

A Quarterly Journal of
the National Alliance of
Preservation Commissions
Spring 2019

Alliance the review

A Look at Alternative Materials for Historic Buildings



4 "And, Where Possible, Materials" — Considering Alternative Materials

13 FAUX REAL: The Sculpted Story of Baltimore's Formstone

20 Ten Years After: A New Look at Alternative Materials

25 The Latest on Solar Roofs, Solar Shingles and Solar Tiles

Follow us on



30 Asbestos Roof Tile Replacement

33 SPOTLIGHT On A Preservation Organization: The Preservation Trades Network, Ghent, New York

34 Staff Profile
BRIAN J. CARTER

38 State News

COVER IMAGE

Formstone was also applied to other style homes such as this Bungalow on Raspe Avenue in Northeast Baltimore.

Credit: Baltimore Commission for Historical and Architectural Preservation



A quarterly journal with news, technical assistance, and case studies relevant to local historic preservation commissions and their staff.

NAPC STAFF:

EXECUTIVE DIRECTOR

Stephanie Paul
stephanie@napcommissions.org

PROGRAM ASSISTANT

Marie Snyder
marie@napcommissions.org



CONTACT NAPC AT:

tel (757) 802-4141

director@napcommissions.org

www.napcommissions.org

PO Box 1011

Virginia Beach, VA 23451

All current NAPC members who serve as city staff to preservation commissions are encouraged to distribute articles in *The Alliance Review* to commission members and other staff and elected officials within your member organization.

NAPC can provide additional digital copies of *The Alliance Review* to members of your commission. Simply email us at director@napcommissions.org with your commission member's name and email address.

2019 BOARD OF DIRECTORS:

The National Alliance of Preservation Commissions (NAPC) is governed by a board of directors composed of current and former members and staff of local preservation commissions and Main Street organizations, state historic preservation office staff, and other preservation and planning professionals, with the Chair, Chair-Elect, Secretary, Treasurer, and Chairs of the board committees serving as the Board's Executive Committee.

Updated: 2.15.19

OFFICERS

PATRICIA BLICK

Quapaw Quarter Association
Arkansas | *Chair*

MELINDA CRAWFORD

Preservation Pennsylvania
Pennsylvania | *Secretary*

CORY KEGERISE

Pennsylvania Historical and Museum
Commission
Pennsylvania | *Chair-Elect*

TIM FRYE

San Francisco Planning Department
California | *Treasurer*

BOARD MEMBERS

KATHERINE ADAMS

Washington Architectural Foundation
Washington, D.C.

JACQUELINE JOHNSON

Initiatives of Change
Virginia

DEBORAH ANDREWS

City of Portland
Maine

MICHAEL KOOP

Minnesota State Historic Preservation Office
Minnesota

NATHAN BEVIL

Ohio History Connection
Ohio

COLLETTE KINANE

Raleigh Historic Development Commission
North Carolina

BETSY BRADLEY

Spokane Historic Preservation
Commission/Goucher College Historic
Preservation Program
Washington

CAROLINE LABINER

Harvard Heights Historic Preservation and
Windsor Square Overlay Zone Boards
California

WALTER GALLAS

City of Baltimore
Maryland

PAULA MOHR

Iowa Department of Cultural Affairs
Iowa

BRIANA PAXTON GROSICKI

PlaceEconomics
Georgia

J. TODD SCOTT

King County Historic Preservation Program
Washington

JAMES HEWAT

City of Boulder
Colorado

MATT SYNATSKCH

Land Use Consultant
Texas

PHIL THOMASON

Thomason and Associates
Tennessee

NAPC NEEDS YOU!

NAPC is seeking volunteers to help advance its mission of providing education and technical assistance to local preservationists, particularly those involved in the work of local preservation commissions. Volunteers may serve on a variety of committees and in other capacities that take advantage of their individual skills and experiences. Editorial and production work on *The Alliance Review*, membership recruitment and retention, resources development, education programs and technical assistance are just a few of the possibilities. Join us today to make a difference in the future of preservation by contacting NAPC at 757-802-4141 or director@napcommissions.org.

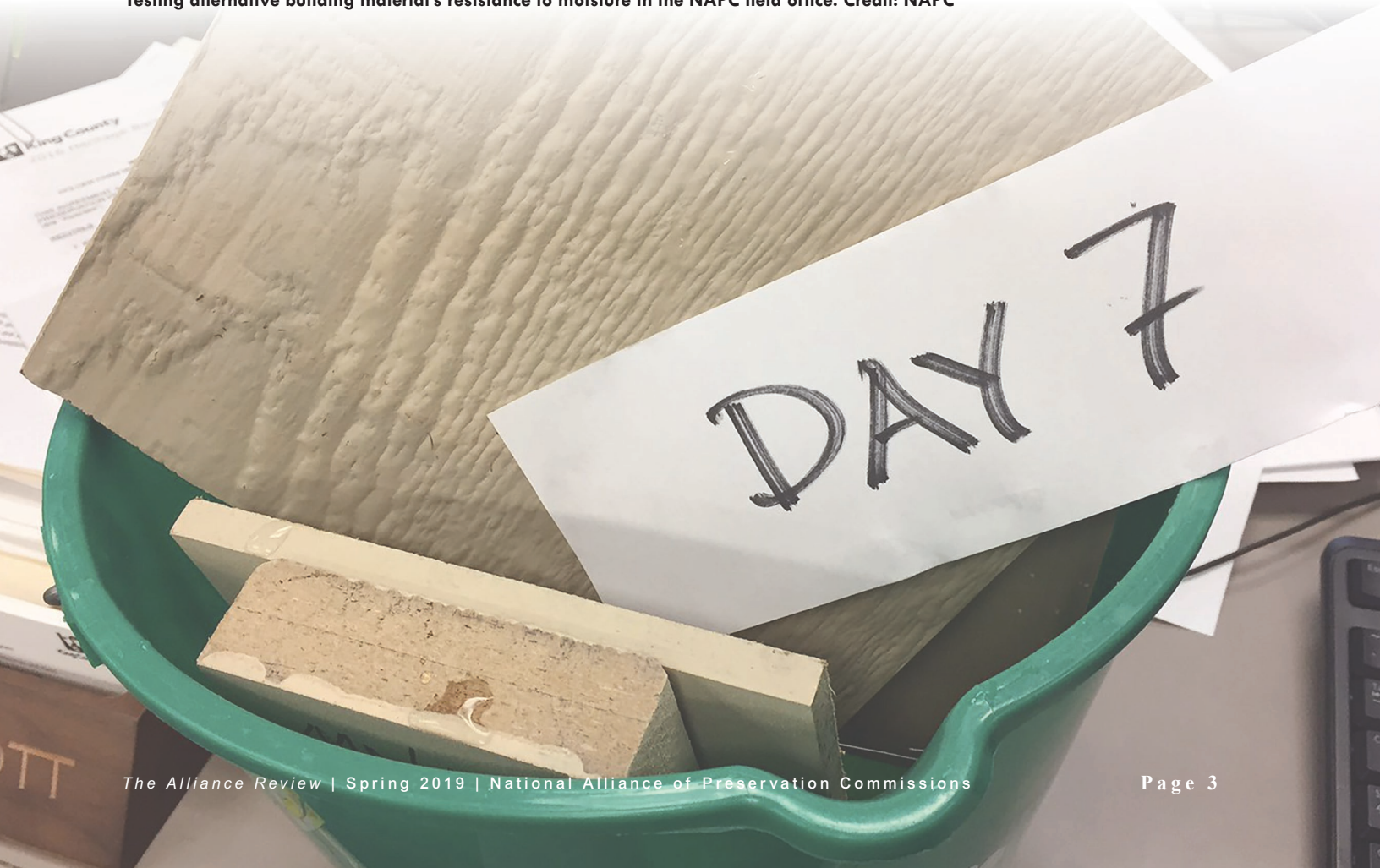
In this Issue

BY J. TODD SCOTT, THE ALLIANCE REVIEW EDITORIAL COMMITTEE

Since spring is fully underway and summer construction season is soon to be upon us, we look at alternative materials that have been used on historic buildings over the years, along with some new ones. To start off the discussion, two well-known preservation professionals, Sharon Ferraro and Bob Yapp, provide a good discussion of whether alternative materials should be used and when. Then we discuss what happens when an alternative material becomes historic, particularly the siding material Formstone, which has transformed several Baltimore neighborhoods over the decades. And Kelsey Lamkin takes a look back at what alternatives have been allowed by a number of cities over the last ten years and whether they continue to allow them.

Next, we look at one material that seemed to have promise a few years ago, solar shingles, but seems to be less of a perfect solution than originally imagined. And finally, a discussion about asbestos roof tiles from our listserv. An alternative material when it was installed 80 or so years ago, it's now considered historic, but finding an appropriate replacement proves to be difficult. As always, please let us know if there are topics you'd like to see covered, or if you would like to contribute an article to a future issue of *The Alliance Review*.

Testing alternative building material's resistance to moisture in the NAPC field office. Credit: NAPC



As new materials emerge in the quest for more durable, energy efficient, and cost-effective buildings, historic preservation professionals and local commissions are faced with the dilemma of assessing if, and when, the use of alternative materials is appropriate. The Secretary of the Interior's Standards for Rehabilitation counsels that, "deteriorated architectural features be repaired rather than replaced, wherever possible" but continues to suggest that if material replacement is necessary, "new material should match the material being replaced in design, color, texture, and other visual properties." Preservation Brief 16 on replacement materials echoes this equivocal approach leaving historic preservation boards and commissions to make determinations on a case-by-case basis. In the following essays Sharon Ferraro, Historic Preservation Coordinator for the City of Kalamazoo, Michigan and Bob Yapp, President of Preservation Resources, Inc. a Hannibal, Missouri based historic preservation restoration company, weigh in on the use of alternative materials on historic buildings.

“And, Where Possible, Materials” — Considering Alternative Materials

By Sharon Ferraro

Every historic district commission or architectural review board has been presented at least once with an applicant who wants to use an alternative material. Sometimes the original historic material is not available or the nearby stock of wood or other material is inferior to the original material. Sometimes the applicant sees the magical new product as superior to the original proven material. And sometimes they want to fancy up a simple house with pseudo-Victorian frippery. Alternative or faux materials have been available for as long as the original materials. Tin ceilings were meant to mimic fine custom plaster work, rock faced concrete block to imitate real granite and stone, Insulbrick made of tarry fibers and covered with a faux brick pattern to cover wooden clapboards and wooden clapboards scored every eight inches to look like brick from even a few feet away.

The *Secretary of the Interior's Standard #6* reads “Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, **and, where possible, materials.** Replacement of missing features will be substantiated by

documentary and physical evidence.”

The material should match the old in design, color and texture in the visual appearance:

Design includes dimensions like thickness of a clapboard or a porch deck board, width of a fish scale, height of a rail and baluster, diameter of a



Credit: King County Historic Preservation Program

Asphalt/fiberboard siding, trade named Insulbrick, applied in the 1940s to an 1880s miner's cottage.

Doric column or the pattern of a turned post. Color needs to match when stone or brick is being replaced. Wood can be painted to match, or new material painted along with old to be consistent. Texture is the final and perhaps the most important characteristic. PVC vinyl, an easily available replacement material, usually has a sheen, a shiny surface that will take a decade or more of weathering to achieve a flat texture. Replacement siding often has an exaggerated grain, like wood left unpainted and weathered for 25 years so clearly the texture is not a visual match.

If the original material is still in place, then the condition and repairability become the first consideration and these questions need to be answered:

Is the remaining original material repairable? If yes,

then it should be repaired. Repair should always be the first choice. Wood, concrete, brick and other materials can be repaired with consolidants and fillers (no, not automobile body fillers!). A wooden door with holes for four locks cut into the stile could have just the damaged stile replaced rather than replacing the entire door. And many wooden trim pieces can be replicated with salvaged old growth lumber.

Is a matching material available and of a similar quality? Wood for wood, stucco for stucco, cedar shingles for cedar shingles? This is a big question. Old growth lumber, common in many old houses, has a fine grain and is 30% stronger than the same species grown today. In the virgin forests, trees grew close to each other and grew less each year producing slender growth rings and a tighter

grain. Modern lumber of the same species is often plantation grown, with optimal spacing for rapid growth and making a wide grain and a weaker, less rot resistant wood. A piece of modern lumber of the same species and with the same dimensions can weigh as much as 25-30% less than a piece of old growth wood. And wood or other material needs to be shaped to match the historic material like replacing a beadboard porch ceiling or turned balusters.

Are there craftspeople in the area that can do the work? Of course, there may be no one in the area to make the replacement piece that is needed or there may be several.

If the answer is no to any, or all, of these questions an alternative material may be appropriate. The preferred choice is still similar or matching historic material, whether newly crafted or salvage, but in some cases that option is not available. If the historic material is missing, like a cornice removed when a cheese grater metal façade was installed in the 1950s or a door installed in a window opening to serve a second-floor apartment or a front porch rail long ago replaced with a grid of 2"x 4"s, appropriate historic material from salvage should be considered first. With missing historic fabric the commission can immediately move to consider whether the proposed alternative material is appropriate in the application.

While not a visual quality, thermal expansion and contraction need to be considered. Some materials, especially plastics and vinyl, have a greater expansion and contraction than wood or other traditional building materials. These materials may expand and detach or crush the wood next to them when they expand or loosen and fall off. Although they may bear a resemblance to the original material, they may age differently and be clearly incompatible at some later date.

Materials should never be mixed. If replacement

siding is used, for example, an entire side or elevation should be replaced, not just a few boards. (That kind of repair should be in kind.)

Window replacement is the elephant in the room. At least 90% of the time, when existing windows are still present, the windows are repairable and will offer a superior performance and longer life than all but the most expensive replacement window. In a replacement window made of modern materials, the failure point will always be a small, seemingly insignificant piece such as the latch that holds the "tilt-in" sash in place, the pin that holds the spring to the sash, or the weather stripping when the adhesive fails. When that happens, repairs are nearly impossible because "we don't make that model anymore." And thus the replacement needs to be replaced. An original window, cleaned of paint that makes it hard to open, with new ropes, an operating lock and some simple weather stripping along with a storm window is as energy efficient as a new double glazed window. The old window will last longer and is repairable.

Evaluating an Alternative Material

There will be cases where the only reasonable alternative is a matching replacement material. Design, dimensions, color and texture should be the closest match possible. While cementitious replacement siding, such as those made by Hardie or Boral have textured material with a deep faux grain, they also make smooth siding that looks very much like new wooden weatherboards. The applicant should supply a sample of the material. Often samples can be obtained from suppliers with a phone call, through the website or at a retail store. If possible, a sample of the authentic historic material may be useful for comparison. Photos are second best for evaluation and should always show the material applied to a building not just a photo of the product.

Commissioners or staff can take a little time to research the proposed material online, and it's best to look for reviews that do not originate with the



Credit: Sharon Ferraro

Fiber cement siding (one common trade name is HardiePlank) showing a false wood grain.



Awesome comparison of an old growth 2x4 vs a new growth 2x4. Notice the old growth has 60 rings and the new growth has 16. The old wood is more dense, stronger, burns slower and is more insect resistant. The new wood was grown for the sole purpose of being used for timber and the old growth was taken from natural forests which we have very few natural forests left.

Credit: Sharon Ferraro

A comparison of new and old growth lumber.

manufacturer. What is the warranty? How long does the company predict the product will last? How does the material react to high humidity or cold temperatures? Does it change when exposed to snow piled against it? Remember the material being replaced has probably already lasted a century and is proven by time not by theoretical or laboratory testing. It is not up to the commission to find materials. The commission's charge is to review the proposed material.

Additions and New Construction

Additions should be compatible in design, but clearly differentiated from the historic building. It may be appropriate to consider an alternative material to side a new garage or for the corner boards on an addition. Ultimately the product must be evaluated by the commission for its visual qualities – design, color and texture. The new material must do no harm to the historic building like modern mortar spalling old brick or vinyl components displacing the wood. Each application must be considered on its own merit. Is this product, old salvage or new alternative material appropriate for this application?

Are Alternative Materials Really Necessary?

By Bob Yapp

As we discuss alternative materials for the exterior preservation of historic properties in this issue, I think it may be instructive to walk through what original materials were used to construct these historic properties. There are five basic materials:

- 1) Masonry. This includes brick, stone, stucco, ceramic tile and concrete.
- 2) Lime. Uses for lime include lime-based mortar & plaster.
- 3) Glass. Glass for windows, transoms, sidelights and doors.

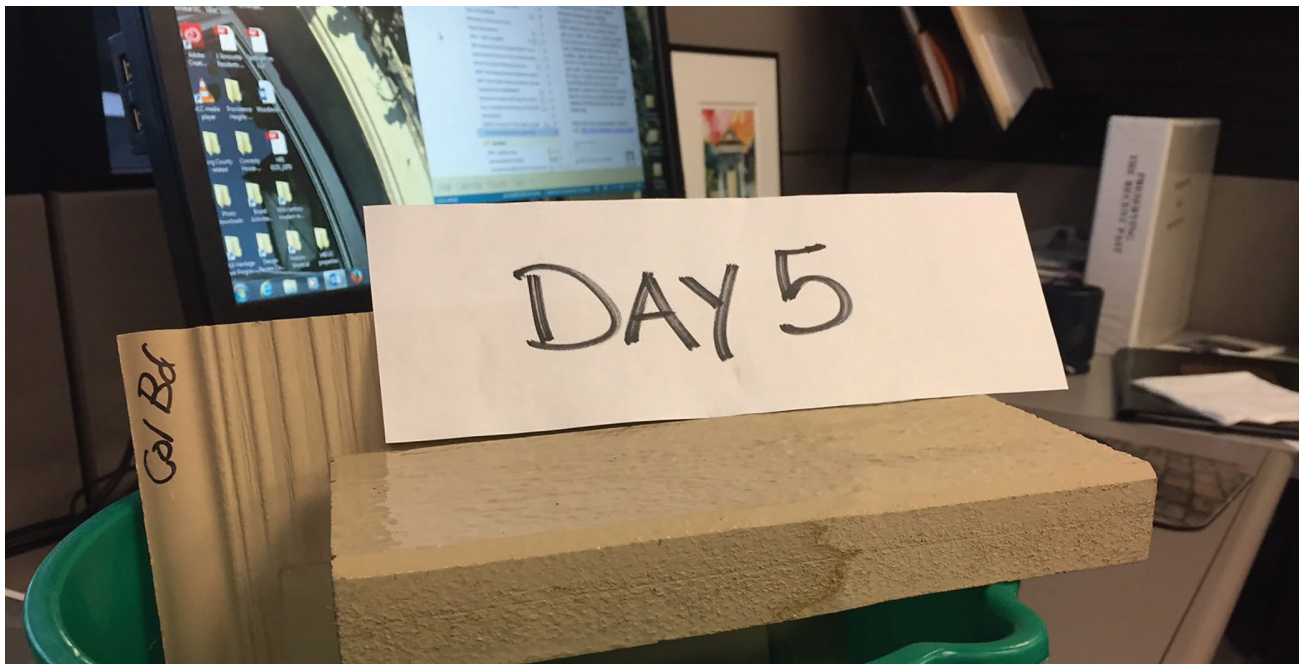
- 4) Wood. While an obvious element, it includes structural, siding, trim, windows, eaves, roofing, balustrades, stairs, porch decking, etc.
- 5) Metal. This can vary but generally windows, window hoods, sills, cornices, hardware, fasteners, wiring, etc.

The good news is that all these materials are readily available from multiple sources at pricing competitive with replacement alternative materials.

In my career, I have rehabilitated over 160 endangered, historic properties. I have never used an alternative material on any exterior of these historic structures, or additions. I haven't because authentic materials are available and cost less to use and last longer, with less maintenance, than alternative materials. Most of us live within the *Secretary of the Interior's Standards for Rehabilitation* (SISR). While not the bible of preservation, it is a wonderful set of ten standards we all live by in our work. Many of you are required to work within the SISR in order to maintain your Certified Local Government status. The following section of the introduction to the Standards is key to our discussion:

"The Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility."

This is a challenging statement in the introduction. *Reasonable manner, the consideration of economic and technical feasibility* can all seem like subjective language. In truth, all three can be objective through research data, determining the availability of skilled trades artisans and proper tool availability. Over the last two years my firm has been researching the true cost of preserving original materials, replacing elements beyond repair and availability of skilled artisans to do the work. This research data is being applied by historic preservation commissions across the country utilizing our *Historic Preservation Cost Comparison Tool*.



Credit: NAPC

Testing alternative building material's resistance to moisture in the NAPC field office.

What the data show may seem surprising. In almost every category of exterior preservation work (residential and commercial), the costs to retain original materials and/or replace deteriorated elements with the same in-kind or authentic material, costs no more, and usually less, than replacing with alternative materials. For instance, according to our research, in Ft. Collins, Colorado, if an old growth, vertical grained (quarter sawn), 3¼" wide x ¾" thick tongue and groove, douglas fir porch floor is rotted beyond repair, the costs play out like this:

Replacement with new, old growth (60-year-old trees are considered old growth in the lumber industry), vertical grained douglas fir to match the original including the demo of the old floor, installing the floor, sanding, back priming and applying 3 coats of oil enamel deck paint costs, on average, \$9.04 per square foot.

Installing a new, composite or vinyl based 1" x 6", tongue and groove decking to replace the original wood, including demo and installation costs, on average, costs \$13.80 per square foot.

For a 229 square foot porch floor the cost for the in-kind/authentic wood product and paint would be \$2,500.68 with a \$125.03 yearly paint maintenance cost. The cost for an "alternative" composite or vinyl-based decking on the same porch would be \$3,160.20 with a yearly maintenance cost of \$210.68. From an economic standpoint, the authentic material costs \$659.52 less, up front, than the alternative material. The paint maintenance of the authentic material is a savings of \$85.65 per year. Maintenance of the alternative decking includes constant power washing and labor. It must be noted that the unpainted alternative decking becomes brittle from UV light and must be replaced about once every 20 years. The painted, authentic material will need to be completely repainted, with minor wood repairs, in 20 years at a much lower cost than replacing the alternative material and, if maintained, can last 100 plus years.

If we stay with this porch flooring example, several other things must be considered. The SISR #6 states:



Credit: Sharon Ferraro

Historic narrow tongue & groove porch flooring.

"Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence."

Since the "new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials." The argument must be made that the alternative composite or vinyl-based decking can never achieve any of these requirements. It is almost

double the width of the authentic, it cannot be painted, and most all authentic, wooden porch floors were painted, gray, green or red. Painted wooden porch floors never show the grain and all the alternative flooring has a textured wood grain that also hold mold and mildew.

Authentic 3 1/4" x 3/4", new, old growth, vertical grain, douglas fir porch flooring is available from multiple sources. Salvaged, douglas fir flooring is also available from multiple salvage operations across the country for less money than the new, old growth, douglas fir. This example cuts across every single exterior feature with similar results. That includes porch and staircase balustrades, exterior doors, vinyl or cement board siding, cladding, masonry repair, windows, and most roofs. With a few simple Google searches, authentic materials can be found. Also, in our studies of various communities large and small, there are contractors who can do the work.

In conclusion, I argued that alternative materials, in almost every case, do not match the original, authentic materials in cost, design, color, texture or any other visual qualities. Our research, and our practical everyday use of authentic replacement materials, shows that all the original, exterior materials our historic houses and buildings were constructed with are still available, cost effectively. There are contractors to do the work and as such, most alternative materials do not meet the *Secretary of the Interior's Standards for Rehabilitation*. ■



Credit: www.jimberftech.com

New polymer flooring showing enhanced faux wood grain.

<i>Cornices & Eaves</i>		PAINTING		COVERING WITH Vinyl or Aluminum	
Soffit/Fascia & Brackets/Corbels		Remove all paint to bare wood, cleaning, wood repairs, one coat oil primer, caulking, two latex top coats, all brushed. Three colors.	Lifespan Cost per Year	Installation of vinyl or aluminum with caulking.	Lifespan Cost per Year
		Costs are quoted per rounded square foot	(20 Year Lifespan)*	Costs are quoted per rounded square foot	(10 Year Lifespan)*
Cost Per Window		\$1,687.20	\$84.36	\$1,896.00	\$189.60
Cost over Twenty (20) Years		\$1,687.20		\$3,792.00	
Enter your dimensions on the table to the right.		* = Periodic paint maintenance/touchup, periodic cleaning. Repaint same colors, two coats at 20 years. Includes materials.			
		* = Yearly cleaning, vinyl and aluminum cladding will need to be replaced at 10 years. Clad wood begin rotting under cladding at four (4) to ten (10) years. Rotted wood repairs before re-cladding. Re-caulk twice in ten (10) years. Includes all materials.			
		Note: Vinyl and aluminum cladding must be completely replaced at ten (10) years. Cladding joints will need to be re-caulked at five (5) years. Original wood soffit and fascia brackets etc., can be retained, repaired and painted again in twenty (20) years.			
				Square Feet	240

Credit: City of Hutchinson

Screenshot of the Historic Preservation Cost Comparison Tool developed for Hutchinson, Kansas by Preservation Resources, Inc. This shot demonstrates the cost difference between repairing/painting cornices and eaves on a commercial building versus the cost of covering them with vinyl or aluminum.

PRESERVATION BRIEF 16:

The Use of Substitute Materials on Historic Building Exteriors

Preservation Brief 16, released in 1988, covers the use of substitute materials on historic buildings, and is another resource available to local commissions when reviewing these types of proposals on designated properties. The brief emphasizes that substitute materials should only be used when all repair or restoration alternatives have been explored. When considering the appropriateness of a substitute material, a “thorough investigation” should be carried out to determine its durability, compatibility, and physical properties. It further suggests that the consideration of substitute materials should be based on the unavailability of historic materials and craftsmen, flaws in the original materials, and code compliance. Cost factors can vary depending on the area of the country, the amount of material needed, and the projected life cycle of the material. The brief does not go into detail on common small-scale residential projects

such as the installation of vinyl siding and replacement windows, noting the greater availability of in-kind materials and restoration solutions for these types of proposals. However, the points listed in determining the appropriateness of a substitute material can be instructive for local commissions which are regularly reviewing proposals for purported “maintenance-free” products such as engineered siding or trim. “Green” and energy-efficiency issues are also not addressed in the brief, although there is an emphasis on determining the performance expectations and sustainability of a proposed substitute material. In sum, the message is clear in Preservation Brief 16 that the restoration and repair of original materials is always the preferred option. For the full brief go to the National Park Service’s website: <http://www.nps.gov/history/hps/TPS/briefs/presbhom.htm>

FAUX REAL: The Sculpted Story of Baltimore's Formstone

By Walter W. Gallas, AICP

The polyester of brick? An acquired taste? A layer of history? A preservation nightmare? Formstone, the product people love to hate, has been a part of the Baltimore scene for over 75 years. Along with rowhouses, marble steps, and painted screens, Formstone says "Baltimore." Formstone is a cement cladding product installed much like stucco. It was patented by L. Albert Knight in 1937 for the Lasting Products Company, a Baltimore paint manufacturer.ⁱ While Formstone can be found in other parts of the country, it remains most closely associated with the city of its birth.

Perma-Stone, pre-made molded cement stone-like panels, had been developed by a Columbia, Ohio, company a decade before.ⁱⁱ What differentiated Formstone, however, was that the stone effect was achieved at the job site, as workmen sculpted the final wet cement layer into naturalistic shapes, resulting in a pattern of blocks, door and window surrounds, and fake mortar joints unique to each house. In the late 1940s to late 1950s, the masonry facades of thousands of Baltimore's ubiquitous rowhouses were covered with Formstone or related competing products such as Rostone, Fieldstone, Bermuda Stone, Romanstone, and Magnolia Stone.ⁱⁱⁱ

In the intervening years, Formstone has come to be the generic label for any of these treatments in Baltimore.

The immense popularity of Formstone for rowhouses had not been anticipated. Initially, it was used on detached houses in the suburbs. Meanwhile, in the densely built-up city, many rowhouse owners had been painting their masonry facades, figuring it was protecting the soft, porous brick in use through much of the 19th century. The sales pitch for Formstone was that for the cost of three paint jobs, you could install Formstone, get a 20-year



Credit: Baltimore Commission for Historical and Architectural Preservation

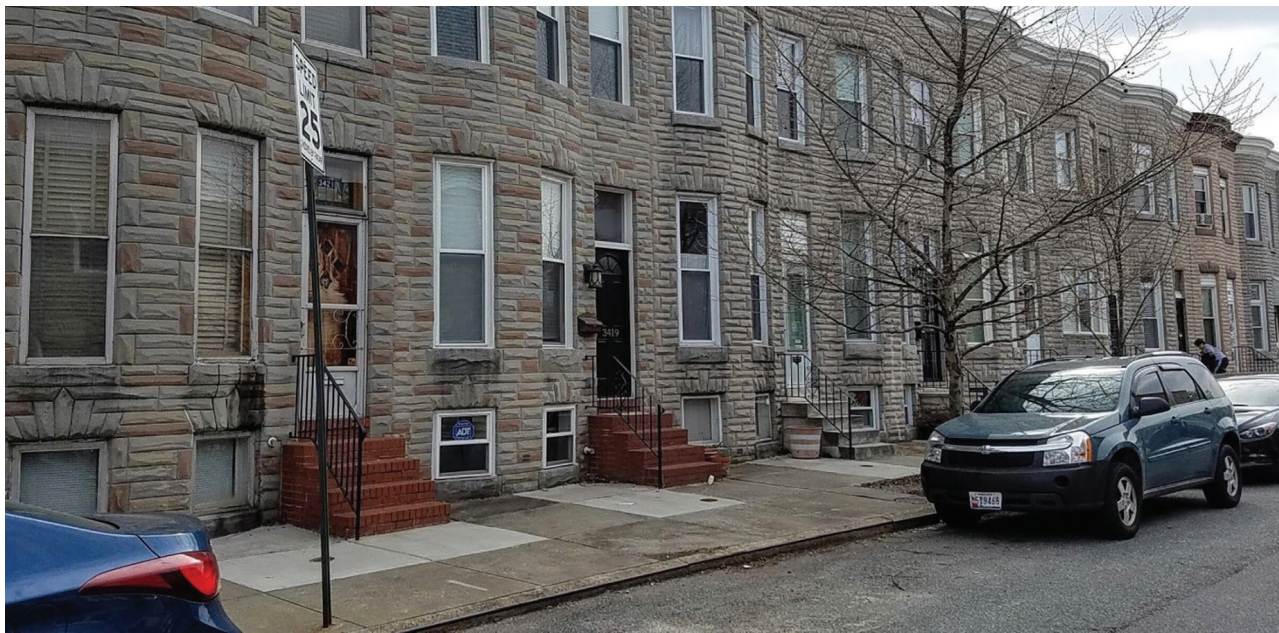
A row of Formstone facades on East Oliver Street in the Berea Neighborhood of East Baltimore.

warranty, and never have to paint again. Not only did Formstone promise reduced maintenance, it also promised to provide extra insulation. In the early 1950s, the cost of installation for a two- or three-story rowhouse averaged \$600 to \$700 or \$5,600 to \$6,500 in today's dollars. The appeal of a castle-like façade seemed infectious, and it was helped along by offers of discounts if an entire block agreed to be Formstoned. One homeowner observed that the neighborhood had looked like a shantytown when it was red brick; then "the man came from Formstone and made it look like Hollywood."^{iv} An ad in the Sunday paper in 1950 proclaimed "FormStone makes your home the Neighborhood Showplace." With terms of up to five years to pay, and as little as \$7.00 a month beginning 60 days after purchase, who could resist?^v

The process for applying Formstone was a multi-day affair. A metal lath was nailed to the masonry. A first scratch coat of cement was applied, scored,

and allowed to dry. A second coat was applied, and while it was still soft, it became the foundation for the hand-sculpted outer layer. Colors were achieved by adding pulverized stone to the cement mixture. In some cases, a sprayed-on coat of mica was added for extra sparkle. Originally, only four colors were offered—natural, ivory, brown, and gray. Assertive customers pushed for greater variety, and on a case-by-case basis, the company addressed the demands. Especially popular in Baltimore's Little Italy—on homes as well as businesses—were green and red.^{vi} The monumentality of the Formstone look was also appealing to businesses and churches, projecting a European sensibility or making a statement of solidity and permanence. Time and the 20-year warranty would take their tolls, however.

Companies began to fold when the product began to delaminate and customers called in their promised warranties. Lasting Products Company, the Formstone parent, went out of business in the early



Credit: Baltimore Commission for Historical and Architectural Preservation

Bow front rowhouses with Formstone on East Pratt Street in the Highlandtown Neighborhood.

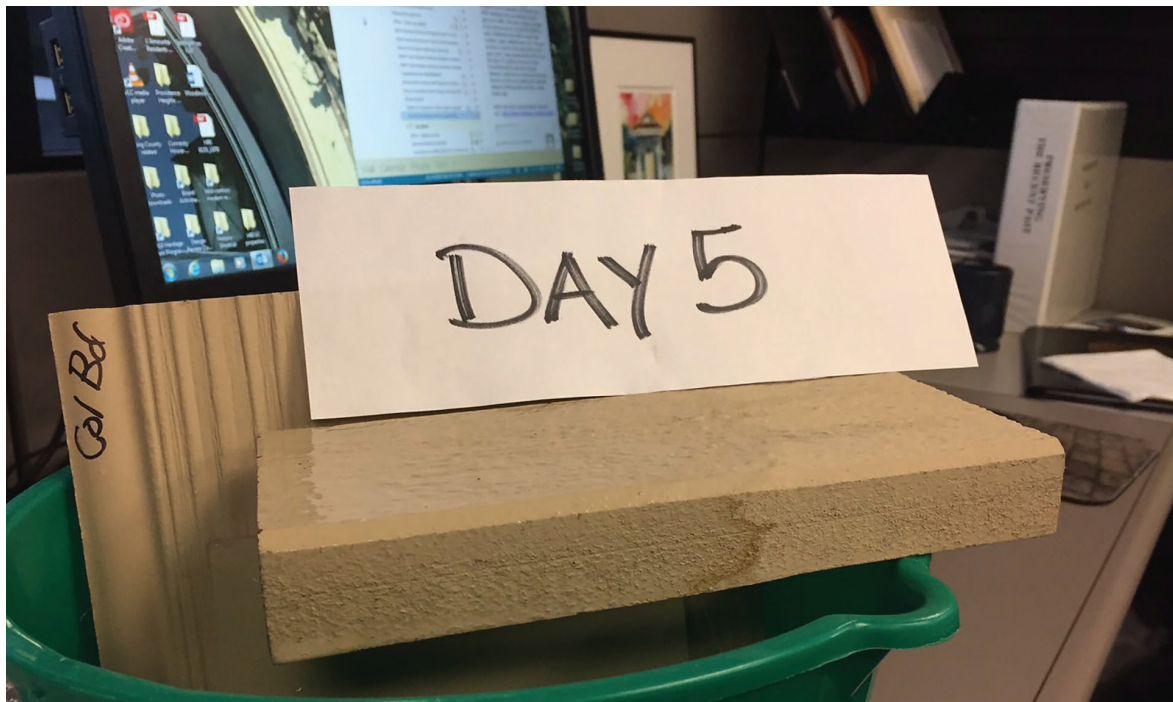


Credit: Phil Thomason

Formstone came in a variety of textures and colors as seen in these houses in Little Italy.

1970s and others followed.^{vii} The problem was the product and the installation. Not all companies used galvanized mesh or nails for the lath, so these began to deteriorate. Nails were driven into the bricks, not just the mortar joints—or into a frame building—so the structure was compromised. Often, in preparing a masonry building for the application, critical elements like lintels or projecting string courses were chiseled off to smooth out the surface. These are the very elements designed to direct water away from the building.^{viii} The cement was harder than the masonry it was attached to. Moisture collected behind the cement surface, which cracked, spalled and failed like any other concrete product. Today, repair has become more challenging, too, as the number of craftspeople knowledgeable about Formstone has dwindled.^{ix}

The re-discovery of Baltimore's historic neighborhoods by urban pioneers in the 1960s and 1970s hastened much of Formstone's demise. The prevailing aesthetic for most new (and young) rehabbers



Credit: Baltimore Commission for Historical and Architectural Preservation

Differing Formstone textures and colors in Little Italy on S. Exeter Street.

called for the restoration of the brick rowhouse façade, and beginning in Federal Hill and Fells Point, the Formstone began to fall. On Formstone, the preservation professionals can sound conflicted, speaking at once from an architectural, social, and cultural perspective. "In the 1960s and 70s when preservation got started in Baltimore City, the last thing they wanted to do was preserve the Formstone," says Eric Holcomb, director of Baltimore's Commission for Historical and Architectural Preservation. "It was inauthentic; it was placed upon historic fabric. [And yet] it is a layer of history. It was something that was put on the building for the homeowner's needs...to make it a home instead of a building built by an architect."^x Other local expressions of homeowner individuality include painted screens, faux wood grain on wood doors, and "striping"—painting brick facades to simulate brick and painting on fake mortar joints. They are beloved, and smiled at, for their eccentricity and personal expression. And for many, this is the attitude toward Formstone: It is so much a part of the

Baltimore scene, that it would be a shame to see it all disappear.

Baltimore's design review is conducted by the Commission for Historical and Architectural Preservation (CHAP). CHAP's *Historic Preservation Design Guidelines* are silent specifically on Formstone or other simulated stone products; however, they come closest to addressing it in the section on stucco: "Remove stucco from masonry surfaces where it is historically inappropriate. Before removing stucco, prepare a test panel to make sure that underlying masonry has not been irreversibly damaged."^{xi} CHAP administers a very popular and effective local historic rehabilitation tax credit program. Property owners can gain a fixed ten-year credit against their property taxes by completing interior and exterior rehabilitations in accordance with CHAP guidelines. This year the program achieved a milestone, leveraging over \$1 billion of direct investment in local historic rehabilitations. Stacy Montgomery, one of two staff members administer-



Credit: Baltimore Commission for Historical and Architectural Preservation

Example of Formstone removal and the restoration of the original brick surface at 805 S. Milton Avenue.

ing the CHAP tax credit program, says that over the past eight years, CHAP has approved both Formstone removal with restoration of the historic façade, as well as the retention of Formstone. Removal of Formstone is not required in Baltimore's local historic districts or for its local historic tax

credit projects. In some cases it's not recommended, since the underlying façade has been significantly damaged due to the original installation. CHAP also allows the painting of Formstone.

In the fall of 2017, Baltimore's Commission for Historical and Architectural Preservation considered an application for the demolition of five contiguous rowhouses. Three of the buildings were covered in Formstone. The matter before the commission was whether the buildings retained sufficient historic fabric to be contributing buildings in the local historic district. CHAP staff had determined that too much had been lost and recommended a finding

that the buildings were no longer contributing. The Commissioners weren't sure, asking about structural engineer's reports and worried about proper notification of the property owners. Finally, a Commissioner moved to overrule the staff recommendation. Pointing to an image of the row, the Commissioner



Credit: Baltimore Commission for Historical and Architectural Preservation

A contrasting double house with the original brick on the left and Formstone on the right on Stiles Street in Little Italy.

exclaimed, "That picture. That's Baltimore! The only thing that's missing is Tracy Turnblad [of John Waters' *Hairspray*]! They could do the play right there! We need to go slow. We need to lock down a string of rowhouses, facades intact. That's a Baltimore street scene that we should be

very cautious about demolishing."^{xii} The motion to overrule the staff recommendation passed. ■

Special thanks to David Warner, Enoch Pratt Free Library, Baltimore, for research assistance.

ⁱ "L. Albert Knight, who gave the city Formstone, dies at 76," *The Baltimore Sun*, March 16, 1980, B1.

ⁱⁱ Mary Ellen Hayward and Charles Belfoure, *The Rowhouse Book* (New York: Princeton Architectural Press, 1999), 181.

ⁱⁱⁱ Paul K. Williams, "The Story of Formstone", <http://welcometobaltimorehon.com/the-story-behind-formstone>.

^{iv} Lillian Bowers, *Little Castles: A Formstone Phenomenon*, video (Formstone Foundation, Truckstop Motion Pictures, Henniger Capitol, 1997).

^v "Focus on Formstone," *The Rowhouse Times*, (Baltimore: Peale Museum, 1981), 8.

^{vi} Danielle Sweeney, "Formstone Lives!" *Baltimore Magazine*, June 2004, 48.

^{vii} Charles Cohen, "A faux phenomenon," *Baltimore Business Journal*, February 11, 2000.

^{viii} David W. Look, AIA, "HP Pedestal," *Historic Preservation Magazine*, July/August 1980, 51.

^{ix} Lauren Schiszik, Baltimore City preservation planner, email message to author, April 5, 2019.

^x Bowers, *Little Castles*.

^{xi} *Baltimore City Historic Preservation Design Guidelines*, https://chap.baltimorecity.gov/sites/default/files/CHAPDesignGuidelines_2019.02.15_small.pdf.

^{xii} Baltimore City Commission for Historical and Architectural Preservation Hearing, October 10, 2017, <https://livestream.com/accounts/17371294/events/7793089>

THANK YOU

The NAPC board and staff would like to thank all of the following individuals and organizations who have either joined or renewed their memberships this spring.

Member support is vital to our mission and continued efforts of building strong local preservation programs through education, advocacy and training.

SPRING 2019 NEW AND RENEWING NAPC MEMBERS

Jonathan Cain	CO	Rita Vogel	MI	Mimi Sheridan	CA	Guilford County Historic Preservation Commission	NC
Ron Campbell	MI	Bill Warinner	FL	Michael Strutt	TX	Guilford Historic District Commission	CT
Victor Christian	CO	Kelly Wemple	CO	Chris Skelly	MA	Heritage Ohio	OH
Melissa Corbett	FL	Bonnie Wessler	MI	Dr. Harold (Hal) Hunter	TN	Heritage Preservation Commission (City of Carver)	MN
Jo Anne Dionne	MI	Kristina Wright	FL	Michelle McCullough	NC	Highland Cultural Research Center	IA
Philip Dixon	SC	Teri Grooms	FL	Karen Gordon	WA	History Colorado - OAHF	CO
Joyce Downing	CO	Joedene Thayer	FL	Tijomas Sledge	VA	Horry County	SC
Stephen Gerard	FL	Aaron Borngraber	FL	Venetia R Stephens	VA	Huntington Woods	MI
Mike Giller	CO	Lee Hall	OK	Katie Totman	TX	Indiana Landmarks	IN
Teri Grooms	FL	Cayla Lewis	OK	Blanco Historic Preservation Commission	TX	Jackson County Historic Preservation Commission	IA
James Hamilton	MI	Melony Carey	OK	Chesterfield Township Historic Preservation Commission	NJ	Jones County Preservation Commission	IA
Mike Herbst	CO	Nico Leo	MI	City of Arab	AL	Landmarks Illinois	IL
Kristine Hoehn	CO	A.C. Alrey	MI	City of Aurora	OR	Memphis Landmarks Commission	TN
Misty Jackson	MI	Lisa Morgan	MI	City of Bay City	MI	Meridian Historic Preservation Commission	ID
Yolanda Johnson	AL	Eric Feldt	MI	City of Biloxi - AHRC	MS	Meridian Street Preservation Commission	IN
Katie Johnson	MI	Robert Gibb	MI	City of Chaffield, MN Heritage Preservation Commission	MN	Michigan Historic Preservation Network	MI
Jane Johnson	IL	Nancy Morissey	FL	City Of Coral Gables	FL	Minnesota State Historic Preservation Office	MN
Cory Johnston	MI	Joseph Flauto	IN	City of Dayton, Oregon	OR	Mobile Historic Development Commission	AL
Kristen Koehler	CO	Anne Crecelius	IN	City of Easton	PA	North Carolina State Historic Preservation Office	NC
Kathrine Kolokithas	MI	Doug Bruce	IN	City of Forest Grove	OR	NV State Historic Preservation Office	NV
Stephanie Kush	IL	Creager Smith	IN	City of Fort Collins Landmark Preservation Commission	CO	Oklahoma Historical Society	OK
Garrick Landsberg	MI	Deborah Reed	IN	City of Glen Rose Preservation Board	TX	Pennsylvania Historical and Museum Commission	PA
Angeline Lawrence	MI	Eva North	IN	City of Indianapolis	IN	Pinellas County Planning	FL
Larry Lucas	CO	Scott Mangum	IL	City of Lafayette	IN	San Antonio Conservation Society	TX
Jim Meloche	MI	Carl Klein	IL	Historic Preservation	IN	Savannah College of Art and Design	GA
Gerhard Petri	CO	Allison Archambo	MO	City Of Longview	TX	State Center Historic Preservation Commission	IA
Jessica Quijano	MI	Laura Carstens	IA	City of Monticello	IL	State of Iowa Preservation Office	IA
Jodi Rubin	FL	Kinney Clark	NJ	City of New Ulm	MN	State of Washington	WA
Krysta Ryzewski	MI	Dan Corson	CO	City of Norfolk	VA	Taylor's Falls HPC	MN
Jeff Samoray	MI	John Davis	VA	City of Norman	OK	Town of Hartford	VT
Melinda Schmidt	MI	Allison Diehl	AZ	City of Oxford	OH	Town of Telluride, Colorado	CO
Sue Shink	MI	Jean Arnold Dodge	AL	City of San Antonio, Office of Historic Preservation	TX	Town of Westport Historic District Commission	CT
Scott Slagor	MI	Helen Erickson	AZ	City of Sanford	FL	Town of Windsor	CT
Walt Sledzieski	ID	Scotney Fenton	IA	City of St. Augustine	FL	Tulsa Preservation Commission	OK
Lori Stanevicius	IL	Emily M Foster	FL	City of St. Cloud	FL	Brian D Goeken	DC
Anne Stevenson	MI	Stephen Hannestad	AZ	City of St. Joseph Landmarks Commission	MO	Robert Stoldal	NV
Marcia Steward	IL	Kaaren Hardy	CO	City of Texarkana, Arkansas	AR	The Craig Group	CA
Steve Stone	AL	Dominique Hawkins	PA	Clark County Historic Preservation Commission	WA	The Lakota Group	IL
Jill Thacher	MI	David Kimmerly	PA	Conway Historic District Commission	AR	McDoux Preservation LLC	TX
Joedene Thayer	FL	Margaret Maliszewski	VA	Cumberland Historic Preservation Commission	MD	Preservation Resources, Inc.	MO
Virgil Turner	CO	Patricia McCambridge	VA	Decorah Historical Preservation Commission	IA		
Patti Tyler	CO	Lauren Oswalt McHale	DC	Douglas Historic Preservation Commission	WY		
Kristen VanNederynen	FL	Jody Robinson	KY	Dubuque County Historic Preservation Commission	IA		

**If you would like more information on joining NAPC and membership benefits,
please go to <https://napcommissions.org/join/>**

TEN YEARS AFTER: A New Look at Alternative Materials

By Kelsey Lamkin

The approval or non-approval of alternative materials continues to be an evolving process for many historic district and preservation commissions. Materials such as cementitious siding, fiberglass columns, and porch flooring of recycled plastic and wood have been on the market for many years but their acceptance as appropriate for historic buildings varies from community to community. In 2009, the City of Columbus, Ohio commissioned a survey of cities across the country to see if the guidelines used for design review in the city reflected “Best Practices” regarding alternative materials. The cities which were contacted and responded to the survey included Boston, Charlotte, Detroit, El Paso, Indianapolis, Nashville, San Francisco and Jacksonville, Florida. Now that ten years have passed we take another look at how the approval or disapproval of alternative materials has changed in these communities.

Cementitious Siding

Cementitious siding is a popular alternative material and is used for exterior siding and shingles to replace original wood siding and for new construction. In 2009, all the surveyed cities allowed cementitious siding to some extent in their historic districts. Charlotte was the most flexible regarding this replacement material - in addition to outbuildings, rear, and lateral additions, the city permitted this siding for all historic building elevations provided it matched in dimensions and profile. Charlotte

now approves this material for new construction as well as garages and outbuildings. Similarly, Detroit also approves cementitious siding for new construction, garages and outbuildings.

Jacksonville became more amenable to cementitious siding over the past decade. In 2009 the guidelines only allowed this material on rear elevations or the bottom 24 inches of siding. It is now permitted on new construction, garages and outbuildings and as a replacement material on pri-



Cementitious siding was used to replace the deteriorated siding on this ca. 1869 dwelling in Fayetteville, Arkansas.

Credit: Thomason and Associates

mary and rear or non-readily visible elevations. The cementitious siding must match the historic siding in design, reveal, dimension, and exposure. El Paso continues to allow cementitious siding on rear and non-readily visible side elevations. San Francisco and Nashville have remained steadfast in their approval for this material only for new construction and outbuildings and not as replacement siding on historic dwellings. Boston and Indianapolis have become more conservative in their approval for cementitious siding, limiting it to new construction only.

Doors and Garage Door Materials

Since 2009 the surveyed cities have maintained a commitment to maintaining and restoring original doors where they exist, especially on primary elevations. On rear or non-visible secondary elevations, the replacement of original doors varies. Boston allowed the use of metal, fiberglass, and composite doors on rear and non-readily visible side elevations in 2009, but as of 2019 no longer approve such materials. Indianapolis has become more flexible with metal and composite doors, currently allowing their installation in conservation districts and for new construction. San Francisco and Detroit considers metal and composite materials appropriate for rear and side elevations as do Nashville, Jacksonville, and El Paso. San Francisco's approval is dependent upon the elevation and specific district. Charlotte does not allow these replacement materials.

Garage door designs also vary. Charlotte, Indianapolis, San Francisco, and Detroit allow metal garage doors of steel and aluminum as long as they mimic traditional designs or match the original. Nashville continues to allow traditional designs of metal or fiberglass garage doors, but no longer approve garage doors of vinyl as it did in 2009.



Example of appropriate overhead track metal doors on this new garage.

Credit: Thomason and Associates



Credit: Thomason and Associates

Example of an approved synthetic slate roof in Roanoke, Virginia.

Boston continues to oppose metal and vinyl doors, permitting only appropriate doors of wood. El Paso and Jacksonville are the only cities permitting vinyl doors in traditional designs, along with metal, and in the case of El Paso, also fiberglass.

Composite Porch Floors

Wood porches often require replacement or repair due to their exposure to the elements. Rather than replacing deteriorated floors with wood owners often request the approval of composite materials such as recycled plastic and wood products. Charlotte and Detroit previously only allowed composite porch floors on rear or non-readily visible elevations but since 2009 now allow their installation on front porches. El Paso and Jacksonville continue to allow composite floors on all elevations. Indianapolis and Nashville have not altered their disapproval of composite floors on front porches, only allowing them on rear or non-readily visible elevations. Boston no longer allows composite floors under any circumstances.

Porch Columns

Porch columns of both vinyl and fiberglass have been in use for several decades as an alternative

to wood. Nashville and Boston are the only two cities surveyed that have consistently disallowed vinyl and fiberglass columns on any elevation since 2009. Charlotte and Detroit, having rejected vinyl and fiberglass columns a decade ago, have since allowed for fiberglass columns on primary and rear or non-readily visible elevations. El Paso, Indianapolis, and Jacksonville continue to allow fiberglass on primary and secondary elevations, requiring it to have the appearance of wood columns. El Paso is the only city surveyed which allows for vinyl columns on primary elevations. San Francisco continues to oppose vinyl columns but has since allowed for fiberglass on primary and rear or non-readily visible elevations if there is a structural seismic necessity for using substitute material.

Synthetic Slate Roof Shingles

Slate is a long-lasting and durable material but in some regions the original slate roof shingles are now failing. Nearly all the surveyed cities approve synthetic slate materials in their guidelines if the original shingles are too deteriorated to be restored. Charlotte, Detroit, Indianapolis, Jacksonville, and Nashville all approve synthetic slate where the original slate cannot be repaired. Indianapolis noted that economic hardship was commonly a factor in this decision as well given the high cost of new slate roofs. San Francisco reported that the allowance of such replacement materials was dependent upon the structural or seismic necessity. Boston, having approved it in 2009 if the original materials were clearly deteriorated beyond repair, no longer allows synthetic slate roofs. El Paso has never allowed such material.



Credit: Thomason and Associates

Only a few cities allow the installation of vinyl windows even if they attempt to match the original such as this two-over-two sash design.

Windows

If the original windows no longer exist or are clearly deteriorated, replacement windows may be the only alternative. While new wood windows to match the original have traditionally been seen as the best option, concerns over the quality and life expectancy of wood have led some cities to consider other materials. Vinyl windows continue to be disapproved in most cities. Nashville allows vinyl windows only for new construction. Indianapolis currently allows vinyl for conservation districts and vinyl-clad windows for new construction depending on their ability to resemble historic designs. After denying composite windows in 2009, the city now allows this material as well as continuing the use of aluminum-clad with baked-enamel finishes for window replacement. Indianapolis no

longer allows aluminum-clad windows with anodized finishes but does allow those with a baked enamel finish.

El Paso and Jacksonville continue to allow aluminum-clad, vinyl, vinyl-clad, and composite window replacements, provided they match in dimensions, profile, and overall appearance. Detroit and Charlotte approve composite and aluminum-clad windows with both anodized and baked-enamel finishes. Charlotte reported no requests for composite material windows ten years ago but has since included this material in their guidelines as appropriate. San Francisco notes that they allow aluminum-clad windows with baked enamel finishes and alternative materials depending on which elevation the windows are to be added. Boston prefers wood and does not allow any of the listed replacement materials, a change from a decade ago when the city made allowances for aluminum clad windows on commercial and industrial buildings on a case by case basis.

Vinyl Fences

Vinyl fences continue to be discouraged or disallowed. As was the case in 2009, none of the surveyed cities currently allow vinyl fences in the primary yards of their historic districts. Some of the cities have become more flexible in allowing for such materials in rear or non-readily visible yards, such as Charlotte, Jacksonville, and Detroit, but Indianapolis, San Francisco, El Paso, and Nashville have not changed their stance and do not allow these fences in historic districts. Boston approved vinyl fence materials in non-readily visible yards in 2009 but no longer allows such materials in historic districts.



Credit: Thomason and Associates

Vinyl fences are still not allowed in many historic districts.

So What Has Changed?

Historic preservation commissions and property owners continue to evaluate the appearance and longevity of alternative materials and their suitability for historic buildings. Some materials such as cementitious siding, composite porch floors, synthetic slate and fiberglass porch columns are now seen as approvable under certain conditions by most of the surveyed cities. Replacement windows of composite materials and aluminum clad with baked enamel finishes have also been accepted if they match the original as closely as possible. Most cities continue to deny vinyl windows, particularly on primary elevations. Likewise, vinyl is also not an approval porch column or fence material in most historic districts.

Property owners in historic districts now have a variety of products to choose from for repair, replacement and new construction. Increasingly, concerns

over the quality, sustainability and longevity of new-growth wood products have led owners to instead consider alternative materials. Historic District Commissions will continue to be challenged to balance the appropriateness of these materials while maintaining the visual appearance and integrity of their historic properties and districts.

Special thanks to the following informants for their input: Joseph Cornish, Boston Landmarks Commission; Robin Zeigler, Metropolitan (Nashville) Historic Zoning Commission; Vincent Ciccarelli, Charlotte Historic Landmarks Commission; Elizabeth Nowak, Indianapolis Historic Preservation Commission; Jennifer Ross, Detroit Historic District Commission; Timothy Frye, San Francisco Planning Department; Providencia Velazquez, El Paso Historic Preservation Office; Lisa Sheppard, Jacksonville Planning and Development Department. ■

Kelly Pickerel is Editor in Chief of Solar Power World and has been involved with publishing in the solar industry since 2011. She joined the SPW staff in 2014 and enjoys working on contractor profiles and hearing about new projects. Her areas of focus include solar panel manufacturing, energy storage, the Contractors Corner podcast and the development of Solar Power World's annual Top Solar Contractors list. Kelly graduated from Kent State University with a degree in magazine journalism and lives in Northeast Ohio. This article was originally printed in Solar Power World and on solarpowerworldonline.com.

The Latest on Solar Roofs, Solar Shingles and Solar Tiles

By Kelly Pickerel

There are many words used to describe unconventional solar PV technologies used on rooftops. Within the “building-applied” category — basically anything that isn’t traditional solar panels attached to racks — terms like solar roofs, solar shingles and solar tiles are becoming more common, especially after Elon Musk and Tesla announced their solar roof idea in 2016. While the Tesla solar roof has yet to show successful application besides a few pilot installations, there are plenty of building-applied solar products on the market right now for homeowners looking for something different than the status solar quo.

Rackless solar systems

There are two building-applied solar veterans that make what they call solar shingles but may be better described as small, rectangular solar panels that are installed without traditional racking systems. CertainTeed’s Apollo II solar shingles are installed alongside asphalt shingles. The 63-W monocrystalline solar panels are about 46 in. long and 17 in. wide — bigger than asphalt shingles but smaller than traditional solar panels. SunTegra has two building-

applied products, also using monocrystalline solar panels that are bigger than the surrounding shingles. The SunTegra Shingle is about 52 in. long and 20 in. wide and rates at 110 W. The SunTegra Tile is also about 52 in. long but 14 in. wide and produces 70 W. The CertainTeed and SunTegra products are attached to the roofing deck for a sleek solar look not often achieved by elevated racks.

Roofing manufacturer GAF has a solar system that similarly attaches to the deck. GAF's DecoTech system installs full-sized solar panels without traditional racking in the middle of a roof, while normal asphalt shingles are still used along the perimeter. The GAF system offers low-profile aesthetics with a more traditional solar power output.

Dow was a leader in "solar shingles" until it dropped out of the business in 2016. The original Dow Powerhouse product used CIGS thin-film solar cells mounted to the roof decking, with traditional roofing shingles or tiles around the perimeter. One of the larger problems with Dow's design was that the thin-film solar cells got very hot with little ventilation that close to the roof, so power output decreased. In 2017, national solar installer RGS Energy bought the Powerhouse brand from

Dow and began marketing improved solar shingles, this time made with monocrystalline solar cells. The 41-in. long, 13-in. wide Powerhouse 3.0 solar panels have been rated at about 55 W. RGS Energy just recently announced it was ditching its residential installation arm to focus exclusively on Powerhouse solar shingle sales.

One company that is still trying the CIGS thin-film route is flexible panel manufacturer Sunflare. The company brought prototype four-cell solar shingles to Solar Power International 2018 and expects to have a finalized product by 2021 (as confirmed to *Solar Power World*). It's unclear by looking at the prototype shingles whether the product would be installed with traditional roofing shingles or as a full roof, but Sunflare said it will focus on new roof installations.



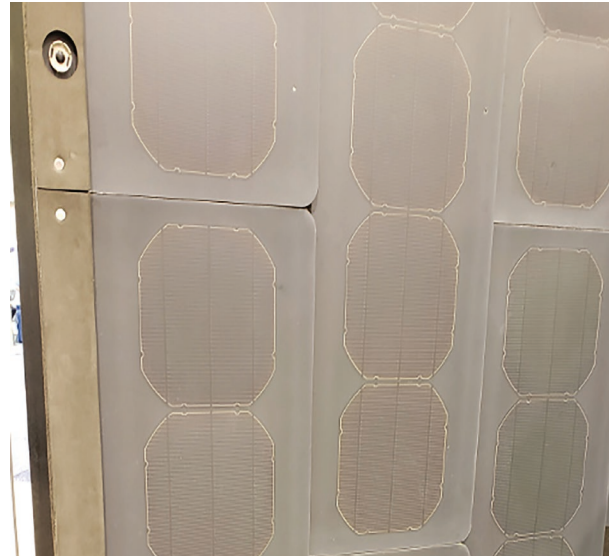
CertainTeed's Apollo II solar shingles

Credit: CertainTeed and Solar Power World



Credit: GAF and Solar Power World

GAF's DecoTech product.



Credit: Sunflare and Solar Power World

Sunflare's prototype solar shingles on display at SPI 2018.

Solar shingles and tiles

When solar shingles and solar tiles are sized to look like traditional roofing products, the result can be a more uniformly designed solarized roof. Luma Solar designs custom solar roofs, using 54-in. long and 15-in. wide, 65-W polycrystalline solar panels (or 75-W monocrystalline panels) connected together for the entire roof span. Similarly sized metal panels are used along the roof perimeter or where solar cells can't perform. The Luma solar shingles blend in with the non-solar metal panels for a uniform look.

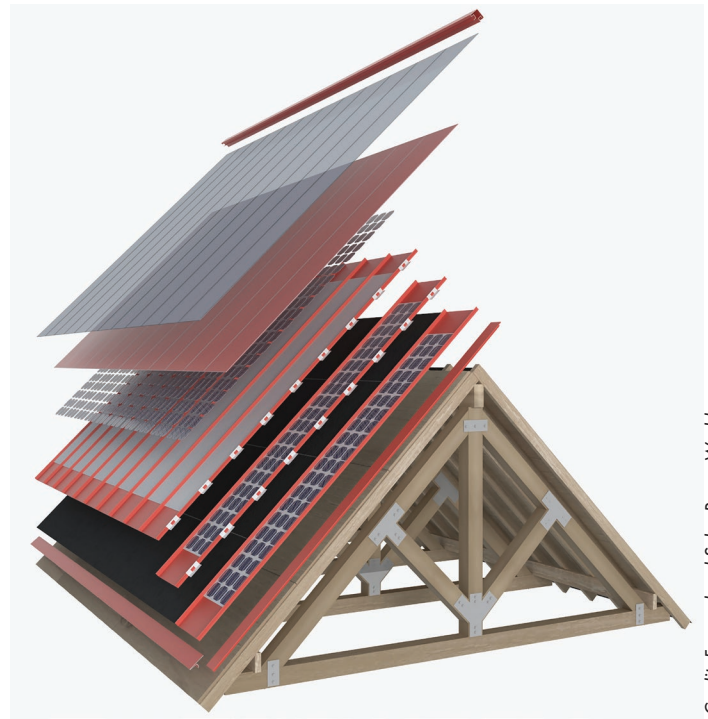
DeSol Power Tiles also has a solar roof but uses individual polypropylene tiles similar in shape to traditional roofing tiles. An entire roof is installed, with some of the tiles having 17-W monocrystalline solar cells embedded. The tiles are screwed to battens on the roof plywood level. The roof looks uniform in design, although the solar tiles are shinier than the solid, polymer tiles. Hanergy

is rolling out two CIGS thin-film solar tile products: the curved HanTile and the flat Thin Film Flat SOLARtile. Both are installed among other non-solar-generating tiles. The HanTile roof installation looks less obviously like solar than the flat tiles.

Tesla's solar roof — if we see more installations soon — is definitely the more aesthetically pleasing solar tile choice. The company is manufacturing solar cells hidden behind tempered glass, and matching non-solar tiles are used along the roofing edge. Tesla's tiles are 14 in. long and about 8.5 in. wide, with an unknown power output. The solar tiles are manufactured in Tesla's Gigafactory in Buffalo, New York, that it also shares with Panasonic. It's assumed that the Solar Roof tiles use crystalline silicon cell technology from Panasonic. Similar to other true solar shingle and tile products, Tesla's solar tiles replace an entire roof, so other, more traditional roofing tiles are not used.

Solar roof

Another Silicon Valley hopeful, Forward has a unique solarized roof product that isn't solar shingles nor just deck-attached solar panels. The company claims to make what it calls "solar roof panels" — long, skinny monocrystalline silicon solar panels that (in the case of Forward's metal roof offering) have optically enhanced glass fronts to camouflage into the roof or (in the case of Forward's tile roof offering) have individual glass tiles over top that concentrate the sun's rays. The solar roof panels, which have traditional aluminum frames, polymer-based backsheets and junction boxes, are about 21.5-in. wide and can be up to 18- to 20-ft long — all custom to the individual



An expanded view of Forward's Metal roof.

Credit: Forward and Solar Power World



A DeSol Power Tiles installation.

Credit: DeSol and Solar Power World

home's roof size, Forward CEO Zach Taylor told Solar Power World. The solar panels can't be seen from the ground, and the roof just looks like a normal metal or tile roof, with the invisible added benefit of solar generation. It is unknown how many actual Forward solar roofs have been completed in the San Francisco Bay Area since installation began in July 2018, and no photos of the roofs are available for

publication. Solar Power World did speak with the company about its solar production methods but cannot confirm if installations have been completed.

One thing is for sure, solar customers who prefer to have integrated roof designs have plenty of options, with more on the way in the near future. ■

Commission Assistance & Mentoring Program



CAMP is an intensive, high-energy program customized to meet your training needs.

Nationally recognized CAMP counselors drawn from local preservation programs across the country provide the highest quality training in an atmosphere of camaraderie and celebration.

Tyler, TX – July 12, 2019
Seguin, TX – August 16, 2019
Lincoln, NE – September 7, 2019
Roslyn, NY – October 21, 2019
Syracuse, NY – October 23, 2019
Corning, NY – October 25, 2019



Asbestos Roof Tile Replacement

By NAPC Members

This article is a condensed version of a recent discussion on the NAPC-L, NAPC's active community listserv, related to appropriate replacements for historic asbestos (or other mineral fiber) tile roofing. Internet search references are located at the bottom. The subject property is located in Walla Walla, Washington, and the discussion was initiated by a planner with the city.

I had a property owner come to me this week requesting help to find a suitable replacement for his existing roof system, what he says is asbestos concrete roof tile. His property isn't listed (yet), but he wants to do it right. This is pretty far outside my expertise, but I know someone on this list must have recommendations for appropriate materials. I've included a few photos, but wasn't able to get all the way up close to the roof. Thanks in advance! – *Melissa Shumake, Planner, Walla Walla, Washington*

This is an interesting issue. If it's helpful, there are lots of old manufacturers' catalogs for asbestos roofing tiles available online.ⁱ On the one hand,

the owner could look into installing real slate with the same pattern/reveal as the asbestos tiles. On the other hand, the owner might be able to make an argument that synthetic slate is appropriate, since the asbestos tiles themselves were a form of synthetic slate. That said, real slate would be my preferred approach having observed synthetic slate failures for many years now – discoloration, cupping, and cracking, etc. Being a manufactured product, the existing asbestos tiles are very uniform in color and profile. Real slate might be too "rustic" in comparison. Something like porcelain roofing tiles from Daltileⁱⁱ might be appropriate. Naturally, the weight of each material as compared to the asbestos tile will have to be



Credit: Melissa Shumake

Numerous roof ridges with asbestos ridge tiles.

taken into account as well. – *Devin A. Colman, State Architectural Historian, Vermont Division for Historic Preservation*

I've looked into this question in the past and haven't come upon a great replacement option that is widely available in the U.S. Although GAF manufactures the Weatherside line of replacement fiber cement wall shingles (non-asbestos) in a variety of patternsⁱⁱⁱ, I have not found any company that manufactures a uniform, straight-edged replica of historic Transite^{iv} roofing shingles (Johns-Manville Corp.) or Timbertex roofing shingles (The Ruberoid Co. which also manufactured Grain-Tex and Shake-Tex asbestos-cement siding) of the early 20th century as found on the roof in question. In the mid-1990s to early 2000s, a company was reproducing a non-asbestos version of the diamond pattern (French method according to *Old House Journal* – Nov/Dec 2001) of fiber cement



Credit: Melissa Shumake

Historic home in Walla Walla, Washington, with asbestos roof tiles.

shingles, but I think they have disappeared from the marketplace since I can no longer find them.

The company used to advertise in the *Old House Journal*, which published an article on the product in May/June 2005.^v The only company that I could find that is manufacturing fiber cement roofing shingles today is Cembrit^{vi} from Denmark. GAF recreates the looks with some success in its Sienna asphalt shingle line. Most cement roofing is too heavy to replace old fiber cement shingles and the finished appearance will be much different from the historic appearance.

Good luck...keep us posted of what you decide! – *Michael A. Lambert, Preservation Planner, Geneva, Illinois*

One of the other important design features of a cement tile roof are the ridge caps. If these are used on the new roof it helps maintain the original character of the cement tile. There is a diamond pattern cement tile roof called Art Loc shingles. – *Sharon R. Ferraro, Historic Preservation Coordinator, Kalamazoo, Michigan*

Asbestos shingles as originally created functioned as a less expensive substitute for slate. As with the replacement of any roofing, when an exact match for the original is not reasonable or even possible it is important to step back and assess the salient characteristics of the roofing to be replaced (pattern, texture, color, etc.) In terms of texture I think it is usually more important to see this at the macro level as created by the exposure and width of the shingle and its thickness, not the surface of the shingle itself, which is often not readily perceived when viewed from the ground. Asbestos shingles were very thin, thus not producing very strong shadow lines at each course. They were also installed very close together minimizing the distinction between individual shingles. Whereas



Credit: Melissa Shumake

Front porch roof showing detail of roof tiles.

real slate can be installed with little or no spacing between shingles, all of the polymer-based synthetic slates require a substantial gap between each shingle for expansion, thus giving a great deal more texture to the roof. Most also have molded edges to simulate the way slate breaks when it is cut adding further three-dimensionality to the overall assembly. A thin, real slate might be as good a choice as there is, but an expensive one. A three-tab version of a modern fiberglass/asphalt shingle would have the thin crisp butt line of this roof but more distinction between individual tabs. This roof has very little texture, and most modern roofing attempts to create the appearance of more texture than the roofing actually has. I don't think there is an ideal choice for a roof like this, but the

ⁱ <https://archive.org/search.php?query=asbestos%20shingles&sin=TXT>

ⁱⁱ <https://www.daltile.com/roofing/opulent-slate>

ⁱⁱⁱ <https://www.gaf.com/en-us/roofing-products/other-building-materials/fiber-cement-siding>

^{iv} <https://archive.org/details/Johns-manvilleCorrugatedAndFlatTransite> "Focus on Formstone," *The Rowhouse Times*, (Baltimore: Peale Museum, 1981), 8.

^v <https://books.google.com/books?id=RZI0D2q3FKUC&pg=PA54&lpg=PA54&dq=diamond-shaped+fiber+cement+roofing+shingles&source=bl&ots=wsPOS6Q4VG&sig=ACfU3U1Otw5ix5ic7FTG9IOjmvXbf1WIA&hl=en&sa=X&ved=2ahUKEwii-oTN8-PhAhUllKwKHYOYCIY4ChDoATAgGegQlChAB#v=onepage&q=diamond-shaped%20fiber%20cement%20roofing%20shingles&f=false> Charles Cohen, "A faux phenomenon," *Baltimore Business Journal*, February 11, 2000.

^{vi} <http://www.archiexpo.com/prod/cembritlimited/product-83030-995579.html>

^{vii} <http://www.rooftileguru.com/Tiles-Asbestos-Individual.asp>

best compromise will be reached by making the visual evaluation from the vantage point of the ground when comparing available materials. – John Sandor, *Technical Preservation Services, National Park Service*

And finally Melissa, you may want to contact The Roof Tile Guru^{vii} in Greenbank, Washington. He has a number of different tile styles identified online and can be a good source for some replacement tile. Perhaps your property owner can find some pieces to replace the broken ones on the roof and not do a wholesale roof replacement. That might be the ideal solution. If you have any additional information that might be helpful, please feel free to contact her at mshumake@wallawallawa.gov.

To learn more about NAPC membership and joining the NAPC-L go to <https://napcommissions.org/napc-l/> ■



Credit: Melissa Shumake

Closeup of roof tiles indicating thinness of the tile.

SPOTLIGHT On A Preservation Organization: The Preservation Trades Network, Ghent, New York

The Preservation Trades Network (PTN) was born out of the Association for Preservation Technology conference in 1995, when a small group of contractors, educators, and preservation specialists came together for an ad hoc roundtable discussion on the preservation trades. Initially serving as a task force, the Preservation Trades Network aimed to bring recognition to tradespeople and contractors as important players in the preservation industry. Meetings throughout 1996 made clear the unique opportunity to bring together practitioners from a diversity of trades, "tools in hand," to network and share their skills, an experience not previously offered in academic conference settings.

Today PTN is a nonprofit organization with a powerful mission "to empower the traditional building trades through network, good works,



community, fellowship and education." The organization's website allows registration for expos and workshops, some in other parts of the world, promoting opportunities for a "gathering of the trades." Interested parties can view the latest news on their blog or read publications from PTN partners such as "Introducing Preservation Trades to Highschool Students." The PTN website also provides a comprehensive list of training and degree programs, internships, and field schools for those seeking to learn a traditional building trade. PTN offers a number of scholarship opportunities to further encourage and expand the preservation trades community.

Don't miss out on the 23rd Annual International Preservation Trades Workshop, September 5 - 7, 2019 in Stirling, Scotland! And to learn more about the Preservation Trades Network, please visit their website: <http://ptn.org/about>. ■



STAFF PROFILE



BRIAN J. CARTER

Tell us about the agency you currently work for.

4Culture is a public agency serving the people of King County, Washington, by supporting arts, heritage, historic preservation, and public art. We receive lodging taxes and "1% for Art" revenue; we channel these funds into public exhibitions and performances, interpretation of local history, and preservation of significant sites. We also commission and manage art in public spaces. Through our Preservation program, 4Culture recognizes that historic buildings, sites, neighborhoods, and landscapes are fundamental to a community's unique identity. Such resources connect us to the past, enrich our quality of life, and bolster a sustainable economy. Through grant-making, 4Culture supports and promotes the stewardship of King County's irreplaceable historic places.

How did you enter the field?

I began my career as a founding staff member of the Northwest African American Museum in

Seattle. This museum was housed in the historic 1909 Jacobean-style brick Colman Elementary School. The school had served as a center of learning for countless African American children and families in Seattle. When the building was threatened with demolition, community activists stepped forward to occupy the space, preventing its teardown. This group called for the school to be reimagined as a museum and cultural gathering space serving the needs of its surrounding community. After decades of protest, fundraising, planning, and political maneuvering, the Northwest African American Museum opened its doors in March 2008. An essential part of the Museum's creation was the designation of the Colman Elementary School as a City of Seattle landmark. My charge as Deputy Director and Curator was not only to explore the art, history, and culture of the Black experience, but also to protect this historic building that carried the narratives of the community within its very walls. From that point on, I understood the vital role the built environment plays and my responsibility to understand the value and importance of historic preservation.

Give us some background on your program's activities.

4Culture supports historic preservation county-wide. In Seattle, there are over 400 designated landmarks, and eight historic districts. The King County Historic Preservation Program administers 126 landmarks and eight historic districts in multiple jurisdictions. Our funding is available to support planning and rehabilitation projects associated with these landmarks. Our grant programs can also fund surveys, landmark nominations, educational programs, and advocacy campaigns. Finally, we offer unrestricted, annual operating support to 25



Credit: King Solomon Masonic Temple Association

Auburn Masonic Temple storefront restoration project, funded in part by 4Culture.

preservation organizations and municipalities throughout King County.

What are the most notable accomplishments of your program recently?

In 2015 we were able to infuse additional funding into historic preservation through the Building for Culture program, which provided over \$2 million in grant funding for the rehabilitation of historic buildings. At the same time, we initiated the Preservation Action Fund, a revolving fund to support the acquisition and rehabilitation of endangered historic places. The Preservation Action Fund Advisory Team also includes Historic Seattle, the Washington Trust for Historic Preservation, and the King County Historic Preservation Program. We are excited that the Preservation Action Fund gives us a new tool to proactively intervene to save important resources.

What are the biggest challenges currently facing your program?

A challenge to our program – and to historic preservation more generally in our region – is the intense development and affordability pressure we face. The role of preservation in managing this change is sometimes contentious, but we feel strongly that there are places and histories that are too important to lose, even as we remake our neighborhoods, cities, and landscapes to accommodate a growing population. We find that increasingly, preservation intersects with issues of gentrification and displacement, especially in lower-income communities and communities of color.

How is your program equipped to deal with these challenges?

4Culture assembled a coalition of preservation professionals and advocates to explore and



Credit: Steamer Virginia V Foundation

SS VIRGINIA V on South Lake Union, a recipient of 4Culture grant funding.

elevate the issue of equity in historic preservation. This working group – dubbed Beyond Integrity – believes it is important to look beyond architectural style and integrity when assessing the value of a place. Places that are important to under-represented communities don’t always fare well in traditional historic preservation processes. We want these communities to have a seat at the table in determining what we preserve.

Have there been recent changes to funding or staffing with your program?

In 2016, we were able to grow both our Heritage and Preservation programs, which had previously been staffed by 1 full time and 1 half time employee, to each include 2 full time staff. In 2018, I moved from the Heritage Lead position to Executive Director. In addition, this will be the fourth year that we have offered a paid summer internship to a graduate student or recent graduate, working with 4Culture staff and faculty at

the University of Washington’s College of Built Environments, with a focus on equity in historic preservation.

What kinds of partnerships do you have with other preservation or municipal organizations?

We work closely with other preservation organizations and municipalities. Several jurisdictions have their own preservation programs and regulations. In addition, 23 cities in the county have interlocal agreements with King County for preservation services. These cities have passed historic preservation ordinances and have agreements with the county to manage landmark designation processes and design review. A strength of King County is the number of heritage organizations and nonprofits dedicated to preservation. Among these, we have partnered with Historic Seattle and the Washington Trust for Historic Preservation on programs, and our grants have supported the efforts of many heritage organizations involved

in surveys, landmark nominations, and advocacy efforts.

Are there innovative or unique features about your program?

4Culture is fairly unique in that we make grant funding available for historic preservation to both public and private entities. Our county also offers a property tax incentive for the rehabilitation of historic properties, but the availability of grants on an annual basis can help make landmark designation more appealing to property owners. Our Landmarks Capital grants range up to \$30,000, and property owners can apply again in subsequent years. We also provide funding and develop partnerships to fill gaps that we identify in the preservation field. For example, Vets Restore was an innovative program developed by 4Culture, partnering with Historic Seattle and the King County Veterans' Program, to provide a unique education and career opportunity for military veterans living in King County. Participants were introduced to the

construction field with a specialization in historic building renovation and preservation carpentry. 4Culture provided program oversight and development, while our partners provided a site for the intensive practicums, program intake, support services, and wages. Historic Seattle took over management and re-development of this training program in 2016, in order to offer this specialized type of hands-on training experience in preservation trades to a broader audience.

Have you had a CAMP in your community?

There was a short course offered in conjunction with the Main Street Now Conference in Seattle on March 24, 2019.

Anything else you'd like to tell our readers?

We would encourage other jurisdictions to consider how lodging tax revenues could be leveraged to support historic preservation in their communities. This has been a very powerful tool to spur preservation activity in King County. ■



Credit: Brandee Beau Photography

2014 Vets Restore Graduation Ceremony, Washington Hall, Seattle.

ALABAMA

Residents of Opelika started an online petition calling for the removal of an exemption to a historic preservation ordinance that excludes oversight for churches in the city's three historic districts. The Opelika Historical Preservation Commission wanted the exemption removed following demolitions made during the First Presbyterian Church of Opelika's expansion last year and St. Mary of the Mission's recent acquisition of the historic Renfro-Andrus House. The Opelika City Council recently approved changes to the preservation ordinances in the city's three historic districts. As a result, properties acquired by religious organizations after the effective date will now require oversight from the Opelika Historic Commission. The council created an exemption for churches in its historic preservation ordinances in 2000. All other property owners in the three historic districts – the Northside Opelika Historic District, the Downtown Historic District and the Geneva Street Opelika Historic District – must acquire a certificate of appropriateness before either changing the exterior appearance of their building or completely tearing the building down. Going forward, any property purchased by a religious organization within one of the historic districts will be under the same scrutiny as all other property in the districts. (*Opelika-Auburn News*)

FLORIDA

Fort Pierce City Commission's attempt to lessen the authority of the Board of Adjustment and the Historic Preservation Commission stalled recently. The City Commission wants to remove the quasi-judicial role of the Board of Adjustment and Historic Preservation Commission by making them advisory boards to the streamline development review process. The change means the City Commission would have the final say in development projects and whether a building in a historic district followed the design code for that area. The Historic Preservation Commission is responsible for making sure development projects in the city's historic areas blend with the character of that area. The Board of Adjustment hears requests from property owners to use their land in a way that is not typically allowed by the land development code. Retooling the function of the Board of Adjustment and Historic Preservation Commission comes when downtown could see at least two new developments, a restaurant and a mixed-use commercial development with a hotel. (*Treasure Coast Palm*)

MARYLAND

Plans are underway for a mosaic that would be 15 by 20 feet and would take up a total of 300 square feet on the west side of historic Whitehill Row in downtown Frederick. The mural has sparked some concerns from the city's Historic Preservation Commission because the mosaic would include colored glass or stone, attached to 20 separate concrete panels that would then be anchored into the mortar joints between the bricks that make up the historic building. The owner originally proposed a smaller mural but increased the size at the suggestion of the Frederick Public Art Commission. He is paying for the artwork himself, because he wanted to see vibrant artwork in an often neglected corner of the city. The Commission expressed concern about how the mosaic would be anchored to the structure and how much additional weight the panels would put on the wall. Some commissioners were also concerned that the mosaic took away too much from a "character-defining feature" of the historic building. A final decision has not been made by the commission. (*Frederick News Post*)

MONTANA

The Missoula Historic Preservation Commission celebrated five local businesses that opened their doors more than 100 years ago. "So many people think historic preservation is just old buildings," said Emy Scherrer, historic preservation officer for the City of Missoula. "But these legacy businesses are vital pieces of our local heritage." The businesses include Caras Nursery & Landscape, started in 1896 and still in the same location. Bill Caras, the current owner, is the grandson of the founder, a Greek immigrant. The Union Club Bar and Grill, also started in 1896, started as a local headquarters for unions. The current building was constructed in 1917. Missoula Textile Services started in 1908, was founded by Joseph Hagen, the son of Swiss immigrants. Originally called Model Laundry, it has been in its current location since 1945. Bob Ward's Sports & Outdoors was founded in 1917 when Robert C. Ward was on his way to find gold in the Klondike region. He ran out of money in Missoula, but a family friend owned a jewelry shop and offered him a job. A decade later he opened his own business and the company has been owned and operated by four generations of Wards. Office City was founded in 1916 as The Office Supply Co. by former Montana governor Joseph Dixon. It became a local staple as it catered to local businesses and was situated in the old Florence Hotel. In 1995, the business became a part of the Office City national chain but is still locally owned. (*Missoulain*)

NEW JERSEY

A Morristown law won't save historic structures from the wrecking ball. But it may buy enough time to beg for a reprieve or at least, to document what is being lost. Responding to neighbors' concerns about a tear-down in the town's Historic District, and to stories about razed estates in Montclair, the town council voted 4-0 to introduce a measure requiring applicants to submit their demolition plans for review by the town Historic Preservation Commission. If approved, the ordinance will impose a nine-month timeout, superseding a six-month moratorium on demolitions declared in March by Mayor Tim Dougherty. In such cases, the town zoning officer may deny a demolition permit. The applicant then may appeal to the town zoning board. If the board upholds a denial, the applicant must wait nine months before proceeding with demolition. Additionally, the applicant must show he or she worked with the Historic Preservation Commission to evaluate viable alternatives to demolition, made good faith attempts to sell or rent the property at fair market value, and allowed the commission to photograph the building inside and out and collect related historical records. Advance notice of the demolition must be advertised. Violations come with penalties escalating from \$500 to \$2,000 per day, and up to 90 days in jail. If a building is demolished without satisfying these requirements, the town may deny a building permit for five years. The commission is strictly an advisory body, with no enforcement powers. (*Morristown Green*)

TEXAS

Austin's Historic Landmark Commission has approved using milled steel rods as replacement parts on 12 of the city's iconic moon towers, sometimes known as moonlight towers. Austin Energy is overseeing restoration efforts of the towers. So far, five of the city's 17 remaining towers have been restored. The work stalled last year after contractors ran out of original replacement parts salvaged from two towers that had been taken down due to nearby construction. The 125-year-old structures are 165 feet tall and provide a 1500 foot radius light circle that is bright enough to read by. There have been concerns about how well the new parts will match the original structures. City staff is also working on a strategy to inform how the original and replacement parts are interspersed in the towers. The proposal

still needs approval from the Texas Historical Commission because the towers are designated state historic landmarks and on the National Register of Historic Places. Austin is the only city in the world that still has moon towers. (*Austin Monitor*)

WISCONSIN

The owners of Forward Madison FC and managers of its home field want to build 11 field-level suites that would be on the side of Breese Stevens Field, a 1926 masonry grandstand in downtown Madison. The Madison Landmarks Commission unanimously approved a proposal by the operator of Breese Stevens Field, to build suites at the stadium for soccer games. But that proposal wasn't what was originally envisioned. City staff recommended the commission deny its proposal, saying the original proposal's structures didn't meet historic preservation requirements and would have been too visible from East Washington Avenue. But the operator of the field made changes to better match the stadium's character, and ultimately the commission approved the proposal. Those changes, like switching from a vinyl roof to a metal one matching the reddish-brown roof of the press box, going from white walls to tan and painting the framing brown to match the stadium's grandstand will look better than the original proposal. The operators agreed the changes resulted in a better end-product. The changes are among many being made for the city's new professional soccer team. Other upgrades to the historic stadium include a new concession area, bathrooms, team store, scoreboard and locker rooms. (*Wisconsin State Journal*)



NATIONAL
ALLIANCE of
PRESERVATION
COMMISSIONS
education + advocacy + training

Support NAPC and our mission of building strong local preservation programs through education, advocacy, and training by joining and becoming a member.

<https://napcommissions.org/join/>

The Alliance Review

National Alliance of Preservation Commissions
PO Box 1011
Virginia Beach, VA 23451

PRESORTED
First Class MAIL
US Postage Paid
Norfolk, VA
Permit 25

You can also join online at <http://napcommissions.org/join>

JOIN NAPC TODAY

Name			
Commission/Organization			
Address			
City	State	Zip	
Phone/Fax	E-mail		
How did you hear about NAPC?			

Become part of the national network of local preservation, historic district, and landmark commissions and boards of architectural review. Organized to help local preservation programs succeed through education, advocacy, and training, the National Alliance of Preservation Commissions is the only national nonprofit organization dedicated to local preservation commissions and their work. NAPC is a source of information and support for local commissions and serves as a unifying body giving them a national voice. As a member of NAPC, you will benefit from the experience and ideas of communities throughout the United States working to protect historic districts and landmarks through local legislation, education, and advocacy.

\$30.00

THE ALLIANCE REVIEW GREEN FEE

Please include this Green Fee in addition to the membership fees above to receive a quarterly, print version of *The Alliance Review* in the mail.

\$20.00

- Student

\$35.00

- Individual Membership

\$50.00

- Commissions: Municipal/county population less than 5,000*
- Local nonprofit organizations

\$100

- Commissions: Municipal/county population of 5,000 to 50,000*
- Regional or statewide nonprofit organizations

\$150

- Commissions: Municipal/county population greater than 50,000*
- State Historic Preservation Offices
- Federal Agencies
- National nonprofit organizations

MEMBERSHIP CATEGORIES

\$150 PROFESSIONAL NETWORK

- Consultants /Consulting Firms
- Businesses/Companies
- Other Professional Services

In addition to receiving all NAPC membership benefits, Professional members are listed in the NAPC Professional Network Directory at <http://napcommissions.org/directory>.

** Membership includes all commission members and staff. Please provide complete list of members with names, phone numbers and email address for additional digital copies.*

PREMIUM MEMBERSHIP

Half of all premium membership dues support NAPC's student internship and Forum scholarship programs

☐ **\$250 CHAIRS CIRCLE**

☐ **\$500 FOUNDERS CIRCLE**

PROFESSIONAL NETWORK

Please return this form with payment to NAPC: PO Box 1011, Virginia Beach, VA 23451