

History in the Making

Historic buildings offer lessons from the past and context for the future, but bringing them up to speed requires more than textbook construction strategies.

By Caryn Meyers Fliegler
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THE RENOVATION OF THE MAIN BUILDING AT **WOFFORD College** in Spartanburg, S.C., was part construction project, part archeological adventure. "Old Main" dated back to the mid-1850s and had housed classes for every single Wofford student from then to the present. As the project team worked on modernizing its technological and interior infrastructure and returning the building to its original appearance, they uncovered original brickwork built by slaves. The brick pillars had been hidden from view for years.




Rather than demolish the pillars or put them out of sight, the team opted to permanently expose a piece of the brickwork behind a glass window for all to see. Wofford officials commissioned an African-American poet to write about the slaves who toiled to build Old Main, creating a moving monument to history and an opportunity to connect the present with the past. "When we found those pillars we wanted our kids to understand that there was more to this building than just a place to have classes," says Robert Keasler, senior vice president for operations and planning. "When you look at something, you have to really look inside of it."

Historic projects like Old Main's renovation help to unify institutions' identities and provide compelling lessons for students, alumni, faculty, and staff. Building rehab and restoration produces rich rewards but takes detailed detective work and thoughtful decision making. "Any time you go into an existing building there will be some issue that comes up, whether it's a structural issue or trying to match a material or make it look exactly as you want to," says Laura Wernick, principal at Cambridge, Mass.-based HMFH Architects. "Ultimately, the benefit to the users and to society of passing on a treasure to future generations is worth a lot. Most universities these days understand that the histories and traditions of the campus are embodied, to a large degree, in their buildings. They are resources that need to be preserved."

The value of updating a significant structure is straightforward, but the road to successful completion of a historic construction project is not. Here are some rules for completing a successful historic project while respecting budget barriers.

SWEAT THE SMALL STUFF EARLY

Frances Halsband, partner in R.M. Kliment & Frances Halsband Architects in New York City, encountered a dubious administration at **Yale University** when she first began evaluating the Sterling Divinity Quadrangle, designed by the architects Delano & Aldrich and built in 1932 to house the Yale Divinity School. "It was one of the great ADA projects-when we started there were 37 different levels," says Halsband, describing the need to bring the quadrangle, which is spread over a sloping hill, into compliance with the Americans with Disabilities Act. To many campus officials, keeping the building intact seemed impossible.

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Since unforeseen problems crop up, structural issues arise, historical commissions monitor plans, and materials can be expensive and difficult to locate, patience is essential for teams working on historic structures.

According to Halsband and other architects and construction managers, before going public with project plans, a thorough evaluation of a historic building's condition should be conducted to unveil potential problems and issues. "We did a pure feasibility study before the president announced anything. Our study was, Can you save this building and reuse it for its original intention?"

Ultimately, the project team and Yale concluded that the quadrangle was too emotionally and historically important to demolish. The project team crafted a solution to the ADA accessibility issue by installing just one elevator in the back of the structure and putting in interior walkways linking the different pavilions (which run along a hillside and are a bit over two feet apart in height). The team also opted to renovate some parts of the building while leaving other parts alone for future work. Much of the interior space was restructured and rebuilt, with new walls shoring up a roof that had been so structurally unsound that building evacuations would be necessary after several inches of snowfall.

Architects Susan Turner and Robert Wanderman of Lord, Aeck & Sargent agree that an initial conditions assessment should be done early in the planning process. With new buildings, everyone knows to develop a program and have it drive building size and components, notes Turner, who, along with Wanderman, operates out of the firm's Atlanta office. "But often with historic buildings, just as significant is understanding the condition of the building, its meaning, which elements have to be treated carefully during the rehabilitation process, and [how to develop] a budget based on that so that you have captured all of your variables during the planning process."

Turner and Wanderman's work rehabilitating Old College at **The University of Georgia** allowed the institution to preserve one of its historic treasures while providing the administrative building-circa 1806 and the first permanent building on campus-with a facelift and equipping it with modernized air and heating systems, ADA compliance, new bathrooms, raised ceilings, and new office and administrative space for the Franklin College of Arts and Sciences.

K. Nam Shiu, vice president of Walker Restoration Consultants, recommends considering during the initial assessment not only current project needs but also future building care. "For older historic buildings, a hands-on inspection is important," he says. "People need to also remember to set aside maintenance money."

THINK TIME AND TIME AGAIN

When Chris Dabek began hunting down terra cotta tiles to use in the Long Walk restoration project at **Trinity College** in Hartford, Conn., he did not expect the experience to take him across an ocean. Yet because Dabek, a project manager in the Milford, Mass., office of Consigli Construction Co., and the team working on the historic restoration at Trinity built plenty of lead time into their process, they were able to find the best, most historically accurate tiles possible from a manufacturer in England.

Trinity's Long Walk incorporates three buildings and a walkway designed by English architect William Burges and constructed in the 1870s and 1880s. A \$32.9 million restoration and renovation is currently underway and set to wrap up by September. "We had over a year to plan it out, and I think in general that is key to restoration," says Dabek. "The longer you have to analyze the buildings and what the challenges are, the better plan you have as far as execution goes." Lack of lead time means "you can end up with a product on the building that really doesn't belong," says Dabek.



In addition to locating the terra cotta tiles in England, Dabek also spent a year finding a company that could restore the cast iron windows on the Long Walk buildings. "It turned out there were only three or four people in the country who could restore that type of window," he says, noting that he found a manufacturer in Talladega, Ala., to do the work.

Since unforeseen problems crop up, structural issues arise, historical commissions monitor plans, and materials can be expensive and difficult to locate, patience is essential for teams working on historic structures. "It's a matter of not just taking the first easy answer, but having the right answer in mind and being diligent enough to pursue it through," says Scott Messer, campus preservation planner in the office of the university architect at **The University of Georgia**.

COLLABORATE WITH COMMISSIONS

Buildings that are registered landmarks or fall within historic districts can require even more in-depth planning. Aaron Burr Hall at **Princeton University** was not an architectural favorite of campus constituents or of stakeholders beyond campus borders, but the building—recently used mostly for small breakout classes and office space for the anthropology department—did have a significant past: It was most likely one of the first laboratory buildings erected on a campus in the United States, and it was designed by the first classically trained architect in the country, Richard Morris Hunt.

Replicating the windows during renovation of the historic Tivoli Student Union building at the Auraria Higher Education Center in Colorado was a challenge. Only 12 of the 260 window openings are of identical size.

"Princeton has a very active local historical society, so there was a lot of concern on the university's part as to what we could do to this building and still have the town accept it," says David Zaiser, a partner in the Philadelphia office of KSS Architects who worked on the project.

The project team, which also included architect Allan Greenberg of Washington, D.C., engaged the Historical Society of Princeton early on in the renovation process. "You don't want the first meeting to be going in there to get their approval," says Zaiser. "You're doomed if that happens. But if you've met with them a few times before that meeting, things can go well."

The Historical Society supported the Aaron Burr Hall project, helped develop landscaping for the building's exterior, and ultimately awarded it with a design prize.

GET AN ATTITUDE

The work on Aaron Burr Hall exemplified the value of a clear mission statement, or, as Zaiser likes to say, "restoration attitude." Because the building had not been worked on in a century and was not particularly liked, the project team opted to clean it, add an addition, and conduct repairs. "In this case, it was not to make it perfect again but to clean it up," says Zaiser.

The upper levels of the building were originally designed to be higher floor-to-floor than the first level (restricting classroom space on the first floor), so the architects developed an attractive stairway that would entice visitors to move upstairs to the classrooms. They bundled modern systems for the building, including air conditioning, so that their core would be located in the addition. "That addition has the mechanical room, the main data closet, the toilet rooms," says Zaiser. "It was a lot easier and frankly a lot less expensive to put them there than trying to chop into the existing structure."

While the Aaron Burr Hall undertaking at Princeton could be seen as somewhat limited in scope, the restoration of Wofford's Main Building did not hold back. To restore the building to its original glory, the project team pored over century-old photos and found that there had been curved wooden church pews, which are rare today, in the Leonard Auditorium. "There as only one manufacturer that we could find that made curved church pews; everyone else made rectangular pews," says architect Donnie Love of McMillan Smith & Partners, in Spartanburg.

Despite a 25-percent price increase over the cost of rectangular pews, Wofford administrators agreed that the curved pews did justice to the auditorium. "They really felt strongly that they wanted us to recreate the look and feel of the auditorium to the furthest extent that we could," says Love.

To renovate Harvard University's historic Paine Hall to house recording studios and teaching facilities for the institution's Studio for Electro-Acoustic Composition, project planners faced the double constraints of historical and acoustical requirements, which, according to architect Wernick, could not be compromised. The project team simplified its goals and cut back on what the university had originally hoped for, says Wernick, in order to get the historical and acoustical elements right.



"They wanted to upgrade toilet rooms, for instance, and their budget couldn't do all of the historic renovation and do some of the extra things that they were hoping to do," she says. "So rather than cutting back on materials or the quality of the project, we limited the scope of the project." Out went the high-end bathrooms-but in came an impeccable place for supporting and celebrating music.

DON'T REINVENT THE MOLDING

Historic projects of all sizes can stay within budget (and incorporate sustainability principles) by updating rather than replacing components and by using pieces that had previously been cast aside.

At the **University of Minnesota**, a \$24 million renovation of the 1890 Nicholson Hall, originally a chemical and physical laboratory building, gutted the interior of the structure but maintained its historic feel inside and out. Old materials gave the building new life: An original turret was rebuilt using salvaged materials from two additions that had been razed, and a chandelier discovered in the attic helped revive what had until recently been a dark and unsightly interior space. Nicholson now houses classrooms, auditoriums, and programs for the university's College of Liberal Arts.

The Old College project at the University of Georgia, like many historic

projects, involved centuries-old windows that maintained a historic look but did not promote optimal energy efficiency. The project team opted to restore the windows, reinserting them with updated weatherproofing and a more snug fit. Turner of Lord, Aeck & Sargent notes that it is common to keep original windows in a historic structure but to add an interior glazing or storm window layer.

PARTNER UP CAREFULLY

Architects, construction managers, and administrators alike say choosing project team members with the right experience for historic undertakings is valuable. Early on in the renovation of the Tivoli Student Union at the Auraria Higher Education Center, a campus shared by the **University of Colorado, Denver, Metropolitan State College of Denver,** and **Community College of Denver,** Gary Petri, president of locally based Slaterpaul Architects, sought out manufacturers to replicate the building's windows. His order was a tall one: The Tivoli, which is on the National Register of Historic Places and is a designated Denver Landmark, has more than 260 window openings; only 12 match in size. Petri hired Kolbe & Kolbe Millwork Company, in Wausau, Wis., to create windows for the Tivoli that would recreate the look of the originals. The company crafted the pieces at its facility but allowed them to be modified on the construction site in Denver.

At **Salve Regina University** in Newport, R.I., which boasts a cadre of historical buildings, a project is transforming Wetmore Hall (the original carriage house/stables for the first of Newport's grand Bellevue Avenue mansions) and Mercy Hall (the original carriage house/stables for Ochre Court, now the university's administration building) into the new Antone Center for Arts and Culture.

The project is challenging due to the shape of the structures, and, according to James Garman, chair of the Cultural and Historic Preservation department at Salve, choosing an architect with significant experience on historic projects has proven crucial. (Salve went with Albany, N.Y.-based Mesick, Cohen, Wilson, Baker Architects.)

"I can't overemphasize getting an architect on board who has worked with historic properties," says Garman. "To have qualified architects who have access to structural engineers and things like that at the beginning is essential to minimizing surprises."

Caryn Meyers Fliegler is a former University Business editor.

Where in the World Is ...

Finding the right materials for a historic building can turn project team members into detectives. Here's where project teams at four institutions, searching a la Sherlock Holmes, had to go:

TRINITY COLLEGE (CONN.): The Long Walk project involved terra cotta tiles crafted in England by a potter who had done work for the queen.

WOFFORD COLLEGE (S.C.): Main Building required curved wooden church pews made by a Canadian manufacturer (the project team couldn't find any in the United States).

THE UNIVERSITY OF GEORGIA: Old College needed new bricks to exactly match the old. Planners opted to dye newly mixed bricks and create a mortar with iron shavings that would slowly surface over the years to mimic the original brickwork.

AURARIA HIGHER EDUCATION

CENTER: This Denver campus's Tivoli Student Union building required windows that were not only large but also able to bear winds of up to 100 miles per hour. Products from Wisconsin-based Kolbe & Kolbe Millwork did the trick.