding native plant communities throughout the Garden. These include woodland, savannah, wetland, ridge and swale, and prairie ecosystems. The Garden will encourage the establishment and growth of these communities by taking steps such as revitalizing soils, reintroducing native plants, and implementing controlled burns.



Many of the native ecosystems that once occupied New York have been destroyed or seriously degraded by development, pollution and the introduction of invasive species of plants and animals. Over many years and with proper stewardship practices, the Queens Botanical Garden's plant communities will provide seed sources for future rebuilt and restored landscapes in and around New York.

Conservation Design Forum