

10 Amistad Street



Yale University built the 10 Amistad Street laboratory fit up project in alignment with the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system at the Gold certification level for Commercial Interiors.

ENERGY EFFICIENCY

Energy-conserving measures in 10 Amistad Street reduce operating costs and greenhouse gas emissions. Energy-efficient light bulbs are used throughout the building, and occupancy sensors control lights in areas that are not always occupied, such as offices, lavatories, and equipment rooms. To maximize the use of daylight, perimeter areas are equipped with daylight responsive controls, which are connected to the lighting system. Light fixtures with an uplighting component bounce light off a highly reflective ceiling; this design reduces by half the number of light fixtures required in laboratories. A heat recovery system recaptures energy from the main exhaust system; this energy is used to preheat or pre-cool the outdoor supply air seasonally. Variable frequency drives installed in ventilation fans allow fan motors to slow down during reduced airflow loads to conserve energy.

INDOOR ENVIRONMENTAL QUALITY

To ensure the health and well-being of employees, the fit up was designed to promote excellent indoor air quality, ventilation, temperature and light control, and views of the outdoors. Carbon dioxide detectors control the influx of fresh air, increasing flow when CO₂ concentrations become too high. To further improve air quality, care was taken to use finishes, paints,

91% of the wood used in the project was certified by the Forest Stewardship Council

64% of construction debris was diverted from landfills

10.4% of materials installed in this project were manufactured from recycled materials

24.7% of construction material came from within 500 miles of the project site, reducing pollution from delivery fuel and lowering overall transportation costs

80% reduction in annual potable water use in comparison to a conventionally equipped building is anticipated

and sealants with low volatile organic compound (VOC) content. Upon completion, the building was air-tested to determine VOC, particulate, and carbon monoxide levels to ensure the effectiveness of air quality improvement measures.

MATERIALS

Special consideration was given to the materials incorporated in the building and to the disposal of waste during construction. The project utilized locally manufactured materials with high recycled content; and laboratory cabinetry is constructed from wood that was certified by the Forest Stewardship Council. Recycling of construction and demolition debris reduced by 64% the amount of waste that would normally enter landfills. To promote ongoing sustainable waste disposal, the building is equipped with built-in recycling collection locations, and a system for recycling lab waste has been initiated.

WATER EFFICIENCY

Stormwater is collected from the roof and stored in a 7,500-gallon tank. This water is treated without chemicals and used in the building's gray-water system to flush toilets and provide irrigation. This practice not only conserves potable water but also reduces the amount of runoff entering New Haven's stormwater system. In addition to the outdoor stormwater collection system, condensate from the air handling units is also collected for use in the gray-water system. Water use is further reduced by ultra-low-flow lavatories and dual-flush toilets installed throughout the building. Together, these systems will reduce potable water usage by 80% annually.

TRANSPORTATION

According to the Energy Information Administration, transportation accounts for roughly 27% of total greenhouse gas emissions in the United States. 10 Amistad Street offers ready access to both the Yale Shuttle and CT Transit bus lines, and its proximity to New Haven's Union Station makes it convenient for commuters who arrive by train. Bike racks and shower access encourage employees to bike to work, and restaurants and stores are within walking distance.



Architect

Ellenzweig Architecture
and Planning

Total floor area

120,000 sq ft

Opening date

July 2007

Yale

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