



RANDALLSTOWN COMMUNITY CENTER



... WHERE IT'S EASY BEING GREEN

**Low-Stress Ways to Design,
Construct,
and Enjoy
a “Green” Building**

So, what is a “green” building anyway?

A “green” building is an environmentally responsible building, a sustainable part of the community, and a healthier place to work and live.

Randallstown Community Center has been certified by the U.S. Green Building Council (USGBC) through their LEED® (Leadership in Energy and Environmental Design) Rating System. This system evaluates a building during design, construction, and use based on energy performance, water efficiency, material consumption, indoor environmental quality, and integration with its location.

Why build a “green” building?

Buildings use a lot of energy, water, and resources. For example, buildings consume 39% of energy used in this country, 70% of electricity, 12% of potable water, and 30% of raw materials. Buildings put out 30% of the waste generated in the country and 48% of carbon emissions.

The indoor spaces we use to work, live, and play affect our health and quality of life as well as our planet’s health. By building “green” we can save energy, improve indoor air quality, reduce use of raw materials, decrease the amount of waste generated, and lower operating costs.

But isn’t all of that . . . well, difficult?

It doesn’t have to be. While there are some exotic ways to build “green,” there are also many simpler ways to achieve positive results with good design practices, responsible construction methods, and sensible building use.



Here are some straightforward “green” strategies Baltimore County employed at Randallstown Community Center.

DESIGN



An easy way to start is to design the building to be energy-efficient. ASHRAE (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) has a national design standard for building energy performance. Following these requirements when designing Randallstown Community Center's heating, air conditioning, ventilating,

lighting, power, and hot water systems means lower energy needs.

Specifying a highly reflective roof is another way to save energy, as a cooler roof requires less air conditioning. A reflective roof also reduces the "heat island effect;" the building doesn't hold as much heat in the summer, so the air temperature around the building is lower, slowing air pollution caused by higher temperatures.



Choosing low-flow plumbing fixtures (shower heads, toilets, urinals,



and faucet aerators) at Randallstown Community Center will reduce the water used in the building by 45%. Not only are there savings in the amount of water used and its cost, using less water means there is less sewage that needs to be treated. Saving water also works outside. No exterior irrigation system is being used and native and drought-resistant plants are used for landscaping.

Randallstown Community Center was designed to provide natural daylight to 80% of the occupied spaces. This reduces energy costs and increases the comfort of the people using the building. Also, occupancy sensors are provided in the restrooms, Tech Center, Activity and Meeting Rooms, offices, storage areas, and backstage areas. When the sensors register no activity in these spaces, showing that they are unused, lights will switch off automatically to save energy.



Maintaining a healthy indoor environment is important as well. Permanent mats have been installed at entrances to capture dirt and particles. Janitor's closets and the pool chemical system have been designed to limit exposing the building users to chemicals that could be irritating.

CONSTRUCT

Designing energy efficient equipment is the first step; the next step is constructing it properly. A commissioning agent was hired to provide quality control and ensure that mechanical, electrical, and plumbing systems were installed and operating as they should. This helped eliminate potential problems in these systems before the building was occupied.

A responsible way to conserve resources is to recycle construction



waste. Many construction materials, including concrete, asphalt, metals, drywall, wood,

and paper, can be recycled, reducing the demand for new materials and the energy to produce them. Recycling also reduces the amount of debris sent to landfills. During construction of the Randallstown Community Center, over 92% of the waste was recycled, diverting over 826 tons from area landfills.

Of course, another responsible way is to incorporate recycled materials in constructing a new building. Over 31% of the materials used in Randallstown Community Center were recycled, including steel in the roof, rebar in the floor, masonry in the walls, fiberglass panels in the gym, exterior doors, insulation, and metal panels. Even items like the gym and tile floors, ceiling tiles, and restroom partitions have recycled content.



Using local materials is helpful, too, reducing the cost and environmental impact of transporting materials long distances. In



Randallstown Community Center, 27% of the materials, including concrete, masonry, insulation, and gypsum board, were extracted and manufactured within 500 miles of the building. This reduced the pollution produced and fuel used to

convey materials to the project.

Of the wood used in building Randallstown Community Center, 72% was certified by the Forest Stewardship Council (FSC). FSC has standards for forestry practices that are environmentally responsible and socially beneficial. This includes sustainable timber harvesting, preserving wildlife habitat and biodiversity, maintaining soil and water quality, minimizing use of harmful chemicals, and conserving endangered and old growth forests.

The health of a building is affected by what is put into it during construction. Only paints, adhesives, and wood products with low levels of volatile organic chemicals (VOCs) were used at Randallstown Community Center. So, inside the building, there is a lower level of chemicals that could be irritating or odorous for both installers and building users. Also, mechanical equipment was protected from construction dust and chemicals, with ducts being

sealed and filters being replaced, so there would not be contaminants in the air when the systems started. When the building was ready for occupancy, the air inside was tested for carbon monoxide, volatile organic compounds, formaldehyde, and particulates. Levels were well below the maximum compliant level, ensuring a clean start for the people using the building.

ENJOY



At Randallstown Community Center, it's easy to come and go and decrease fuel use and vehicle emissions as you do. Public transportation is available at Liberty Road, there are dedicated parking spots for carpools, and bicycle racks are adjacent to the building entrances.

The building's air conditioning systems use refrigerants that do not contain CFCs (chlorofluorocarbons). These chemicals, used in older systems, damaged the ozone layer and increased ultraviolet (UV) radiation.

Inside Randallstown Community Center, you can also breathe easy. No smoking is allowed inside the building or within twenty-five feet of entrances, avoiding the health risks of secondhand smoke and the contamination of indoor air and surfaces. Also, CO₂ levels inside the building are monitored and ventilation adjusted to ensure occupant comfort as well as energy efficiency.

This building is being cleaned with non-toxic, biodegradable, non-petroleum-based products approved by Green Seal. Paper products, such as toilet tissue and hand towels, are made of 100% recycled paper. This "green housekeeping" reduces exposure of building occupants and maintenance personnel to chemical contaminants that could adversely impact air quality and the



environment as well as limiting the environmental impact of cleaners and disposable products.

It's also easy to recycle at Randallstown Community Center.



Recycling bins for paper and metal, glass, and plastic containers are conveniently located throughout the building. Recycling helps to reduce the environmental impact of landfills that would be needed if these materials were disposed of as general waste. Also, making paper, cans, and bottles from recycled rather than new materials requires less energy.

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***So, whether you want to
design a “green” building,
build one, or
just enjoy being in one,
come to Randallstown Community Center,
where it’s easy being green!***

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- Architect: Rubeling and Associates, Inc.
- LEED Consultant: Lorax Partnerships LLC.
- Mechanical and Electrical Engineer: Spears/Votta and Associates, Inc.
- Plumbing Engineer: Jones Design Group, Inc.
- Civil Engineer: Site Resources, Inc.
- Structural Engineer: Columbia Engineering, Inc.
- General Contractor: Dustin Construction