

A New PRESERVATION *Balance*

Preserving our historic building stock for future generations is unquestionably an important goal. Historic structures have always posed particular challenges when renovating them to modern standards of comfort and energy efficiency. That hasn't changed. What has changed is the magnitude of the climate crisis. We need to find a new balance between preservation of our historic fabric and preservation of our planet. Every city must modernize its buildings, including historic properties, to meet energy efficiency and carbon reduction goals.

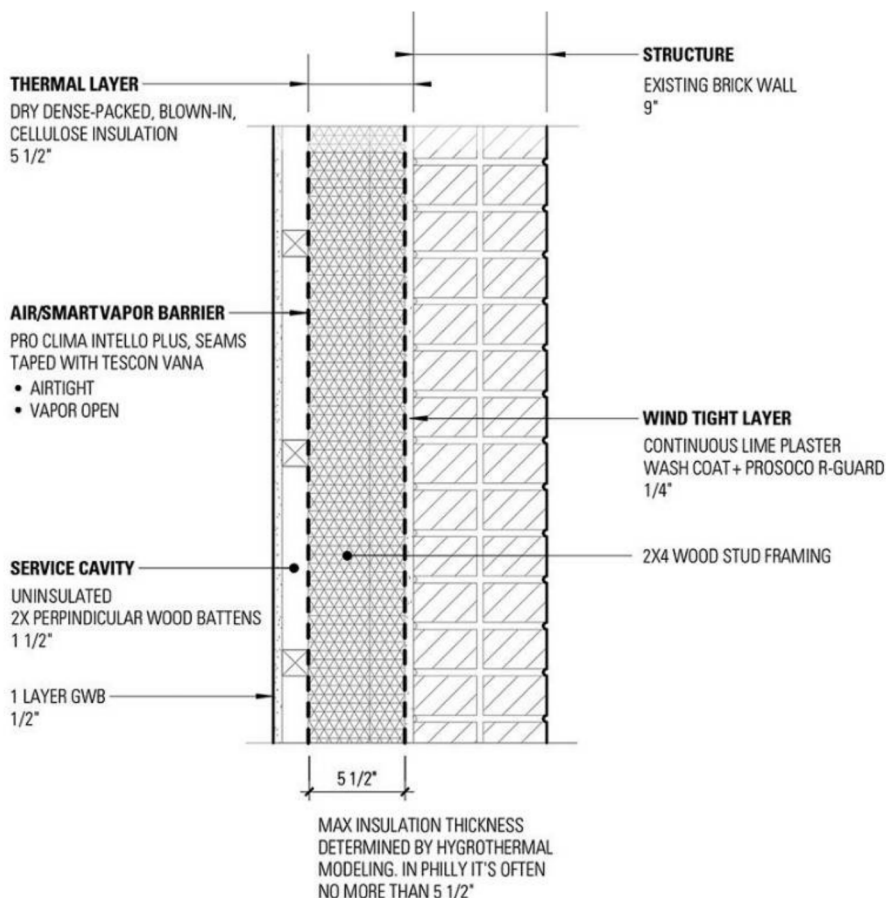
The canon of most historic commissions, which permit renovation of historic properties, is the Secretary of Interior's *Standards and Guidelines for the Treatment of Historic Properties*. The *Guidelines*, developed in the 1970s and made effective September 1983, have contributed profoundly to the preservation of thousands of cultural treasures. In 2011 the well-intentioned *Illustrated Guideline on Sustainability for Rehabilitating Historic Buildings* was published, but it is outdated in the face of current science and advancements in products and methods. It falls short of reevaluating the standards in light of the reality of climate change.

The bill, which passed in the 1970s, requires governmental bodies to CONSIDER ENVIRONMENTAL CONSEQUENCES WHEN MAKING POLICY.

My partner, Paul Thompson, and our firm, BluPath Design, have been undertaking a Passive House retrofit, or EnerPHit, of an 1845 two-unit town house in Philadelphia's Rittenhouse Fittler historic district. In the process we have gone multiple rounds with Philadelphia's historic commission. We were encouraged when the commission set a forward-thinking precedent in approving simulated double-hung Passive House windows with divided lites for our high-quality brick front facade.

At the same time, we petitioned to substantially improve the thermal performance and durability of the unremarkable rear alley side walls by covering the existing poor-quality brick with an external insulation and finish system over a rain screen gap. The commission generously allowed us nearly 45 minutes to present a mini-course in building science that included diagrams of our hygrothermal modeling with WUFI of the existing and proposed walls. Still, we were unable to persuade a majority of the commission. Their denial was based on their narrow mission of preservation and limited by the Interior Secretary's *Guidelines*.

We appealed this decision to the city of Philadelphia, citing a little-used constitutional law, Pennsylvania's environmental bill of rights. The bill, which passed in the 1970s, requires governmental bodies to consider environmental consequences when making policy. We made a settlement with the city, which





Laura Blau

sent the decision back to the historic commission. We are being given the opportunity to re-present our case, and the commission must review its merit through the new lens of environmental impacts.

This is new territory for historical commissions and will challenge them with a new scope of issues to be informed of, weigh, and adjudicate. We are optimistic that the final decision will be in our favor and will set a precedent that can be cited during presentations before historic commissions across the country.

Laura Blau is principal of *BluPath Design and GreenSteps*, a Passive House certified builder, both based in Philadelphia, Pennsylvania.

Passive Affordable Housing—*In a Growing Number of States*

Eight of the 39 affordable housing projects selected for funding by the Pennsylvania Housing Finance Agency (PHFA) in 2015 were Passive House projects. In 2016 the number of Passive House projects grew to 10 out of 43 total. That's just in Pennsylvania.

This growth in passive affordable housing stems in large part from the work of Tim McDonald of Onion Flats, who has been pushing for recognition—and points in states' Low Income Housing Tax Credit applications—for developers of affordable housing who pledge to meet the Passive House standard, as first reported in *Passive House Accelerates*. Eleven states have done just that, inserting language into their Qualified Allocation Plans that describes the incentives that developers of affordable Passive House housing will receive. Nineteen other states have expressed varying levels of interest in replicating this strategy.

The Magnificent Seven, as McDonald likes to call the projects awarded funding in Pennsylvania in 2015, are now completing construction or have already opened their doors. The Wynne Senior Residence in Philadelphia, home to 51 senior affordable Passive House apartment units, concluded its airtightness testing last May, coming in at 0.58 ACH₅₀. Sacred Heart Residences in Allentown, which has 61 apartments for seniors and two retail spaces, scored a 0.56 ACH₅₀ during its blower door testing last March. And the Whitehall in East Vincent Township

finished its 49 senior apartments with a final blower door test result of 0.42 ACH₅₀.

And the cost for these comfortable, efficient, airtight buildings? The average cost per square foot of these Passive House buildings came in at \$167.50 on the PHFA applications, just under the average cost of \$170.50/ft² for the other awarded projects. That's right, less than the average cost of the non-Passive House buildings.

To spread this and other good news for the affordable housing sector, McDonald has been working with PHFA and other affordable housing finance agencies across the country to promote Passive House and encourage the adoption of net zero energy housing policies. He joined forces with the Delaware Valley Green Building Council and the Greater Philadelphia Passive House Association, as well as Temple University, to put on their recent conference, *The New Gravity: Climate Change and the Imperative of High Performance Affordable Housing*.

For more information on that conference, visit www.dvgbc.org/event/2017NGHC.