

A Detailed Summary of Brightview Columbia's LEED Strategies

For Brightview Columbia to achieve LEED Gold Certification with 61 points, during the design and construction process, more than 30 verified sustainable building strategies were implemented, such as opportunities related to energy efficiency, water conservation, waste reduction, alternative transportation, and indoor air quality. Below is a detailed summary of the many LEED strategies implemented.

Integrative Process

To maximize opportunities for cost-effective adoption of integrative green design and construction strategies, a diverse set of project team members worked closely together to coordinate efforts during several phases of the process. The project team meetings include focused conversations around goals, challenges, solutions, responsibilities, and action plans. In addition, multiple design charrettes were organized to integrate green strategies across all design aspects.

Location and Transportation

With a focus on developing a community in a location that promotes environmentally responsible land-use patterns and neighborhoods and reduces overall environmental impact, the below strategies were executed:

- *Floodplain Avoidance* - Brightview Columbia does not lie within a flood hazard area.
- *Site Selection* – Selecting a lot where 75% of the land within ½ mile from the project boundary is previously developed land and within ½ mile of open space that is at least ¾ acre avoids developing environmentally sensitive lands.
- *Compact Development*- Meeting a specified dwelling unit per acre of buildable land area density protects open space and wildlife habitat, encourages walking, and increases community connection.
- *Community Resources* – The building's main entrance is within ½ mile of walking distance of at least five community uses, such as the Martin Road Park and Community Foundation of Howard County (community center).

Sustainable Sites

While the focus of green buildings is typically on the actual building structure, the design of the site and its natural elements can have significant environmental consequences, both positive and negative. This category rewarded the project team for designing the site to minimize these harmful effects.

- *Construction Activity Pollution Prevention* - This general contractor completed measures before and during construction to limit soil erosion of surface areas surrounding the building site.
- *No Invasive Plants* – As part of the landscaping design, the plants selected were not listed as regionally invasive species.
- *Non-Toxic Pest Control* – Several pest management best practices were implemented to minimize pest problems and the risk of exposure to pesticides.

Water Efficiency

According to USGBC references, in the U.S., approximately 345 billion gallons of fresh water is withdrawn per day from rivers and reservoirs to support residential, commercial, industrial, agricultural, and recreational activities. New buildings that use water efficiently have lower water bills and reduce maintenance needs by municipal facilities. The strategies below were implemented to support water efficiency efforts for this project.

- *Water Metering* – The property has one water meter for the whole community, which allows for total water usage to be monitored through utility bill management.

- *Total Water Use Reduction* – Through a thoughtful selection of water-efficient fixtures such as toilets, faucets, shower heads, and appliances, total indoor and outdoor water consumption is expected to be reduced by 60% over standard practices.

Energy and Atmosphere

Across the portfolio, Brightview’s goal is to increase energy efficiency and decarbonization efforts. Brightview Columbia is no exception. In addition to several certification prerequisites for minimum energy performance, energy metering, and resident education initiatives – the team also tackled several other strategies to reduce energy consumption:

- *Annual Energy Use* – To improve the property’s overall energy performance and reduce greenhouse gas emissions, the design team modeled an expected 12% reduction in energy consumption compared to an industry baseline.
- *Efficient Hot Water Distribution System* – R-4 installation was installed on all domestic hot water piping to reduce energy usage and the burden on the water supply.
- *Advanced Utility Tracking* – The community installed an automatic in-ground irrigation system and submeter to monitor irrigation usage. The operational energy performance is also being benchmarked using EPA’s ENERGY STAR Portfolio Manager Platform, with the goal of achieving ENERGY STAR Certification in the future.

Materials and Resources

Building material selection is an important part of a sustainable design because of the environmental impacts of extraction, processing, and transportation of these materials.

- *Certified Tropical Wood* – All wood used for construction is nontropical unless reclaimed or certified by the Forest Stewardship Council.
- *Durability Management* – All required indoor moisture control measures were completed to promote the durability and performance of the building enclosure and its components and systems.
- *Environmentally Preferable Products* – In terms of local production, 100% of aggregate for concrete and foundation was extracted, processed, and manufactured within 100 miles of the project site. In addition, flooring and insulation materials met environmentally preferred criteria.
- *Construction Waste Management* – More than 30% of construction waste was reduced compared to an industry baseline.

Indoor Environmental Quality

There were 13 different indoor environmental quality strategies implemented to prevent air pollution and improve air quality and comfort for residents, staff, and other visitors in the community. A few of these strategies are highlighted below:

- *Ventilation* – Exhaust systems were designed and installed to meet strict ventilation standards, which helps reduce any moisture challenges and exposure to indoor pollutants. To help protect the health of residents, staff, and visitors, air filters with a MERV value of 8 or higher are installed in specified locations to align with well-recognized industry standards.
- *Environmental Tobacco Smoke* – Smoking is prohibited throughout the building and inside apartment units, and this is communicated through educational signage and lease agreements.
- *Low-Emitting Products* – All paint, flooring, and insulation comply with strict public health and safety standards, focused on improved indoor air quality for building occupants, and reduced exposure to airborne chemical contaminants through thoughtful production selection.