PROJECT PROFILE

MADISON FIRE STATION 14
MADISON, WI

84% Waste Diverted from Landfill

70% Energy Cost Savings

41% Materials Purchased Locally

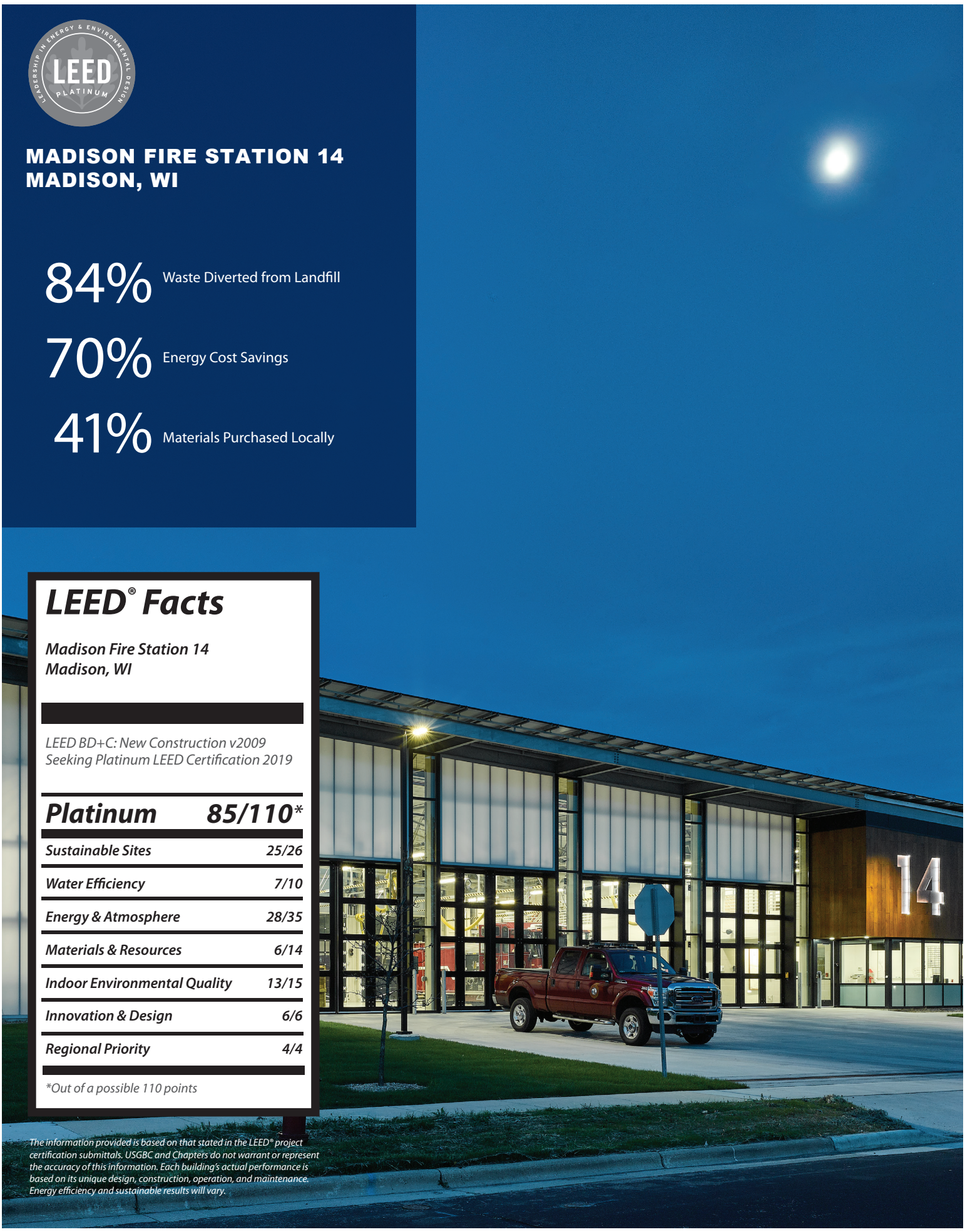
LEED® Facts

Madison Fire Station 14
Madison, WI

LEED BD+C: New Construction v2009
Seeking Platinum LEED Certification 2019

Platinum	***85/110****
Sustainable Sites	*25/26*
Water Efficiency	*7/10*
Energy & Atmosphere	*28/35*
Materials & Resources	*6/14*
Indoor Environmental Quality	*13/15*
Innovation & Design	*6/6*
Regional Priority	*4/4*

**Out of a possible 110 points*



The information provided is based on that stated in the LEED® project certification submittals. USGBC and Chapters do not warrant or represent the accuracy of this information. Each building's actual performance is based on its unique design, construction, operation, and maintenance. Energy efficiency and sustainable results will vary.

PROJECT PROFILE

MADISON FIRE STATION 14

PROJECT BACKGROUND

The City of Madison Fire Station 14 opened in December of 2018, filling a significant gap in emergency medical service and fire protection to the city's far-southeast side and providing space to house up to a double company and medical unit. This state-of-the-art facility includes 6,000 square feet of community meeting and training space. This area accommodates continuing education, as well as Recruit PAT's (Physical Ability Test), Incumbent Standards, and other training evolutions. Integrating a larger community space into Fire Station 14 addresses deficiencies in the area and provides opportunities for community meetings, engagement, education, fire prevention, health services (community paramedicine), and more. The engine will be Madison Fire Department's first full-time Paramedic Engine.

STRATEGIES AND RESULTS

Fire Station 14 is a model of energy efficiency and environmental sustainability for the Fire Department and the City of Madison. Through a truly integrated design process, the whole team was brought to the table early in the project to highlight opportunities, set goals, and establish roles and responsibilities from design and construction through the occupancy period. The team embraced this integrated process and maximized sustainability within the limited project budget.

With the facility being continuously occupied and the inhabitants regularly facing exposure risks on the job, an emphasis was placed on high-quality indoor air. Low-emitting materials that minimize off-gassing of Volatile Organic Compounds (VOCs) were installed, along with MERV 13 filtration media. A dedicated outdoor air system (DOAS) air-handling unit helps provide high levels of ventilated air to the occupied spaces in the station. In addition, a vehicle-exhaust extraction system was installed to reduce staff exposure to pollutants.

The building provides views to elements of nature, living systems, and natural processes. Regularly occupied areas of the building are located close to the perimeter to maximize views to the exterior. Benefits include reduced stress (lowered blood pressure and heart rate), more positive emotional functioning, and improved concentration and recovery rates. In addition, exterior walls are designed for durability. Opaque walls include a full masonry backup wall; continuous air, water, and thermal barriers; air gap; and a masonry or panelized rainscreen system. The apparatus bay contains a curtainwall application of translucent panels, providing additional insulation as well as a source of natural light.

High-performance HVAC and lighting systems were utilized throughout this facility. LED lighting is used on the interior and exterior. There are occupancy sensors for both lighting and HVAC, and several spaces also have automatic daylighting controls to eliminate the need for artificial lighting at certain times of the day. A geothermal heating and cooling system is used to meet the facility's cooling needs and a large portion of its heating needs. The geothermal system is connected to a low-temperature radiant floor heating system that is supplemented by a high efficiency-condensing boiler. A 50-kW solar PV system and a small solar hot water system offset a portion of the facility's electric and gas use.

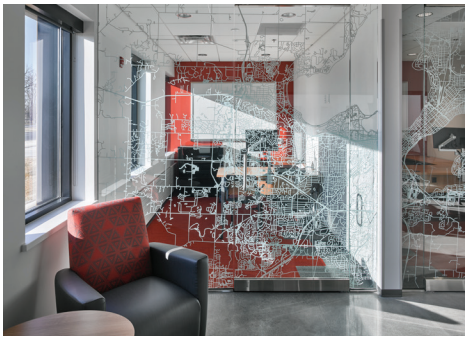
Other environmental features incorporated into the building include low-flow plumbing fixtures that reduce water consumption 40% below the baseline, materials with a high recycle content as well as materials that were extracted, harvested, and/or manufactured regionally, and the implementation of an on-site occupant recycling program.

ABOUT THE MADISON FIRE DEPARTMENT

The City of Madison Fire Department operates 14 fire stations throughout the Madison metropolitan area, with resources regularly extending outside the city limits. Recognized as a national leader in providing emergency services, the Madison Fire Department has several specialty teams including Hazardous Material, Lake Rescue, and Heavy Urban Rescue, and supplements the city's emergency services by providing progressive, cutting-edge fire prevention and community education programs.

ABOUT MIRON CONSTRUCTION CO., INC.

Miron Construction Co., Inc. is a forward-thinking, fast-growing private company headquartered in Neenah, Wisconsin, with regional offices in Madison, Wausau, Milwaukee, and Eau Claire, Wisconsin, and Cedar Rapids, Iowa. Miron has been providing professional construction services to clients throughout the Midwest, with an expanded geographic reach across the United States, since 1918, and is listed among the top general contractors in the United States by *Engineering News Record*. For more information, please visit www.miron-construction.com.







Owner: City of Madison
LEED® Project Admin: City of Madison/OPN Architects/Miron Construction Co., Inc.
Construction Mngr: Miron Construction Co., Inc.
Architect: OPN Architects
Landscape Architect: OPN Architects
Civil Engineer: Snyder & Associates
MEP Engineers: IMEG Corp. (formerly KJWW Engineering)
Commissioning Agent: McKinstry
Energy Modeler: McKinstry
Project Size: 19,232 SF
Construction Budget: $6,400,000
Photography: Image Studios

ABOUT LEED

The LEED® Green Building Rating System™ is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S. Green Building Council's website at http://www.usgbc.org/ to learn more about LEED® and green building.

© U.S. Green Building Council.