



# DURHAM COUNTY COURTHOUSE



The new Durham County Courthouse is striving to achieve LEED (Leadership in Energy and Environmental Design) certified Gold designation.

LEED is a standard developed by U.S. Green Building Council for environmentally responsible buildings. There are four certification levels within LEED and Gold is the second highest.

## A Sustainable Site

- The courthouse was built on a previously developed site in downtown Durham so no new land was cleared for its construction. Its site was strategically chosen to be easily accessible by public transportation.
- Drivers of electric vehicles can make use of 4 charging stations and fuel-efficient cars can use preferred parking spaces. The site also has bicycle lockers.



- Some sections of roof on the building are covered in a sedum plant, which absorbs water when it rains and can withstand drought. This feature is called a "green roof". Green roofs reduce the amount of rainwater that carries pollution from roads into nearby streams



during storms, by using that water for the plants and slowing it down as excess drains. They also help insulate the building to reduce energy use.

• All site lighting fixtures are designed to limit light pollution.

• The light colored pavement and shade producing plants keep the site cooler, which reduces the heat island effect. Urban areas tend to have higher temperatures because of the large amount of manmade materials, like concrete, that absorb and hold heat longer than vegetative material.



## Water Efficiency

- The landscaping requires minimal watering and can be watered using a rainwater collection system. Water from the top of the building is piped to the underground cistern. A cistern is a very large tank that holds rain water.



- Water use inside the building is reduced through waterless urinals and high-efficiency water fixtures. Waterless urinals save one gallon per use. The courthouse is expected to use 30% less water than an equally sized conventional building.

## Materials & Resources

- This project recycled 50% of its construction waste, reducing the amount of waste going to the landfill.
- The building materials contain recycled content and many are locally produced. These materials reduce the use of limited raw materials and support the local economy.

- The floor is made out of crushed plate glass from recycled windows with recycled aluminum strips in between the slabs.



- At least 50 % of the wood in this building is FSC (Forest Stewardship Council) certified. FSC certification means that the wood was grown, harvested, and processed in a way that was sensitive to the environment and the community in which it was grown.



# Energy & Atmosphere

- The courthouse is expected to use 28% less electricity than a comparable conventional building through its design and equipment.



- Nearly every room in the building is equipped with an occupancy sensor that turns the lights off when no one is in the room.

- The large rooms in this building are equipped with carbon dioxide sensors, increasing fresh air in the room when occupancy numbers rise. This increase in air quality is not only healthier but saves energy by reducing the amount of air needed to heat or cool the room when fewer people are present.

- The elevators use regenerative technology that captures the energy released when the cars go down and use it to bring the elevator back up.



- Light shelves are used to make a room brighter making the most of sunlight entering the building. Horizontal shelves allow daylight to enter the building and reflect it throughout the space. This also decreases energy use because fewer light bulbs are needed.



- The entire building is programmed to function in "economy mode" overnight, saving energy while the building is not in use. Things like setting the building to a higher temperature in the summer and lower temperature in the winter and turning off many of the lights are a part of the economy mode.

- Windows on both sides of the western stairwell allow sunlight in, which reduces the amount of energy used to light the stairwell and adds a nice view of the City.



## Indoor Air Quality

All the paint and carpet in this building is low VOC (volatile organic compounds). VOCs are chemicals emitted as a gas from many traditionally made paints, sealants, and flooring materials that contribute to asthma and other respiratory conditions. Using low VOC paint provides healthier air inside the building.



## Additional Features

The building has recycling stations to reduce the amount of waste going to the landfill. The building is cleaned with green cleaning products that are less harmful for the environment and more sensitive to the people using the building.

