

Stoeckel Hall



Yale University renovated Stoeckel Hall and designed and built a 7,000-square-foot addition in alignment with the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system at the Gold certification level.

ENERGY EFFICIENCY

The building systems, combined with the envelope improvements, will result in an annual energy cost savings of 18% compared to a standard building of similar size and program. HVAC strategies include demand-control ventilation, high-efficiency air handling units (AHU) with variable frequency drives on supply fan motors, variable speed chilled and hot water loop pumps, and premium-efficiency motors. High-efficiency lighting fixtures reduce the lighting power density below ASHRAE 90.1-2004 minimum requirements, and occupancy sensors in all regularly occupied spaces reduce lighting power. The original windows were completely restored with new, insulated glass units; all new windows have high-performance glazing; and the wall and roof construction exceed minimum insulation requirements. As a result, the well-insulated envelope provides optimal thermal control.

INDOOR ENVIRONMENTAL QUALITY

The building incorporates environmental controls, such as local task lighting, bi-level light switching, and accessible thermostats, to allow occupants to adjust visual and thermal conditions to their preferences. Materials and finishes with low volatile organic compound (VOC) content were chosen to reduce exposure to unhealthy air particulates, maintain air quality, and

67.3% of the wood-based building materials used in the project were certified by the Forest Stewardship Council

85% of construction debris was diverted from landfills

29.5% of materials and products (based on cost) were manufactured from recycled materials

46.6% of materials (based on cost) were extracted, harvested, or recovered — as well as manufactured — within 500 miles of the project site

36% reduction in water use in comparison to a conventionally equipped building is anticipated

preserve occupant health. Wood materials do not contain any added urea-formaldehyde, and paints and carpets were selected to have low VOC content.

MATERIALS

The restoration of the existing facade, including masonry and wood, reduced the demand for raw materials and encouraged historic renovation. Almost 90% of the original structural walls and floors were reused in the renovation, further reducing demand for new construction materials. For all new materials, priority was given to materials and products that were sourced and manufactured within 500 miles of the project site. Wood materials were specified and sourced from sustainably managed forests. During renovation and construction, the contractor recycled more than 85% of debris, thereby reducing waste sent to landfills. Stoeckel Hall promotes ongoing recycling by providing recycling receptacles in designated areas.

WATER EFFICIENCY

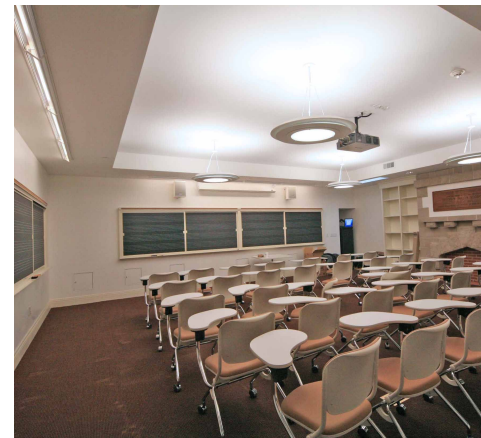
Water conservation is reinforced through the installation of water-efficient fixtures throughout the building. All restrooms have dual-flush toilets, and all low-flow faucets have flow rates that are below the minimum EPA requirement. Additionally, there is no irrigation on site, eliminating demand for exterior water use. It is predicted that these features will reduce potable water use by 36% from a calculated baseline design.

SITE AND LANDSCAPE

The original building and surrounding site was determined early in the design process to be an urban site in need of brownfield redevelopment. Following a full site assessment and remediation, the site design incorporated as many existing planted areas as possible within the limited site boundary.

TRANSPORTATION

There is no existing or planned on-site parking or loading area, and since Stoeckel Hall is utilized for academic and administrative functions previously located in other buildings, there is no net increase in parking demand. Students and staff can take advantage of the exceptional amount of public transportation available, as a Yale Shuttle stop is located just outside the facility, providing campus shuttle service as well as connection to the CT Transit system. In addition, visitors to the facility who drive a hybrid vehicle are rewarded with free parking, as the City of New Haven provides free parking for specially marked hybrid vehicles.



Architect

Charney Architects

Total floor area

29,990 sq ft

Opening date

January 2009

Yale