

# MOMENTUM



**Mueller**

**SPRING 2015**

## UMBC CELEBRATES THE ARTS

New Performing Arts and Humanities Building Wins AIA Award



A new 350-seat concert hall completes the UMBC Performing Arts and Humanities Building.

*“The technological advances go beyond description...student training opportunities have increased exponentially with these amazing facilities.”*

**Nyalls Hartman**

Chair

Department of Theatre  
University of Maryland  
Baltimore County

Following several years of visionary planning and design, the new Performing Arts and Humanities Building (PAHB) is complete on the campus of the University of Maryland, Baltimore County. Designed by William Rawn Associates, Architects, Inc., with Grimm + Parker Architects, the 176,000-square-foot facility was recently recognized with a Design Award for Higher Education from the Baltimore chapter of the American Institute of Architects.

Mueller Associates provided mechanical and plumbing engineering for the four-story building, which includes a 350-seat concert hall, a proscenium theater, a black box theater, dance and recording studios, classrooms, and labs. As the building is served by the campus chilled water and high temperature hot water central plant, Mueller also designed several campus infrastructure improvements, including an expansion of the plant, extension of the utility tunnel, and upgrades to the campus chilled water distribution system.

the concert hall inspired the innovative use of an underfloor air distribution system. “We were able to conserve energy use by blending the return air into the supply air stream to reduce reheat,” he says. “This eliminates some of the ceiling ductwork and stratifies the air to focus the conditioning within the occupied zone rather than high up in the hall. It’s quiet, comfortable, and energy-efficient.”

### Conserving Energy

“This is a unique building that accommodates many different types of programs,” says Mueller Vice President Todd Garing, PE. “There are several different types of performance venues, as well as studios, classrooms, offices, and scene and costume shops.” Garing notes that the design of



photos © Ken Wyner

▲ An underfloor air distribution system in the concert hall is quiet and energy-efficient.

▲ Natural light fills the glass-enclosed Dance Cube. The UMBC PAHB has achieved LEED®-Gold certification.



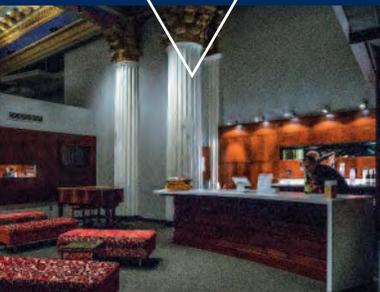
# CHESAPEAKE SHAKESPEARE COMPANY THEATER OPENS

Adaptive Reuse Transforms Historic Bank



photos © Alan Gilbert

Baltimore's circa-1885 Mercantile Trust and Deposit Co. building, with its grand columns, ornate ceilings, balconies, and mezzanine spaces presented an ideal opportunity for the Chesapeake Shakespeare Company to create a dramatic new theater-in-the-round.



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A creative adaptive reuse of the historic Mercantile Trust and Deposit Co. building in downtown Baltimore has transformed the 19th-century structure into a popular venue for the performing arts. Working with architects Cho Benn Holback + Associates, Mueller Associates designed upgrades to the mechanical, electrical, and plumbing systems for the new 260-seat Chesapeake Shakespeare Company Theater, which opened in the fall of 2014.

### Award-Winning Design

Designed as a theater-in-the-round, the venue is a modern interpretation of an Elizabethan playhouse—"a hip version of the famed Globe Theatre in London where Shakespeare's own company performed," according to Tim Smith, the fine arts critic for *The Baltimore Sun*. The project has earned two major awards to date: the Phoenix Award from Preservation Maryland and the Golden Griffin Award from the Baltimore Architecture Foundation.

Many of the historic details within the circa-1885 Romanesque Revival-style building were

*Mueller engineers enhanced the HVAC system while preserving historic elements and avoiding impact to theater operations.*

retained and restored, adding to the drama of the intimate theater setting. The removal of dropped ceilings revealed the original painted, coffered ceilings. The grand, three-story columns and vault doors remain, and a vintage teller's window now frames the box office.

### Cost-Efficient Solutions

With a modest budget, Mueller Associates' design optimized the existing HVAC system through extensive repairs and selective replacement of equipment. Working within the confined space and around the columns, beams, ornate ceilings, and new lighting, the Mueller team was further challenged to configure the systems efficiently while minimizing impact to historic elements and theater operations.

"We replaced all of the ductwork due to the reconfiguration of the space," says Tom Syvertsen, PE, LEED AP, who served as project

manager for Mueller. "We knew going in that it would be difficult to place the large ducts into the tight spaces and work around the columns and lighting, but by using 3D modeling software, we were able to get it all to fit. We were careful to consider the acoustics and attenuate the noise. It's impressive to see how it all came together."

"The team crafted a modern 'vertical theater' reminiscent of the historic Globe Theater in England," says George Holback, AIA, LEED AP, principal with Cho Benn Holback + Associates. "The addition of a double balcony into the historic Mercantile Bank building was a major challenge with floor heights and clearances. Mueller's work to knit all of the new HVAC systems and theatrical lighting within the three levels of raked seating was key in getting the scale and intimacy of the space right. We were very pleased to have Mueller Associates on our team."

