What is **LEED?**

Leadership in Energy and Environmental Design, or LEED, is a rating system established by the U.S. Green Building Council to benchmark the design, construction, and operation of sustainable buildings.

LEED for Schools Gold certification attests to the achievement of green design goals in five areas:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality

What is **ENERGY STAR?**

ENERGY STAR is a joint program of the Environmental Protection Agency and the U.S. Department of Energy to promote energy efficiency.

Earning the ENERGY STAR is evidence of The Lovett School's commitment to reducing its impact on the environment. By displaying the ENERGY STAR, we show that the Middle School meets strict energy-efficiency guidelines and is low in carbon emissions.

Water

- Dual-flush toilets, waterless urinals, and low-flow faucets enable Lovett to **save 420,000 gallons of water per year** over conventional plumbing.
- Rainwater collection, efficient irrigation systems, and native and adaptive site plantings were designed to **reduce potable water consumption by 60 percent**. Rainwater is collected in a cistern below the green roof for use in irrigation. The **cistern can hold close to 4,500 gallons of water**. The cistern and campus pond are used as sources for campus irrigation water.

Earth

- **Recycling:** A recycling room has been provided to support the school's recycling program. During construction and demolition, 95 percent of waste was diverted from landfills.
- **Use of Recycled Materials:** Structural steel, porcelain tile, carpet, entry mats, countertops, and toilet partitions are made from recycled content.
- **Use of Rapidly Renewable Materials:** The floor of the multi-purpose room is bamboo, a material that grows quickly. Linoleum flooring was used instead of vinyl, since linoleum is rapidly renewable.

Air

The Middle School will **use 21 percent less energy** than established standards.

- Traditional water heaters are supplemented by solar hot water.
- High-performance exterior wall, window, and roof systems minimize air infiltration.
- Daylight and motion sensors reduce power consumption for lighting.
- Low-emitting adhesives and sealants, paints and stains, composite wood, and flooring systems reduce contaminants in the air.
- Building commissioning ensures that building systems are performing to optimize performance.
- Light-colored pavement, sloped roofing, and planted roof surfaces reduce "heat island effect."

Lovett

New Portman Family Middle School

Designed to reflect Lovett's commitment to environmental stewardship, the Middle School building is seeking LEED gold certification for sustainable building design.

The green roof will serve as outdoor classrooms and will showcase an innovative system for harvesting rainwater for irrigation. Solar hot water, bamboo flooring, carpet with recycled content, and daylight sensors are some of the many sustainable features that are part of this new **green** school.

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Sustainable design attributes of the project include:

General features

- Building energy monitoring system (e.g. "Building Dashboard," utilities sub-metering, etc.)
- Recycling of demolition and construction waste
- Use of rapidly renewable materials (e.g. bamboo flooring, linoleum, cedar ceilings, PaperStone, etc.)
- Electric elevator in lieu of hydraulic elevator
- Indoor air quality management program
- Office and student furniture are a combination of GreenGuard and Scientific Certification Systems (SCS) certified, and contain fabric made of recycled content
- ENERGY STAR applicances
- Reliance on laptop computers, which reduces paper usage and costs

Classroom features

- Energy-saving classroom lighting systems
- Energy-saving windows (windows reflect heat in the summer and retain warmth in the winter, which saves on cooling/heating costs)

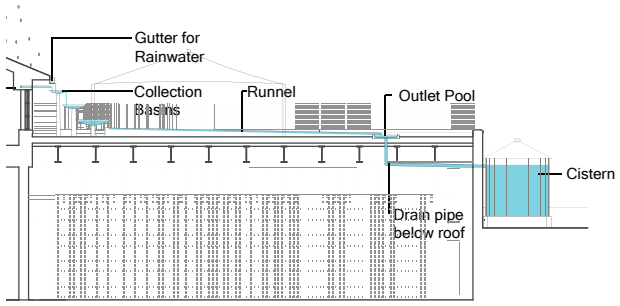
Water features

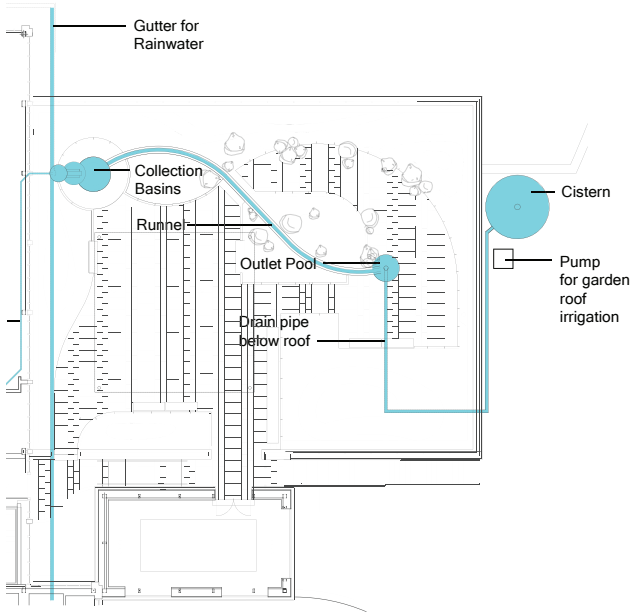
- Solar hot water system
- Low water use plumbing fixtures

Outdoor features

- Green Roof (outdoor classroom and demonstration garden for water harvesting)
- Water collection and recycling system (cistern, condensate piping, irrigation pump, etc.)
- Bicycle Racks to promote bicycle commuting
- Composting and recycling of materials that students use during the day

The Green Roof includes planting areas, water features, and outdoor classroom space on the roof of the multi-purpose room.





Why build a **Green Roof?**

A green roof reduces the impact of building on a site by replacing some of the vegetation disturbed by the building's footprint with a vegetated area on its roof.

A green roof's benefits include:

- Increasing the roof life span by shielding the membrane from extreme temperature changes and ultraviolet radiation
- Filtering pollutants and carbon dioxide out of the air
- Increasing wildlife habitat
- Reducing heating and cooling loads on buildings
- Reducing stormwater runoff
- Reducing a building's contribution to "heat island effect," the raised temperature of an area due to retention of heat on manmade surfaces

Benefits of high performance **Green schools:**

- Building **green** saves the average school $100,000 a year.
- Green schools are better for children because they provide healthy learning environments that are quiet, well-lit, and comfortable.
- Studies also show that green schools increase student performance, improve teacher retention, and have greater operational savings.