

Sustainable Building

Sustainable building, sometimes called “green building” or high performance building, is the practice of designing, constructing, operating, and maintaining buildings in ways that conserve natural resources and reduce pollution. It also means creating a building that is healthier and more comfortable for its occupants, consequently enhancing productivity.



Washington County Service Center in Cottage Grove

Planned, designed, constructed, and operated to minimize environmental impact and save money

Washington County’s service center in Cottage Grove incorporates a wide range of sustainable design features. The 40,000 square foot South Service Center, built in 2007, is located in the scenic Cottage Grove Ravine Park and was designed utilizing the Minnesota Sustainable Building Design Guidelines, which the County Board adopted in 2005.

Major project goals were to exceed the existing energy code by at least 30 percent, improve water efficiency in the building by 30 percent compared to code, achieve the lowest possible lifetime costs for the building, ensure good indoor air quality, create and maintain a healthy environment, specify ways to reduce construction material costs, and consider the long-term operating costs of the building.

Even with the added sustainable building features, the cost per square foot of the building and grounds was comparable to that of a standard office building.

Sustainable Building Features

The following represents a partial list of sustainable features of the South Service Center building and grounds.

Land

- Native and low-maintenance plantings require no irrigation
- Rain gardens control storm water runoff
- Trees planted to shade at least 30% of parking areas
- Equal land replacement for land being used in the Cottage Grove Ravine Park
- Outdoor trail areas and bicycle parking to encourage healthful physical activity

Air

- Polyvinyl chloride-free (PVC) carpet tile cushion backing
- Carpet tile installed with low volatile organic compounds (VOC) adhesive
- Zero VOC paint for public and staff areas
- Fabrics for reception desks are free of PVC, chlorine, plasticizers, heavy metals, ozone depleting chemicals, topical finishes and dioxin, and are low VOC
- Ceramic floor tile can be maintained without harsh chemicals
- Interior materials do not contain Chlorofluorocarbons (CFC’s)
- Fresh air interior ventilation

Water

- Auto-sensor faucets, auto flush and low-flow toilets in restrooms

Energy

- Thermoplastic Overlay (TPO) roofing (Energy Star rated) has high solar reflectance which lowers the heat island effect and reduces utility consumption for cooling
- Composite wood/aluminum windows have low air infiltration and high water resistance ratings
- Aluminum windows are low-E insulated glass with coated glass to reduce glare and allow day lighting
- Electrical equipment consists of energy saving stepped/dual level lighting, occupancy sensors and daylighting sensors for lighting control, and high efficiency lamps (T-8 lamps)
- Energy Star ® rated appliances and energy efficient flat panel monitors for computers
- Ceiling tile has high light reflectance
- LED exit lights
- Natural day lighting throughout the building
- Mechanical equipment consists of 98% efficient condensing gas boilers and 15% decreased KW/ton air-cooled chiller
- Premium efficiency fan and pump motors, and variable frequency drives on fans and pumps
- Energy management system

Materials

- Recycled Content Materials:
 - fly ash (a by-product of coal combustion) in concrete footings, foundation and slabs
 - steel in columns, beams, roof joists and decking, metal framing and doors
 - zinc in roof shingles
 - aluminum in composite wall panels and windows
 - fiberglass insulation
 - ceramic floor tile for restrooms
 - paint for public and staff areas
 - paint for non-public areas is re-blended paint locally produced in Roseville, MN
 - plastic laminate for cabinetry
 - ceiling tile
 - polyester in fabrics for office furniture
 - office chairs and stools, lobby area lounge chairs and sofas, and outdoor furniture contain recycled content aluminum, steel, or plastic
 - office stations are remanufactured
- Materials that can be recycled:
 - zinc shingles
 - carpet tile cushion backing - return/recycling program
 - ceramic floor tile for restrooms - recycling program
 - ceiling tile – return/recycling program
 - fabrics for office furniture - recycling program
 - office and lobby area furniture - can be disassembled for remanufacture/recycling
- Durable, low-maintenance materials:
 - zinc shingles have 200 year lifespan
 - brick, concrete, and limestone
- Materials made from natural materials:
 - linoleum flooring made from flax seed, linseed oil, rosins, cork wood flour, limestone, and jute
 - exterior brick, ceramic floor tile for public areas and restrooms made from naturally occurring clays and minerals
 - vinyl composition tile is composed of 85% natural limestone

Waste

- Construction Waste and Recycling Plan required of contractor

Construction Manager: Kraus Anderson Construction - Midwest

Architect: Ankeny Kell Architects