



Friends Seminary

New York, New York

General Information

Location: 222 East 16th St, New York, NY 10003

Building Size: 76,521 ft²

Completion: September 2019

Enrollment: 780 (k-12)

Architect: Kliment Halsband Architects

Funding/Grant: NYSERDA

EUI: 15.5 kBtu/ft²

Design Criteria: NE-CHPS Verified

Project Overview

Friends Seminary completed a major renovation project in September 2019, transforming the historic school into a modern high performance building. The project maintained the three original townhouse facades while redesigning the internal structure and adding multiple stories to the buildings. In doing so, the school retained its historic significance while serving as an exemplar for adaptive reuse and high performance construction.

Working within construction limitations due to the area's landmark designation, Kliment Halsband Architects was able to make many energy efficient and sustainable design decisions. First, by

minimizing demolition, the school was able to reuse much of the existing structure in the final design. The newly-constructed area features roof planters to help insulate the building and minimize thermal heat gain, which reduces heating and cooling requirements. School-wide improved wall and roof insulation aids in mitigating the structure's energy demand as well.

Strategic use of skylights in the gallery connecting the old and new buildings reduces electricity demand for lighting. LED lights with controls throughout the rest of the building further decrease the school's energy consumption. These efficient design elements allowed the renovated school to achieve an impressive EUI of 15.5 kBtu/ ft².

In addition to saving money, the redesigned building takes into account student wellness in a variety of ways. Low-to-zero VOC paints and sealants and effective use of daylighting improve the quality of indoor air and lighting. The historic façade's double skin, well insulated walls and roofs, and high solar reflectance improve thermal comfort. In addition, the expanded gym, yoga, and dance facilities, along with a rooftop terrace, greenhouse, community space, and a Great Room opening into the central court, offer students ample open space for activities.



Sustainable Design Elements

- Building Envelope
 - » Double skin at the historic facade provides an insulated buffer, mitigating impacts of exterior temperatures, winds, and sound
 - » R-Values meet or exceed R-15 at exterior walls and R-20 at roof assemblies; new exterior glazing is also guided by these performance thresholds
 - » Exterior finishes at the roof and south facade have high solar reflectance to minimize solar heat gain
 - » Roof planters insulate the building and mitigate thermal heat gain, reducing heating and cooling requirements and alleviating storm water management requirements
- Indoor Environmental Quality
 - » 90 percent of occupied spaces have operable exterior windows
 - » Low-to-zero VOC paints and sealants
- Lighting
 - » LED lighting controlled with daylighting and occupant sensors
 - » High light reflectance at interior finishes
- Water Efficiency
 - » Low-flow fixtures installed
 - » Rainwater harvesting for irrigation
- Materials
 - » Over 75 percent of construction waste recycled, reused, and/or salvaged
 - » Over 50 percent of the existing structure reused
 - » Locally sourced materials for new construction



This case study was prepared by NEEP with information provided by Kliment Halsband Architects. For more information about High Performance Schools, please contact John Balfe, NEEP's Buildings & Communities Solutions Manager at jbalfe@neep.org or 781-860-9177 x109. Photo credits: Kliment Halsband Architects.