



FXFOWLE Architects completes restoration of the Lion House at the Bronx Zoo

July 07, 2008 - Owners Developers & Managers

The Wildlife Conservation Society (WCS) has rededicated the spectacular architectural legacy of the Bronx Zoo's Lion House building as the site of a magnificent new exhibit, Madagascar!, and of a spacious community meeting and event facility. The building's extensive restoration, expansion below grade as well as the innovative insertion of modern elements within the public gathering space was completed by the Cultural/Educational Studio at FXFOWLE Architects, an architecture, planning, and interior design firm with offices in New York City and Dubai.

Situated at the heart of the zoo's early 20th century Astor Court, the Lion House was designated a National Historic District by the New York City Landmarks Commission in 2000 in recognition of its aesthetic and historic distinction. The Beaux Arts building, which opened in 1903, is the largest on Astor Court. FXFOWLE's design has adapted the historic building for the functional demands of the future and incorporated new advances in animal welfare, visitor experience, conservation awareness, and science education. Additionally, the building carries the distinction of being the first landmark building in New York City to be certified "green" by the United States Green Building Council (projected LEED Gold).

"The restoration of the Lion House represents the Wildlife Conservation Society and New York City's commitment to the preservation of the original structure's dignified character, design excellence, and the environment," said Sylvia Smith, AIA, LEED, senior partner at FXFOWLE Architects. "The building's sustainable features were integral to the overall restoration and design plan, and emblematic of WCS's mission. This project certainly sets a precedent for other historic and existing buildings not only in New York, but across the country."

Project Introduction

The Wildlife Conservation Society works to save wildlife and wild lands, managing a wide variety of international outreach and missions from the 265 acre Bronx Zoo, the largest metropolitan zoo in the country. The Lion House project stemmed from the zoo's master plan, completed in 2003, which aimed to enhance the visitor experience, consolidate services, clarify circulation, and renew the beauty of Astor Court, the zoo's historic core.

WCS's exhibit and graphic arts department developed a concept for an exhibit that features the animals and plants of Madagascar in the former animal cage area. WCS and the New York Department of Design and Construction selected FXFOWLE to assist in the integration of the new exhibit and to convert the Lion House to a vibrant set piece of the Zoo. The challenge for the team was to accommodate the 4,800 s/f of exhibit program and the 6,700 s/f of service spaces required to support the animal and plants, a 3,500 s/f multi-purpose space for community meetings, fund-raising events, and conferences, and 6,700 s/f of mechanical spaces.

Sustainability

The largest challenge was to design and construct a project that not only met the programmatic and functional goals, but also met the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) standards. The project team viewed the integration of sustainability and design as the key to the success of both projects - a local materialization of the Wildlife Conservation Society's global conservation efforts and a model for future development.

FXFOWLE's integrated design approach focused on the careful management of available resources— materials, systems, and the existing elements on both sites. The teams aimed for economy, to create universal designs that would function long into the future, rather than become overly precious objects.

The design for the Lion House expands the usable area from 32,000 s/f to 40,000, by extending the width and depth of the basement and inserting an interior mezzanine. Incorporated into the whole, the integrated systems are nearly invisible - no dropped ceilings hide ductwork, roof vents are incorporated into existing building elements, and a geothermal system negates the need for a cooling tower. The contained, right-sized systems contribute to a healthy and sustainable environment for the animals, handlers, and visitors, with high standards of interior environmental quality.

The integration of ethylene tetrafluoroethylene (ETFE) skylights balances the contradictory requirements of maximum natural light for the plants of the exhibit with minimum heat gain and electrical and cooling load goals. This new technology, with an R-value of 3.3, rather than the typical 1.8 for a polyester film skylight, covers nearly 8,500 s/f of skylights, nearly 3,000 more than the existing building. A greywater system manages stormwater runoff.

The aforementioned initiatives, and many other sustainable advancements contribute to an anticipated LEED Gold Rating by the United States Green Building Council.

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