



FINAL WORD

BY LAURA BLAU, AIA, CPHC

New Greening Strategies for Historic Preservation



In conversations about sustainability, historic restoration projects have long been lauded by environmentalists. To renovate and adapt already existing structures to new uses requires fewer resources than new

construction and considerably less waste than demolition. Now, facing an ethical imperative to mitigate climate change, architects must look beyond adaptive reuse as a greening strategy. Historic buildings cannot be exempt from meeting the higher standards for energy efficiency and carbon reduction that every city must adopt.

In order to design intelligently and appropriately, our architecture, preservation and construction professionals must be re-educated about the emerging science and products that preserve both our precious structures and the health of our planet. That re-education should start by examining *The Secretary of the Interior's Standards for the Treatment of Historic Properties* in light of the magnitude of the threat of climate change. Those guidelines are the canon of most historic commissions nationwide. Developed in the 1970s and made effective September 1983, they have contributed profoundly to the preservation of thousands of cultural treasures. Still, they fall short

in addressing issues of sustainability. The well-intentioned *Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings*, published in 2011, is woefully outdated in the face of current science and advancements in products and methods.

It is possible to preserve our historic fabric and our planet at the same time. Because of continued innovations in technology, materials and design strategies, architects can now achieve intense energy efficiency in historic structures while maintaining their distinctive character. Building science professionals, who focus on analyzing and controlling the physical phenomena affecting buildings, and energy-efficiency leaders advocate adjusting current methods for retrofitting historic properties.

To accommodate rapidly evolving technology in smart building materials for air sealing and moisture management, experts like Sam Rashkin, former ENERGY STAR for Homes director and current director of Zero Energy Ready Homes, recommend a phased approach to renovation. Take a window replacement plan as an example. A project budget allows for a choice: Either replace modestly efficient ENERGY STAR double-hung windows throughout, or install half the windows with robustly efficient triple-pane Passive House-certified casement windows. The latter is the best answer for meeting the highest standards of energy efficiency. Installing half the windows makes it possible to complete the project to this higher standard at a later date, while installing a lesser product inhibits a deeper ret-

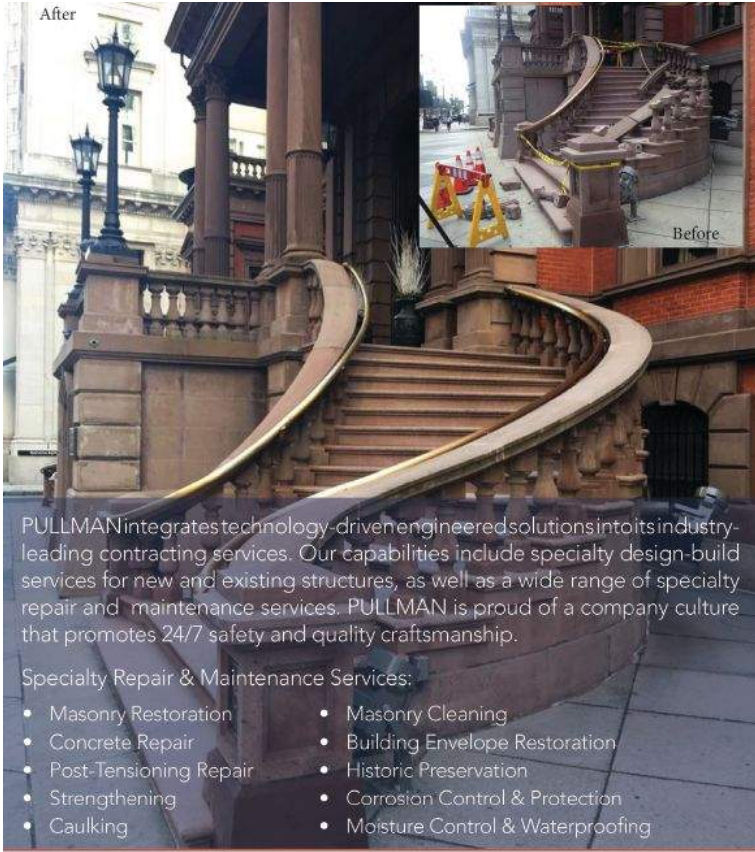
rofit for decades. As energy costs rise, codes strengthen and cost of these high-performance windows fall, the long-term savings and investment become obvious. Quality encourages more quality.

I speak from experience. Even though energy efficiency is not one of the criteria the Historic Commission considers when reviewing projects, this past summer the Philadelphia Historic Commission authorized my firm, BluPath Design, to install Passive House-certified simulated double-hung, tilt-and-turn (casement/hopper) windows in place of double-hung replacement windows in a Pine Street apartment building, located in Rittenhouse Historic District. This progressive decision will, I hope, open the door for other owners to embrace historic renovation that meets the highest energy standards.

I recommend Passive House Standard as an excellent resource for historically sensitive projects with complicated conditions. Passive House Institute US and Passive House Academy train builders and designers how to sequence a renovation project in order to avoid common air and moisture management and energy-draining problems, while meeting the rigorous Passive House standard. They also provide strategies for implementing the latest holistic high-performance materials and methods and offer modeling and testing protocols.

The AIA's Architecture 2030 and the more recent Achieving 80x50 goals, initiated by New York City and echoed in Philadelphia's Greenworks program, propose reducing greenhouse gas emissions by 80 percent below 2012 levels by 2050. Every city must modernize its buildings, including historic properties, to meet the energy efficiency and carbon reduction goals. I believe Philadelphia, with its extensive historic building stock, is a natural to become a national leader in the consequential need to transform our historic treasures into a culturally rich city of buildings that are durable, healthy and environmentally viable. ■

Laura Blau is principal of BluPath, an award-winning architecture firm, WEB and a Passive House consulting firm. She also heads GreenSteps LLC, a construction management firm specializing in Passive House construction, and provides seminars on sustainable design for professional organizations worldwide.



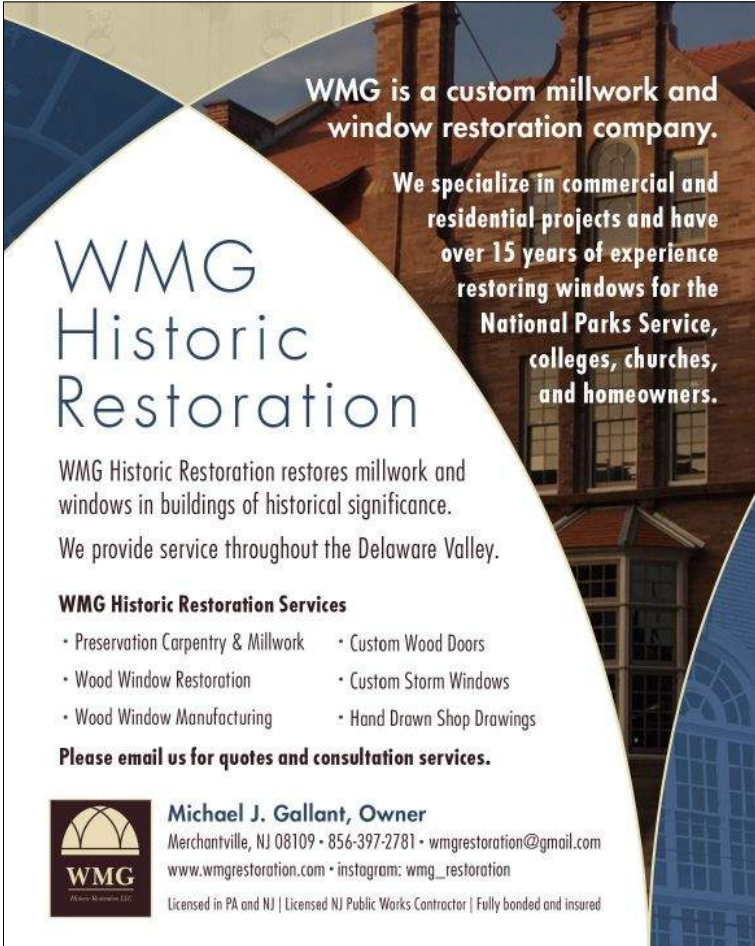
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