

145 BROADWAY

Cambridge, Massachusetts

Developing an energy and water efficient office building reduces carbon emissions, cuts utility costs, increases indoor environmental quality and provides a healthier work setting for tenants, customers and visitors.



LEEDing the Way

As part of an urban, mixed-use infill development plan, 145 Broadway is a 19 story, 440,000 square foot commercial office building that will be the new Akamai headquarters. To ensure the delivery of a sustainable product, the project team utilized the integrative process method to establish bold sustainability and energy efficiency goals for the design team. The primary goal was to select energy-efficient building systems and water use reduction methods, and to provide a healthier, safe and comfortable indoor environment for tenants and visitors alike. By focusing on energy and water use, material selections and indoor environmental quality of the building, the project is on track to meet its goal to be LEED for Core and Shell Development version 4 (LEED-CSv4) Gold certified.

Reduce, Reuse, Rewater

Significant reduction in potable water use, both indoor and outdoor, will be achieved through native and adaptive plant selection for site landscaping, ultra-low-flow flush/flow plumbing fixtures, and rainwater harvesting and reuse for cooling tower makeup water. The low flow plumbing fixtures will cut water use by 35%. Exterior landscaping has been designed using native and adaptive plantings which eliminate the need for a permanent irrigation system, further reducing the demand for potable water on-site. A 37,000 gallon rainwater harvesting tank is included in the project to provide cooling tower make-up water, which significantly reduces the amount of potable water consumed annually for process water use.



Efficiency is Key

The project team used a whole-building energy model approach to assess the building's energy performance when compared to the stringent Massachusetts State Stretch Energy Code, which requires a minimum 10% reduction compared to ASHRAE 90.-2013. The final energy model indicated a 12.1% reduction in annual energy use through the implementation of several energy conservation measures (ECMs), including:

- Efficient lighting design with a low lighting power density (LPD)
- High performance building envelope
- Active-chilled beam system for tenants
- Hydronic heating system
- High efficiency condensing boilers
- High efficiency chillers
- Optimized controllability of building systems and lighting
- Roof-mounted photovoltaics

Healthier Interiors for Healthier Occupants

LEED Version 4 requires additional documentation for building material chemical composition and environmental impact. Materials and products with transparency documentation such as Environmental Product Declarations, Health Product Declarations and Declare statements have been prioritized during procurement and installation of building materials and products. Additionally, the project anticipates diverting >90% (by weight) of all construction and demolition waste from area landfills.

Indoor environmental quality was a priority for the project. This required using interior finish materials and products with low volatile organic compound content and emissions supporting better air quality. Other indoor air quality strategies such as interior cross contamination prevention, high efficiency air filters, and access to views are included in the project to make the interior spaces as healthy and desirable for the regular building occupants and visitors.



Project Team

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