



GLR OFFICE BUILDING
350 RYMAN STREET
MISSOULA, MONTANA

61.3% energy use savings

42.3% water use savings

76% construction waste recycling

LEED® Facts

GLR Office Building
Missoula, Montana

LEED for New Construction v2.2
Certification awarded June 2011

Gold 43*

Sustainable Sites 8/14

Water Efficiency 3/5

Energy & Atmosphere 10/17

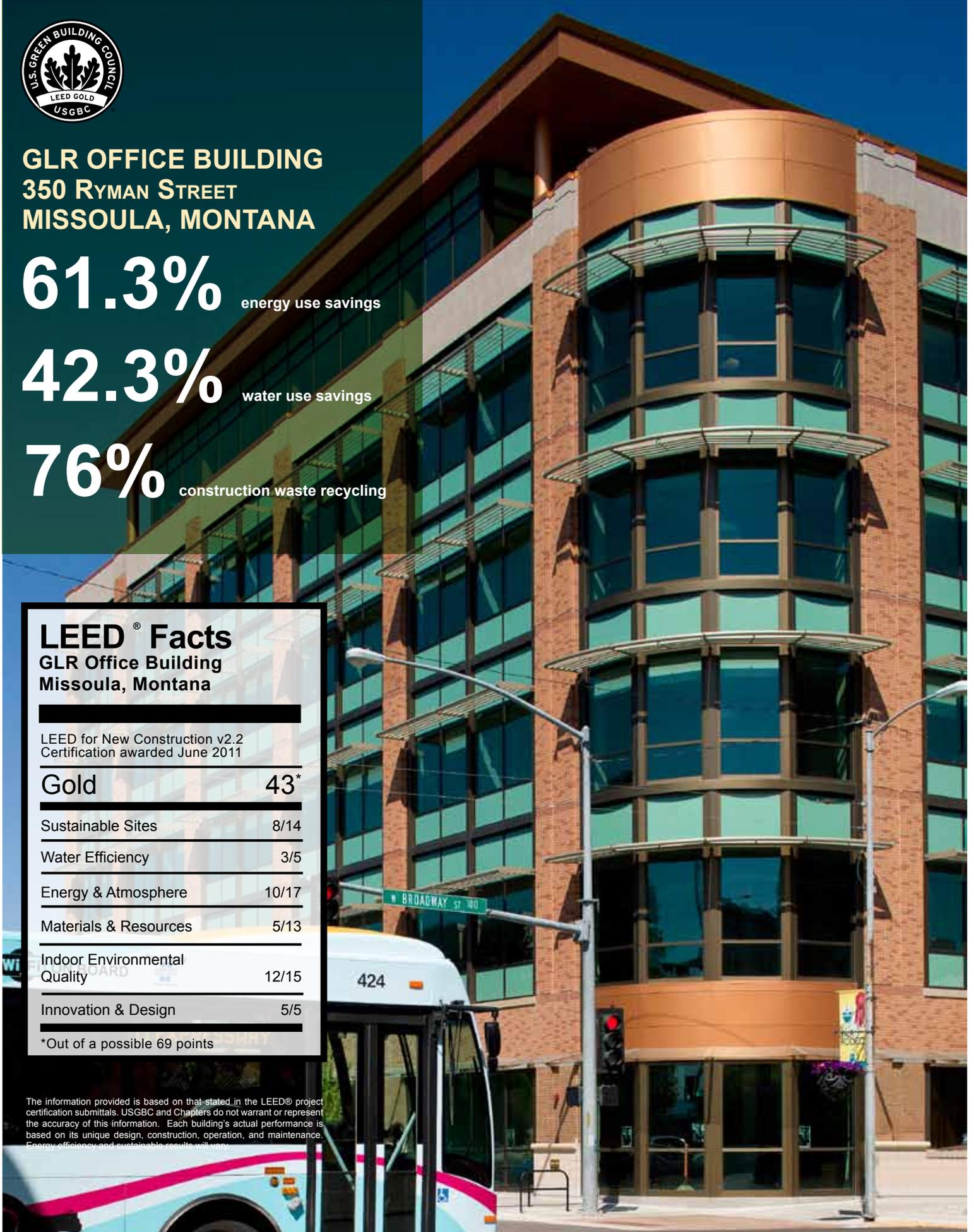
Materials & Resources 5/13

Indoor Environmental Quality 12/15

Innovation & Design 5/5

*Out of a possible 69 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.



GARLINGTON LOHN ROBINSON OFFICE BUILDING

Green at Work

GLR Office Building shows bottom-line benefits of green design

PROJECT BACKGROUND

Garlington, Lohn & Robinson is a full-service law firm recognized as a Law Firm Climate Challenge Partner by the American Bar Association. GLR needed to expand their space to accommodate their growing practice, and after careful consideration of their options they decided to remain in the downtown Missoula area. They secured a site next to their existing building and across from the Courthouse. The architect was the catalyst for deciding to pursue LEED, letting GLR know that their building type and goals could match up well with the LEED program and help them achieve their goals for a high performance, durable, long-term investment for their firm. The resulting 6-story building is full of green features with both off-the-shelf and cutting edge technology that resulted in LEED Gold Certification.

STRATEGIES AND RESULTS

Site: The new GLR Office Building was built on an urban infill site, and the existing parking and building were deconstructed and recycled or salvaged. The building location is within a few blocks of the Missoula Transit Center, giving employees and visitors a way to reach the building conveniently via bus. Bike racks outside, a secure bike storage room inside and shower/changing facility make biking to work easy and efficient. No new parking was included in the project, so alternative means of transportation was a key strategy.

Water: Efficient flow and flush plumbing fixtures in the building save over 42% compared to the current National standards for water-efficiency. The only landscaping for this urban location are street trees, which are watered via high-efficiency drip irrigation.

Energy: Meeting GLR goals to reduce operating costs led to selection of a unique mechanical system that achieved energy efficiency goals and lowered the floor-to-floor height. The heating system is a hybrid water-based ground source and gas-fired condensing boiler, and the cooling system is all water-based ground source. Using water instead of air distribution means ductwork is only needed to deliver ventilation air, which reduced the overall building height below the high-rise code requirements and saving the project approximately \$500,000. That savings was invested in better efficiency, equipment and controls. The heating system dual fuel allows GLR flexibility for climate conditions and to gas/electric price changes. The use of the cold water in the Missoula Aquifer eliminates the need for a chiller and a cooling tower, simplifying the design and reducing energy consumption at the same time. Active chilled beams and radiant sails are used to cool and heat each of the individually controlled spaces throughout the building, maximizing occupant comfort and reducing ductwork and fan energy. Occupancy sensors in offices turn off lights and set back temperature when the offices are unoccupied. GLR has both solar hot water for domestic hot water and solar electric panels on the roof to help offset fossil fuel use. These strategies, along with daylighting, efficient lighting and envelope, save GLR over 41% in energy cost (\$42,000/year) and uses 61% less energy than a code compliant design.

Materials: The contractor diverted over 76% of construction waste from landfill and to recycling or reuse. The average recycled content of materials on the project is over 22%, and regional materials average is over 10%.

Indoor Environmental Quality: Ventilation in the building is a Dedicated Outside Air System, equipped with an energy recovery wheel to protect energy efficiency while also providing abundant outside air to the occupants. Carbon dioxide sensors are located throughout the building adjusting ventilation to match the number of people in the spaces. The interior materials were carefully selected to be low-emitting and low-odor to protect indoor air quality. To protect the good indoor air quality, GLR also elected to adopt a green cleaning plan and work with a local janitorial company to use Green Seal certified products and meet LEED requirements for green cleaning.

Innovation in Design: GLR was awarded Innovation credits for more than doubling mass transit ridership, achieving over 40% water efficiency, meeting bike network requirements and implementing the green cleaning program.

Light pours in from most angles and views of all major mountain ranges are opened up by the multitude of windows at each turn. This not only reduces the power bill; the open design was put in place with employees in mind. "They just can't believe it. The space feels so good - and the light. There are a lot of smiles."

Doug Maves

GLR Business Manager



Owner: Garlington Lohn Robinson
 Architect: OZ Architects
 Interior Designer: Intaglio Design
 LEED Consultant: Design Balance LLC
 Contractor: Jackson Contractor Group
 Commissioning Agent: DC Engineering
 Energy Modeler: DC Engineering
 MEP Engineer: DC Engineering
 Structural Engineer: Beaudette Consulting
 Civil Engineer: WGM Group
 Fire Protection: PCI
 Hydrology/Wells: Atkins Group
 Project Size: 51,411 square feet
 Construction Cost: \$10.4 million

Photographs Courtesy of: OZ Architects

OUR MISSION

The USGBC Montana Chapter promotes balanced social, economic and environmental stewardship in Montana by leading and educating about green building practices that will create health and sustainable communities in which to live, work and play.



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