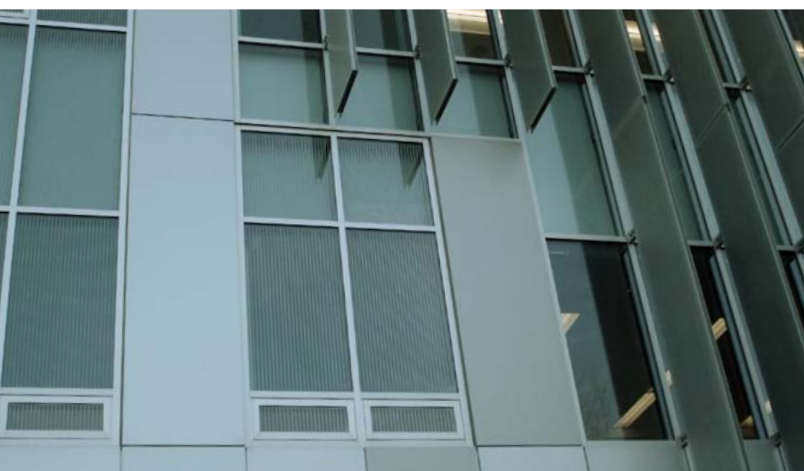


# LEEDing by Example

## Morgan State University: CBEIS



For over 140 years, Morgan State University has been an important part of the higher education system in Baltimore City, the State of Maryland, and the nation. Morgan State is a coeducational institution located in a residential section of Baltimore and encompasses some 143 acres. Morgan State's new Center for the Built Environment and Infrastructure Studies (CBEIS) is a 124,800 square foot shared facility for academic, engineering and design programs.

The CBEIS will house research and instructional programs for Civil Engineering, Transportation, Architecture and Planning in a highly collaborative environment. It is designed as a gateway building on the northern-most edge of the Morgan State campus, and includes four levels of classrooms, offices, group study rooms, conference rooms, atriums, a green roof and more. Two horizontal bars link a sky-lit atrium that runs the length of the building, creating an internal street with a café, lounges, information kiosk, departmental "store fronts", views to academic studio spaces, and a gallery-like space for displays and social interaction.

Key Parameters	Location:	Baltimore, MD
	Project size:	124,800 sq ft
	Project cost:	\$54,000,000
	Objective:	USGBC LEED Gold Certification

## The Challenge

Morgan State mandated that the new CBEIS facility be at the forefront of sustainable design practices, utilizing high performance materials and systems, and setting an example for responsible planning, design, engineering and cutting-edge technology. The University further mandated that the minimum requirement for the CBEIS building had to be LEED Silver Certification, with a strong preference for LEED Gold or LEED Platinum Certification.

## Solution

The Freelon Group, an architectural firm located in Durham, North Carolina, in association with CSD Architects of Baltimore, Maryland - now a part of Hord Coplan Macht (HCM) - selected Unicel Architectural's Vision Control® louvers-within-glass solution to support the strict LEED requirements. As part of a discerning selection process, Unicel was required to demonstrate technical capabilities regarding visibility, light transmittance, u-values and other thermal performance characteristics to generate an extensive energy model for verification of LEED credits.

The Vision Control® solution was selected based on thermal performance, product life-cycle cost benefits and effective daylighting support.

The Vision Control® CBEIS installation includes:

1. 164 Triple-glazed Vision Control® sealed glass units at fixed windows comprised of 1 3/8" fixed vertically-oriented louver blades encased in the second airspace cavity, with 1/4" clear tempered glass with a Solarban 70XL soft coat low-E (surface#3). These are glazed within Unicel's aluminum curtain wall system.
2. 48 Double-glazed Vision Control® sealed glass units at operable windows with 1 3/8" fixed vertically-oriented louver blades encased in 1/4" clear tempered glass with hard coat low-E (surface #2). These are glazed within operable hopper windows, hinged at top and opening outwards for ventilation.

## Results

The Vision Control® solution delivers the required u-values to help CBEIS achieve LEED Gold Certification. Life-cycle cost analyses have concluded that the use of Vision Control® decreases the building's operational costs and offers substantial savings over the life of the product.<sup>(1)</sup> The spacing between each Vision Control® louver allows for an expanded view through the window, while restricting unwanted heat build-up and maintaining an optimum level of daylight inside the working area. The Vision Control® solution further eliminates glare and meets with CBEIS daylighting and shading requirements.

The CBEIS project is completed and due for occupation at the end of 2012.

<sup>(1)</sup> *The Impact of Vision Control Windows on Building Heating/Cooling Loads and Energy Consumption – a Comparative Simulation Study*, Thanos Tzempelikos, M.A.Sc., Ph.D., Solar Buildings Research Network



Team	Owner:	Morgan State University
	Design architect:	The Freelon Group
	Construction manager:	Barton Malow
	Architect of record:	Hord Coplan Macht (HCM) (formerly the education studio for CSD Architects)
	Louvered Glazing:	Unicel Architectural
	Glazier:	Zephyr Aluminum



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