# MOMENTUM

WINTER 2022

## SMALL PROJECTS, BIG AMBITIONS



Mueller

# To our Clients and Colleagues

Every issue of *Momentum* is special to us. From large, high-profile projects, such as major museums and libraries to new campus buildings and performing arts centers, our engineers take tremendous pride in our contributions to improving the built environment. In this issue, we place a spotlight on several of our smaller yet more unique projects, from a lighthouse and historic crypt to a natatorium and minor renovations at private museums.

While larger projects may have bigger budgets, smaller-scale projects can be just as complex and require careful coordination with multidiscipline design and construction teams. Limited spaces may require creative decision-making in terms of design solutions, and modest budgets generally mean little margin for "surprises." Efficiency, ease-of-maintenance, sustainability, and reliable performance are always important, no matter the size of the project.

At Mueller, we approach our projects—regardless of square footage or budget—with equal enthusiasm and rigor. Our engineers recognize the value and impact our designs bring to communities, whether supporting visitors to a historic lighthouse, students worshipping in a historic chapel or studying for an exam in the campus library, or patrons admiring the work of local artists and artisans. We hope you enjoy reading about a few of these fascinating examples.

As we begin a new year, I am honored to now serve as president of Mueller Associates. I look forward to working with our chairman, Bob Marino, our talented staff, and all of you to make this year a success. Please stay in touch.

Sincerely,

Todd J. Garing

Todd Garing, PE, LEED AP BD+C
President

# A Beacon for the Bay

## *Point Lookout Lighthouse to Reopen to the Public*

Built in 1830, the **Point Lookout Lighthouse** is set on a peninsula in St. Mary's County, Maryland, at the confluence of the Potomac River and the Chesapeake Bay. In addition to protecting ships from the dangers of the river's shoals, the lighthouse served as the location of a Civil War prison camp where more than 50,000 Confederate soldiers were detained. The site includes the lighthouse, a buoy repair shed, a coal shed, and a smokehouse.

Decommissioned in 1965, the State of Maryland now owns the property known as **Point Lookout State Park**. All four of the structures are listed on the Maryland Register of Historic Places. Recognizing the historical value of this unique site, which has not been significantly altered since its 19th-century construction, the state recently embarked upon a comprehensive effort to preserve and restore the buildings and incorporate new exhibits about the property's important contribution to southern Maryland history.

**Quinn Evans** and Mueller Associates designed the rehabilitation of the structures, including upgrades to the engineering systems and site infrastructure, removal of non-historic materials, and accessibility improvements. With the project nearing completion, the two-story lighthouse will soon feature exhibits detailing the site's history, with additional interpretive elements on display in the buoy repair shed.

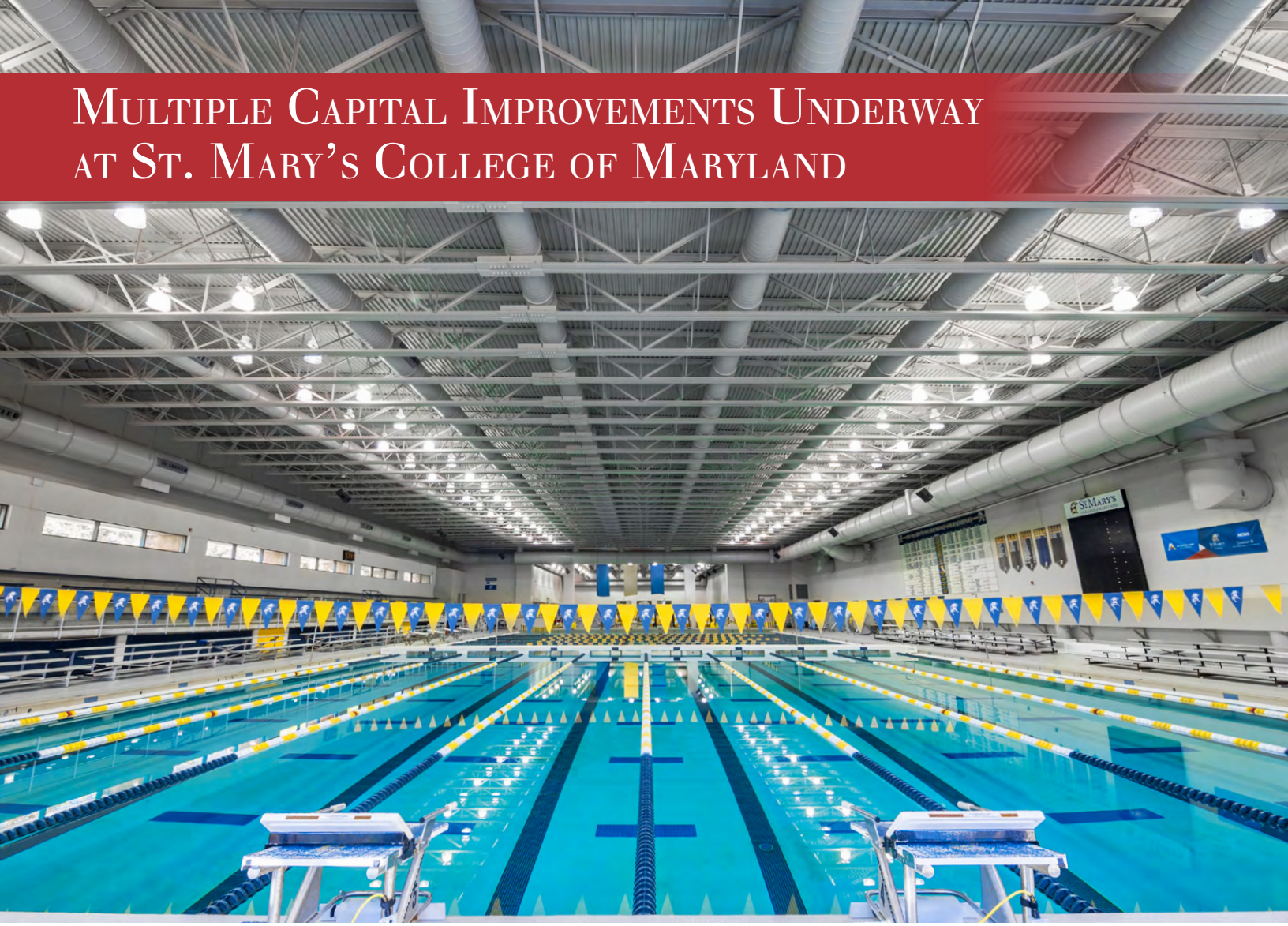
"There were interesting challenges involving the placement of the air handling units (AHUs) and the ductwork routing," says Dan Carmine, PE, LEED AP, who served as Mueller's project manager. "The attic space was shallow, and we needed to keep the equipment out of the basement due to the high flood plain. The peaked roofline did allow for one AHU to be installed in the attic, but the second unit had to be installed in a converted second-floor closet with ductwork routed up into the attic and back down to the first and second floors.

"Projects like the restoration of the Point Lookout Lighthouse often require the creative use of space in placing mechanical equipment. At the same time, we want to respect the integrity of the historic structure. We were fortunate to be able to work closely with the state and the Quinn Evans team to engineer a solution that met all of our objectives."

Rendering by Quinn Evans

*The Point Lookout Lighthouse is one of approximately two dozen remaining in the Chesapeake Bay.*

# Multiple Capital Improvements Underway at St. Mary's College of Maryland



## *Upgrades Enhance Building Performance and Energy Efficiency*

While construction is underway on a major new academic building and auditorium at **St. Mary's College of Maryland**, administrators are also focusing on several other campus improvements to update existing spaces and improve building systems for better performance and efficiency.

Recently completed projects include substantial HVAC improvements within the 60,600-square-foot **Hilda C. Landers Library & Archives**. One of the largest and busiest libraries in southern Maryland, the Landers Library opened in 1967, with existing MEP systems that date to a 1988 renovation. The upgraded systems have improved comfort for students and staff while significantly enhancing energy efficiency.

Another project entailed replacing the HVAC system for the main pool in the **Alumni Athletics & Convocation Center**. The air handling units were operating at nearly half the recommended air exchange rates for a natatorium, and were at the end of their useful life. The new, energy-efficient units *(right)* have significantly improved the air quality for occupants, minimizing the prior complaints of strong chlorine smells, irritation, and other issues.

Work currently in the construction phase includes upgrades to the mechanical and electrical systems serving **Calvert Hall**, initially built in the 1920s as a dormitory and now serving as administrative space. Mueller is also designing upgrades to the campus chilled and heating water nodal loop system that serves six buildings, including the campus recreation center and fine arts center. The upgrades include modifications to the **Schaefer Hall** and **Montgomery Hall** cooling and heating plants.

"Like many campuses across the country, St. Mary's College faces the challenges of upgrading aging facilities while working on major capital projects," says Steven Gillis, PE, senior vice president of Mueller. "We are pleased to serve the college on these smaller but critical projects that help extend the life of these buildings."

# Georgetown University Reopens Restored Chapels

## *Systems Preserve Serene, Meditative Spaces*

Renovations to two chapels have recently been completed on the Georgetown University campus in Washington, D.C., enabling the spaces to continue to serve effectively as worship and gathering venues. The **Copley Crypt Chapel**, set in the basement of Copley Hall, opened in 1932 and is used for liturgical services and weekly Catholic mass. **St. William Chapel**, located directly above the Copley Crypt Chapel on the first floor of Copley Hall, is a slightly larger space that accommodates services, weddings, and other events.

Partnering with **GBR Architects**, Mueller completed engineering upgrades for the facilities in two phases, replacing the existing HVAC system, updating lighting and lighting controls, and modifying the electrical distribution. Additional improvements included interior and exterior renovations; reconfiguring ramps for accessibility; and restoring windows, flooring, stained glass, and roofing.

"The systems engineering work in the Copley Crypt Chapel was particularly unique," says Clark Davenport, PE, Mueller's project manager. "We needed to route the piping beneath the stone walls and floors in the crypt without disturbing the structure. It's a beautiful space where students can come and pray and meditate, so it was also important that the systems be as quiet as possible."

*St. William Chapel*

*Copley Crypt Chapel*

# A Seasoned Approach to Stewardship

## *Proactive Improvements Protect Collections at Dumbarton Oaks*

A historic gem within the Georgetown neighborhood of Washington, D.C., **Dumbarton Oaks** is one of the world's premier research institutes. The property includes a circa-1801 Federal-style house, several smaller buildings, and a series of celebrated gardens spread across more than 50 acres. Under the stewardship of **Harvard University**, the institute boasts renowned collections of Byzantine and Pre-Columbian art; European art and antique furnishings; and more than 200,000 books, manuscripts, prints, photographs, and other artifacts.

Working with such top-tier architects as **Marshall Craft Associates**, **cox graae + spack architects**, **Selldorf Architects**, and **MTFA Architecture**, Mueller has completed several renovation projects, with additional work on the boards today. These small but significant modifications and improvements have included lighting enhancements in the Main House and Reading Room, adding task lighting, adjustable LED recessed downlights, and dimming systems; modifications to the circa-1928 Music Room to reduce air noise during performances; Greenhouse renovations; upgrades to the Pool House and loggia; and the addition of a dry cooler to the geothermal system at the Fellowship House.

"What makes Dumbarton Oaks unique is the quiet, intimate environment it provides for scholars and visitors," says Vice President Adam Fry, PE, who has managed several of the projects at Dumbarton Oaks for Mueller. "Harvard takes a measured approach to these improvements to minimize disruption while remaining focused on cost-effective solutions that limit long-term facility issues. The result is not only a learning and museum environment that is comfortable and energy-efficient but one that also protects valuable collections."

# A Modest Improvement with a Big Impact

## *The Academy Art Museum Creates a New Entry for Visitors*

A cultural hub for Maryland's Eastern Shore, the **Academy Art Museum** is located in downtown Easton within a historic building constructed as a school in 1820. Now celebrating its 60th anniversary, the museum has completed many renovations and expansions through the years, including the addition of an adjacent historic home that houses galleries, a dance studio, and event and educational space.

The museum's most recent improvement creates a dramatic new first impression: a striking glass entry vestibule that has established a prominent identity for the building as a centerpiece of the downtown cultural corridor. Repositioning the main entry to align with the new entrance also allowed for the reconfiguration of the gallery and reception space at the museum's front. Working with **Ziger|Snead**, Mueller designed new lighting and HVAC systems to enhance comfort and humidity control.

"Working with Mueller, we re-oriented the entry through a welcoming courtyard into a glass entry vestibule," says Ann Powell, AIA, LEED AP BD+C, a principal with Ziger|Snead. "The elements transition the visitor into the museum gradually and provide a protected entry to improve collections care. The glass entry has concealed MEP and fire protection systems, galleries are maintained at appropriate temperatures and relative humidity, and the upgraded LED lighting system highlights the collections by providing dimming at the fixture level."

> **"Mueller's excellent work remains hidden but it is essential to project success."**
>
> Ann Powell, AIA, LEED AP BD+C

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