

Sailing Center Green Building Profile

The Sailing Center was completed in the summer of 2014. It was built to serve the University's growing sailing community and Northwestern University's sailing team. The building is a new 500-square-foot concrete structure located on the southern end of Northwestern's lakefront. It was designed to be a small, but efficient building. The Sailing Center received Leadership in Energy and Environmental Design (LEED) Gold certification in March of 2016 thanks to its outstanding green design elements. Features include geothermal underground wells to heat and cool the building, and resource efficient elements that conserve energy and water.



Green Building Highlights

The LEED rating system used for this building (New Construction v2009) is based on a 110-point scale. For Gold certification, a minimum of 60 points is required. The Sailing Center was awarded 60 points. Notable features include the following.

- **Sustainable sites:** The building is located near community services such as libraries and banks. It provides bicycle storage, and is in close proximity to several forms of public transportation.
- **Water efficiency:** Efficient plumbing and faucet systems reduced water usage by 42 percent compared to a baseline set by a 1992 U.S. energy policy.
- **Energy and atmosphere:** Efficient and sustainable heating and cooling systems reduce building energy costs by 37 percent compared to American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standards.
- **Material and resources:** Roughly 88 percent of waste generated during construction was diverted from landfills through recycling or reuse.
- **Indoor environmental quality:** The physical design elements of the building, from the wood used to construct it to the paint used to coat it, promote improved indoor air quality for the building occupants.



What is LEED Certification?

Leadership in Energy and Environmental Design (LEED) certification is a U.S. Green Building Council program that recognizes building designs that are resource efficient and cost effective while providing a healthier and greener lifestyle for building occupants.

Green Building Features

Sustainable Sites

17 out of 26 possible points

The Sailing Center was developed to make use of existing infrastructure, which gives it sustainable sites credits for not requiring new site development. The building accommodates commuters, giving them access to public bus lines as well as Northwestern Shuttle stops, bicycle storage facilities, changing rooms, and showers. Additionally, building users are within a half of a mile of at least ten basic community services. Steps were also taken during the construction of the sailing center to uphold the University's dedication to the environment. The structure maximizes the amount of open space its occupants can access, with over 56 percent of the total site area being open space and about 51 percent of the dedicated open space being vegetated. All of the materials used to construct the hardscape surfaces of the building as well as the roof reflect solar radiation and mitigate the urban heat island effect.

Water Efficiency

8 out of 10 possible points

Potable water usage in the Sailing Center has been reduced by 42 percent due to improved plumbing fixtures and faucet water flow rates. The landscaping has also been designed to minimize water use and does not require permanent irrigation systems.

Energy and Atmosphere

17 out of 35 possible points

The building design optimizes energy performance, resulting in energy cost savings are over 37 compared to ASHRAE standards. Energy efficient features include reduced interior lighting power density, occupancy sensors, and use of high efficiency water source heat pumps. The heating, ventilation, and air conditioning (HVAC) systems are also energy efficient and do not use any CFC-based refrigerants, which are harmful to the ozone and the environment at large. Additionally, the fire suppression systems in the building do not use ozone-depleting substances. Finally, 100 percent of the project's energy consumption was supplied by renewable energy from green power purchases.



Materials and Resources

6 out of 14 possible points

During the construction phase of the project, 88 percent of waste generated on the site was diverted from the landfill. The completed building has appropriately sized areas dedicated to the collection and storage of recyclable materials, including cardboard, paper, plastic, glass, and metals. To further reduce the building's environmental impact, over 48 percent of total building materials used were produced within 500 miles of the site, and 21 percent of the content was manufactured using recycled materials.

Indoor Environmental Quality

6 out of 15 possible points

The Sailing Center has both mechanically and naturally ventilated space, adhering to the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) standards for Ventilation Rate Procedure calculations. The building also had a system in place to reduce construction-related air quality issues, making the site a more hospitable environment for building occupants and construction workers. The project team also used low-emitting materials such as composite wood and agrifiber to construct the interior of the building. This limits the output of toxins such as formaldehyde.

Everyone in the Sailing Center has access to lighting controls that they can use in both individual and group spaces as needed. There are also thermal controls at 50 percent of individual work stations and at 100 percent of shared multi-occupant spaces. This allows building occupants to adjust the temperature to suit their needs and preferences.

Other Credits

6 points

This project was awarded additional points for innovation in design and regional priority. Some of these credits come from the building's exemplary performance in maximizing open space, daylight, and views for almost all occupied spaces. Others came from the green power purchases, and for the close proximity to public transportation. Additionally, the building received credit for having a LEED Accredited Professional on the project team.

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www.northwestern.edu/sustainability
sustainability@northwestern.edu
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