

MOMENTUM

FALL 2019

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Mueller

THE ENOCH PRATT FREE LIBRARY SHINES AGAIN

MODERNIZATION COMPLETE FOR BALTIMORE'S DOWNTOWN LANDMARK



The modernization of the Pratt Library was phased to enable the building to remain open to the public.

One of downtown Baltimore's most popular landmarks, the Enoch Pratt Free Library has served local residents and scholars since its opening in 1886. After the original structure on the site was razed in 1931, the current Art Deco-style building opened in 1933, offering nearly 300,000 square feet of space on seven levels for books, documents, maps, photographs, and rare collections. The library is the flagship of the city's library system and the designated Maryland State Library Resource Center.

Among the oldest free public libraries in the U.S., the Pratt Library welcomes more than two million visitors a year. In addition to open stack areas and reading rooms, a large portion of the building is dedicated to a central book repository through which librarians access books for users and interlibrary lending. The building has seven elevators as well as eight dumbwaiters that facilitate retrieval of the books.

Modernizing the "People's University"

In the late 1990s, administrators of the Pratt Library determined that the massive building, also known as the "People's University," required a comprehensive modernization to upgrade systems and meet the programming and technological demands of a 21st-century library environment. With budget management and a need to keep the library open to the public among the long-term objectives, the renovation was divided into two major phases. In the first phase, the team of Ayers Saint Gross and Mueller Associates designed a 50,000-square-foot, four-level addition, known as the Annex Building, that connects to the

Central Library and accommodates many of the most sensitive program areas, including the African-American Collection, the Maryland Collection, the Mencken Collection, Special Collections, and Rare Books. The Annex Building was built on top of the Library for the Blind and Physically Handicapped, which remained open during construction.

The second phase began in 2014, addressing the Central Library's main building. Working with Beyer Blinder Belle (BBB) as lead architect and Ayers Saint Gross as managing architect, Mueller Associates designed new mechanical, electrical, and fire protection systems for the building. With limited as-built drawings available, Mueller's team created a detailed 3D Revit model using a point cloud laser scan of the building, and verified existing conditions with an extensive field survey. System testing, including orthoscopic wall probes, duct leakage testing, duct interior sampling, and pipe wall thickness testing, determined concealed distribution locations and conditions.

An Intricate Puzzle

Designed to LEED® Silver standards, the renovation presented an intricate puzzle. The project replaced all of the existing HVAC and electrical equipment and also removed obsolete equipment, including chillers and cooling towers, that had been out of service for years but had remained in place until the renovation began. Requirements included the installation of the modern equipment into limited spaces while protecting the building's historic interiors, including decorative plaster,

elaborate millwork, ornate ceilings, and other distinctive finishes. The 1950s-era fluorescent lighting was replaced with restored or replicated historic fixtures using energy-efficient LEDs.

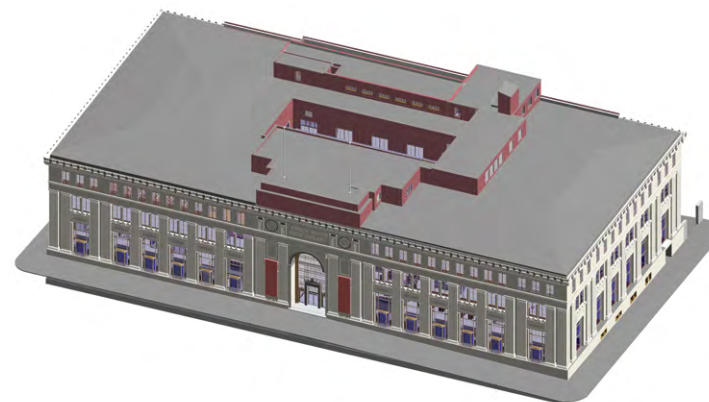
The project included a new building automation system and lighting controls with daylight harvesting and occupancy sensors. The design strategies are estimated to reduce energy use by nearly a third over the building's previous performance.

"It was challenging to install the new equipment, route ductwork and wiring, and integrate fire protection sprinklers within this historic building," says Darren Anderson, PE, LEED AP BD+C, project manager and associate with Mueller. "It's a grand space, but our opportunities to integrate the new systems into existing walls, floors, and ceilings were very limited. The work we put into the initial analysis and 3D model paid off. The installation went in largely as we designed it—the issues we ran into during construction were minimal."

"In the early design phases, Mueller and BBB's extensive coordination efforts to verify existing conditions helped confirm our assumptions for routing all new utilities within the historic fabric," said Jean Campbell, AIA, LEED AP BD+C, a senior associate with Beyer Blinder Belle. "This successful collaboration is evident in this transformational renovation."

"I walked through the public spaces of the building during the ribbon-cutting celebration. Even with the doors constantly open, the temperature and humidity felt consistently comfortable throughout."

— Darren Anderson, Mueller Project Manager



"Mueller gave us an excellent design for the Pratt. They have a well-rounded team—everyone in mechanical, electrical, and fire protection engineering was very competent. Mueller provided some of the best drawings I've ever seen—a renovation of an occupied, historic building is challenging but they had obviously done their homework and were responsive throughout construction."

John Rota, Senior MEP Manager
Gilbane Building Company



Known as the "people's university," founder Enoch Pratt envisioned a free library where citizens could educate themselves, stating "My library shall be for all, rich and poor without distinction of race or color." The building's grand Central Hall (pictured on front cover) is now a multipurpose event space.

“The Library of Forever”— Bogomolny Library Renovated for the University of Baltimore

Applauded as “a library full of potential,” “a library of tomorrow,” and even “the library of forever,” the modernized Robert L. Bogomolny Library at the University of Baltimore is now widely regarded for its high-impact, transformative design. The 58,000-square-foot building, initially constructed in 1965, required an extensive makeover to incorporate new technologies and flexible spaces for research, library operations, and events.

Mueller Associates teamed with Behnisch Architekten for the rehabilitation, updating the HVAC and electrical systems to address code-related deficiencies and accommodate the major architectural renovations. A building automation system complements the new and refurbished equipment, providing environmental controls for space conditioning, ventilation, and integration of the air handling unit and smoke evacuation system with the fire alarm system.

The building, which now features a striking glass entryway, abundant natural light, and LED lighting throughout the four stories, was redesigned to accommodate computer labs, lecture halls, classroom spaces, and group study and gathering areas. “We’re calling it the ‘library of forever’ because it can be modified to deal with changes that are coming because of technology and the way people learn,” said Kurt L. Schmoke, president of the University of Baltimore.

Preserving Special Collections at Georgetown University

Mueller Associates’ work at Georgetown University spans nearly 40 years and includes several projects to upgrade the Lauinger Library, a six-story building originally constructed in 1967. Studies and renovations have focused on improving the student experience and protecting the library’s resources. Projects have included a number of studies to reconfigure and refurbish spaces as well as an HVAC modernization study for the entire building.

Working with Bowie Gridley Architects, Mueller Associates also helped modernize the library’s Special Collections area on the fifth floor, designing a new heating and cooling system with separate HVAC and fire suppression systems. New environmental control systems protect the collection’s rare and fragile resources, including documents from the university’s original library dating to the 1830s. The 10,000-square-foot center includes classroom space, a reading room, a reception area, exhibition areas, and collaborative workspace for faculty and students.



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BOGOMOLNY



LAUINGER

Mueller Associates has provided MEP and fire protection engineering for the design, renovation, and expansion of dozens of major libraries, including historic properties. In addition to the libraries featured in this issue of *Momentum*, examples include:

- > **Dumbarton Oaks Research Library and Collection**
- > **Folger Shakespeare Library Rare Collection**
- > **Hagley Museum & Library, Hall of Records**
- > **Library of Congress Visiting Scholars Center**
- > **Rutgers University, Law School Library**
- > **Salisbury University Guerrieri Academic Commons**
- > **Smith National Library at Mount Vernon**
- > **United States Holocaust Memorial Museum, 5th Floor Library**
- > **University of Virginia, Claude Moore Health Sciences Library**

Please visit the Libraries section of our website for a complete list of projects.

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