Museum Restorations

UNIVERSITY DESIGN

Art Deco Concrete

Interview with preservationist Jean Carroon

TUCK POINTING
CONTENTS

36 Fortified for the Future
Finegold Alexander Architects resurrects Boston University’s iconic Castle to serve as the Dahod Family Alumni Center.

42 Admission Standards
Robert A.M. Stern Architects designs a university welcome center with a presence that creates a whole new approach to the campus.

46 A House Reawakened
One of the capital’s oldest and most prestigious homes, the Decatur House has been remade—in its own image.

50 Buried by Vesuvius: Treasures from the Villa dei Papiri
At the Getty Villa through October 28, 2019

54 Making the Grade
PFA Architects restores an iconic southern high school to impeccable standards.

INDUSTRY NEWS

6 Traditional Building Conference Series and Our New Advisory Board

INTERVIEW

8 Reinvesting in History
Architect Jean Carroon says a healthy world values and uses what already exists—including buildings.

THE TRADES

14 Artistry in Iron
New college gates are worth Yellin about.

HISTORIC MATERIALS

18 The Hard Truth
With uses that range from utilitarian to decorative, concrete has been the building material of choice for centuries.

TECHNIQUES

22 A Contractor’s Perspective
Trades, technology, and teamwork on the Phillips Collection project.

SKETCHBOOK

24 On Columns, Classicism, and Creativity
How should our buildings look today?

PRODUCTS IN-DEPTH

30 Safer Windows for a Signature Museum
Blast resistance adds another twist to building reproduction windows.

LAST PAGE

80 Nip & Tuck
What is tuckpointing?

BUYING GUIDES

Historical Products Showcase ............... 60
Columns, Capitals & Balustrades ............ 63
Metal & Wood Windows .................... 64
Inlays, Mosaics & Parquet Flooring .......... 68
Decorative Painting, Murals & Gilding ........ 71
Exterior Molded Ornament ................... 72
Exterior & Gas Lighting ..................... 74
Ornamental Metalwork ...................... 78
FREE INFORMATION GUIDE .......... 58
WHY HARTLEY

Every Hartley Botanic Glasshouse is handmade in the North of England to your exact requirements. It is made of the finest materials with unparalleled durability, safety and beauty. All of our sections have a structural purpose. We never take short cuts by ‘sticking’ aluminium to glass for aesthetic reasons. We are so confident of the structural integrity of our Greenhouses; we offer a Lifetime Guarantee.

For more information please call 781 933 1993 or visit www.hartley-botanic.com

NOTHING ELSE IS A HARTLEY

The only aluminium Glasshouses and Greenhouses endorsed by the RHS

© The Royal Horticultural Society 2018 Endorsed by the Royal Horticultural Society. Registered Charity No. 222879(SC038262) rhs.org.uk
For more than a century, Hope’s has crafted the world's finest solid steel and bronze windows and doors. Hope’s exclusive hot-rolled steel profiles maintain the traditional aesthetic of historic buildings while upgrading performance and efficiency to modern standards. These profiles, along with unique glazing beads and muntin bars, are specially designed to replicate early steel window elements such as putty glazing and slim historic sightlines for beautifully enduring views to the past, present, and future.
NEW! Advisory Board

New this year, please welcome our Traditional Building Advisory Board! This esteemed group of architects will participate in surveys, gather for our focus groups, and help us vet editorial ideas.

THE ASSOCIATION FOR PRESERVATION TECHNOLOGY INTERNATIONAL (APTI)
MIAMI 2019 CONFERENCE
INTERCONTINENTAL MIAMI HOTEL
MIAMI, FLORIDA
NOVEMBER 19-23

Attend engaging sessions, workshops, and a symposium where they delve into the most pressing issues affecting 21st century preservation and conservation.

2019 Conference Themes Include:
- Effects of Climate Change in Warm Weather Coastal Regions
- Sustainability and Conservation of Built Heritage in the Americas
- Conservation of modern and post-modern heritage
- Diversity, Population Change, and Gentrification in the Preservation Dialogue

Visit APTI.org for details.

COME TO THE NEXT ...

GRAYLYN ESTATE, WINSTON SALEM, NC | OCTOBER 29-30

Topics include a panel discussion on window fabrication, window repair techniques, diagnosing and repairing stone tracery windows, windows and codes, and tours including sites in Winston-Salem with an emphasis on window projects. Details and registration: TraditionalBuildingShow.com or call 802-674-6752 to inquire about the educational programs.
Quiet.
Safe.
Timeless.

Renwick Gallery of the Smithsonian
American Art Museum, Washington, DC

The Ramble Hotel, Denver, CO

Schmidt Brewery Artist Lofts, St. Paul, MN
Reinvesting in History

Architect Jean Carroon says a healthy world values and uses what already exists—including buildings.

“I reuse buildings,” comments architect Jean Carroon when asked what it means to be sustainability-focused in the 21st century. “Why focus on the smallest objects? Let’s focus on our biggest objects, and reuse those.” With sustainability a hot topic, Carroon pushes the conversation beyond heritage to one of equity and stewardship by emphasizing the need to take a second look at existing buildings—

from landmarks like Trinity Church in the City of Boston (National Historic Landmark), an ongoing, large-scale renovation and restoration project spearheaded by Carroon and the Boston-based firm Goody Clancy, to less recognized structures like a local theater or residential building.

“We still have systems and attitudes that are quick to demolish and build something new, but it’s really all about existing buildings and we have to use what we have more effectively,” says Carroon while stressing that renewal must be extremely careful and never rushed. “Sometimes it’s hard to figure out what to do with the buildings, but if you hang around them long enough, they sort of sort themselves out.” Carroon’s projects focus on the reinvestment in history, structure, and relevance, while combining sustainability with restoration. For her, buildings are more than just structures, they are “art—building communities and lifting spirits.”

Carroon is a fellow of both the American Institute of Architects and the LEED program of the U.S. Green Building Council. She has served as a peer reviewer in the Design Excellence Program of the General Services Administration since 2008.
Since 1982, Parrett has offered a high quality product that is produced using the highest grade materials along with meticulous craftsmanship. Whether we manufacture using our standard parts and profiles, or if we build to your specification, you can count on Parrett quality and durability.
Many people look at heritage preservation/restoration as something that is preserving the past, but for you preservation/restoration takes into account the future. What do you mean by that?

I believe we have a responsibility to prepare existing and heritage buildings for the future—examples are preparations for climate change, like flood protection, or increasing the size of downspouts to handle more rain, or moving building systems to all electrical, anticipating a greening grid.

You literally wrote the book on sustainable preservation, Sustainable Preservation: Greening Existing Buildings. In your words, what is “Greening existing buildings”? “Greening” is a term that many use to define making a building or object more environmentally responsible, but it is also about making existing buildings (and the world) healthier places to work and live. We really have to live differently on the planet not just in the micro but also in the macro.

How can ways of thinking be implemented to become part of our natural way of thinking about urban planning?

I think it is a very exciting time. The dire data of what we are doing to the planet and to ourselves (through toxicity of our energy sources, materials, and waste) seems to be gaining traction. The “sustainability” conversation is expanding, as it should, to be about health and well-being, tying into conversations about urban living, which is where the largest percentage of population will be going forward. Take a look at the Reurbanism Atlas (National Trust for Historic Preservation), which uses overlays of data to understand economic activity in relation to building age and building energy use. Our ability to analyze how we live is going to be increasing exponentially. We can measure what green roofs and green alleys can do for heat island effect. We can measure health impacts of transportation choices. We recently modeled the sun patterns and heat gain on an existing building and it allowed us to make smarter choices about windows, understanding that not all windows on the building had the same performance requirements. It’s very exciting. We’re also seeing an upsurge in analysis of environmental impacts from consumption and waste including building construction. I am very optimistic that this will inevitably lead to placing more value on existing buildings because a healthy world values and uses what already exists.
Kolbe’s Ultra Series doors and Majesta® windows were key to achieving the new building’s aesthetic and LEED® Gold criteria. Custom shaped window units contour the Georgian details of the large exterior doors to successfully meet architectural specifications. Brickmould, custom divided lites, and color-matched finishes coordinate with the historic details and character of the campus.

To view the full project profile visit kolbewindows.com/DePauw | 800.955.8177

“Not only was Kolbe Windows & Doors able to produce both the windows and exterior doors so that both components were complementary, they were able to produce the extremely large windows that our design required.”

Hoover Hall, DePauw University | Greencastle, IN
You mentioned that when you work on a project you have a master plan for the building for near future and long-term future? Can you give some examples? Actually, this is not always true. It depends on the owner. Trinity Church in the City of Boston has always done this; it is an example of true stewardship. After each phase of work for the church, they have asked us to create a master plan that looks into the future—roughly 30-40 years, but with the long game in mind. They are very aware that they are stewarding a building that we hope will welcome and inspire people for centuries to come.

How can [the circumstances of] Notre Dame set an example for the future? The example should be one of thoughtful, careful research and decision-making. Most heritage architects I know are very concerned by the goal of completion in five years. There is a long path of evaluation and consideration of options, including material selections and building systems.

PERRY HALL HISTORIC FRONT
Champlain College
Durable, easily cleaned materials and The 1860’s house is carefully flanked by the new addition to support the historic residential character of the neighborhood.

PERRY HALL REAR ADDITIONS
Champlain College
The two new wings flank the historic house and have views to Lake Champlain and a constructed wetland.
Gates, fences and railings just got a re-boot!

King Metals’ new line of contemporary forgings gives a simpler choice to your gate, banister or railing projects. The clean lines & shapes are a perfect fit to any home projects or renovations. Call King Metals today to get started!

TAKE 10% Off
Catalog Prices thru August!

Just use promo code: TB10 when you checkout!

Offer excludes commodity steel and custom plasma. Can not be combined with any other offer. Sale ends 08/31/19.
Artistry in Iron

New college gates are worth Yellin about.

The entrance gates for the two new colleges at Yale University are striking examples of the traditional metalworkers' art, with ornamental design—historic and new—plus 21st-century functionality all wrought together.

As Zoltan Kovacs of Covax Design in Clifton, New Jersey, recalls, the gates' pre-history dates back years before any actual forging. "While I was working for a French company, Les Metalliers Champenois, I was involved as a consultant to Robert A.M. Stern Architects (RAMSA), the architects of the new Pauli Murray and Benjamin Franklin colleges. We studied the existing gates at Yale, looking very closely at the materials and the style applied to each gate."

Based on these studies and sketches, Kovacs' company fine-tuned the design supplied by the architects, as well as devised automation (openers, etc.), proposed locking systems, and other access equipment for all the gates.

The gates and the colleges themselves were put on hold until after 2013 when the drawings went public for bidding. "Many, many talented artists and blacksmiths from the US and I believe Europe bid on the project. But you know, even if you have a detailed architectural drawing, the same metalwork can be priced from $10,000 to $100,000, depending upon how you execute the work."

Ultimately, Covax was awarded the commission for the design and fabrication of the four largest and most ornate gates—including the entrances to Pauli Murray and Benjamin Franklin colleges—as well as the design of five smaller gates on less prominent facades executed by another company.

Kovacs, who is a metallurgical engineer by training, speculates that the added value his company brought to the work may have clinched the project. "Basically, these gates were fabricated by three Hungarians—Szabolcs Nemeth, Gabor Szombathy, and myself—who are all Eastern European-trained artist/blacksmiths, and from a school of knowledge very similar to Samuel Yellin's."

The work of Samuel Yellin, the legendary early 20th-century master blacksmith and
We Specialize in Architectural Accents and All Natural Stone

2018 Palladio Awards: Restoration/Renovation Project: Cunningham
Winner: T.S. Adams Studio, Architects
Masonry: Aztec Stone Empire, Norcross, GA

AZTEC STONE EMPIRE

770-368-9337
5055 Buford Highway  Norcross, GA 30071
metalwork designer, is hard to miss in light fixtures and gates throughout the historic Yale campus. Though Yellin’s shop was in Philadelphia, he learned his craft in Ukraine, and Kovacs suspects that 70 percent of the 240-odd blacksmiths working for Yellin at his peak were Eastern Europeans. “French, English, or German forging is totally different than the way Polish, Czech, Hungarian, or Ukrainian blacksmiths work,” he says. “It’s not just the different styles of design, but the hammer strokes; how they roll a scroll, how they forge; how they assemble elements. It’s recognizable.”

Kovacs adds that their goal was not to copy Yellin, but to put their own “knowledge” into the gates. “Even though he used different styles, and some designs are lighter, they are all recognizable as Yellin gates. If you put Yellin’s original gates and our gates next to each other, there is a very similar feeling in line of design, so I would say Yellin was a huge influence.”

Nonetheless, the gates incorporate many original figural and abstract elements that tie into the University and local symbolism. “The elm leaves, and the white oak leaves, which we’ve stylized, are references to New Haven, which is the Elm City, and the Connecticut state tree. The Mountain Laurel is the Connecticut state flower. On what we called Gate Number Four, the entrance to Pauli Murray College, we used two robins—also the state bird—sitting on a branch. And at the top there is a sperm whale, which is the Connecticut state mammal as well as the nickname of the nearby Saarinen-designed Ingalls Hockey Rink.”

When it came to fabrication, Kovacs says he would have loved to use Monel metal, a corrosion-resistant alloy of nickel and copper much admired in the 1920s. “Yellin did gates in Monel but budget-wise it was not our material of choice.” Traditional wrought iron was in the same category: very expensive and only available as a reclaimed material. “So
what we used is a regular mild steel, cold-rolled and hot rolled, but with all elements forged by hand in a traditional manner. There are no off-the-shelf parts in the gates.” They used nuts and bolts but mostly the gates are riveted, which is part of the ornamentation.

Needless to say, the gates are quite large, with dimensions that vary around 4 feet by 7 feet for each gate leaf and heights about 10 feet to the tip of the gate overthrow. Weight was significant. “The gate for Benjamin Franklin College, which is filled with scrollwork, is the heaviest at about 1,600 pounds for one leaf, but it swings and operates very smoothly.” Kovacs says the main, bottom bearings came from another supplier, but the top journals are theirs. “It’s a very simple, traditional, forged bearing to which we added some oil bronze inserts so it will rotate much smoother and last longer.”

Apart from the drawings, materials, and samples, Kovacs says the four gates took about 14 months to build, including painting. “We try to do everything traditionally, everything by hand. Even the welds are hand-forged together.”

GORDON H. BOCK is an architectural historian, instructor with the National Preservation Institute (www.npi.org), and speaker through www.gordonbock.com.
Concrete is a monolithic mixture of cement, aggregate, and water that can be poured flat or into raised forms on the jobsite (formed-in-place). Modern cement is typically Portland cement, and the curing time to full strength is 28 days. For the purposes of this article, the focus will be on the formation and repair of cast-in-place concrete. (Precast concrete is fabricated in reusable forms offsite and not covered in this article.)

### HISTORY
The history of the formation and usage of concrete is very long and has gaps and parallel discoveries continents apart. Relevant to North America, the first manmade cement was created by Englishman Joseph Aspdin, who burned powdered limestone and clay in his kitchen stove in the 19th century to make what he named “Portland” cement. This invention evolved into bagged cement, which could be shipped and mixed onsite.

Today in the 21st century, cement is manufactured through a closely controlled chemical combination of calcium and silica, with small amounts of such naturally occurring elements as aluminum, iron, and magnesium found in the limestone. Making cement is a dry method, which starts with quarrying and collecting the principal raw materials.
The calcium component is derived from limestone, along with shells, chalk, or marl that is combined with shale and clay and crushed. This mixture is placed in a rotary kiln at 2700°F. (See Figure 1) The burning converts the mix to “clinker.” Once cooled, clinker is finely ground to a powder and the resultant cement is mixed with sand and coarser aggregate. When water is added, the cement hydrates and forms a binder for the sand and aggregate, curing the whole into what is known as concrete. Concrete started off as a utilitarian material, being used in roads, dams, and bridges. Over time, it was utilized for building elements such as posts and beams, floor slabs and bearing walls, and as back-up for masonry. Around the 1900s, it began to be used for entire buildings as the exposed finished appearance.

INSTALLATION METHODS

Poured-in-place concrete uses forms fabricated to the desired configuration from wood, steel, or fiberglass. The material and the fabrication of the formwork play a large part in the final appearance. The resulting appearance can leave exposed form tie holes and seams visible, or the surface can be smoothed out with a thin, cement-based parget coat for a more refined appearance. Further, the form can be designed to provide dimensional thickness resulting in a decorative pattern such as woodgrain, patterns, or even “fins” that can be broken off to make an alternating rough/smooth appearance.

STRENGTHS AND WEAKNESSES

In compression, concrete is very strong. It also meets the air barrier requirements of ASHRAE 90.1 and the 2012 International Energy Code. The downside is that it is very weak in tension—thus the introduction of steel reinforcement, which provides the tensile support. The drawback of reinforcing steel is possible corrosion due to several processes, which results in damage to the concrete, as explained below.

TYPICAL FAILURE METHODS

Concrete can crack due to building differential movement or insufficient design. This can cause a structural issue that could require an engineering repair solution. Shrinkage of the concrete as it dries, or a lack of control joints in the pour, could cause hairline cracks.

The curing process that hardens the concrete is a reaction wherein the calcium silicates in the cement combine with water to create calcium silicate hydrate, calcium hydrosxide, and heat. The resulting concrete has a high pH, which protects embedded reinforcing steel by limiting electrochemical transfer. Carbonation occurs as the concrete ages, a process that combines carbon dioxide with moisture in the concrete, creating carbonic acid. This lowers the pH to below 8.6, at which point electrochemical migration can occur between cathodes and anodes. The ferrous steel reinforcing bars, or rebar, can oxidize (rust) within the concrete due to this cathodic action, or due to shallow embedment, or moisture, which expands the cross section of the rebar. If it has sufficient embedment, the concrete will contain it. However, limited cover over the rebar permits the carbonation to reach the rebar more quickly, and with less concrete to resist the oxidation expansion, it leads to cracks, rust staining, and even pieces spalling off. (See Figure 3)

APPROACH TO REPAIRS

Survey the building, mapping all the damage found. Previous repairs should be documented as such and checked for soundness. Nondestructive testing, such as ultrasound or ground-penetrating radar are helpful in identifying non-homogeneous materials and internal distress. Cover meters can identify when the concrete has insufficient depth of coverage over the rebar. Where concrete is suspect, tap it lightly with a stainless-steel hammer. Where concrete has internal delaminations, it will sound “punky” or “soft.” Sound concrete will ring more musically. Identify localized damage that could be caused by an adjacent material, such as a handrail, or brick panels within the concrete.

Testing a shard of the concrete will identify components that comprise the concrete, such as proportions of the aggregate, sand, and cement. This information will reveal the concrete properties that you are trying to match, leading to a long-term, durable repair.

More invasive core testing can determine strength, petrography, chloride content, compressive strength, freeze/thaw properties, and the presence of carbonation. (See Figure 4) If the carbonated concrete is causing electrochemical attach on the rebar, there are ways to neutralize the field using cathodic protection, although this is a very expensive system which requires engineering. An alternate approach to deterring the carbonation process is to coat the concrete. This opens the coating discussion.
MAKE YOUR HOUSE YOUR DREAM HOME.
Locally owned, locally manufactured, nationally recognized since 1977.

www.cshardware.com  1170 N. Wauwatosa Rd.  Cedarburg, WI 53012  (800) 882-0009
To coat, or not to coat? That is the question. When the original architect designs a building later identified for concrete repairs, it is important to understand whether the concrete was intended to be the exposed original finish, or whether it had always had a coating. It is possible to match uncoated concrete with a lot of worthwhile effort, involving tinkering with the cement color, aggregate size, color, and exposure, and the surface texture. (See Figure 5)

When coatings are determined to be the appropriate solution, such as to arrest carbonation, it is important to ensure that there is a sound substrate. Applying a coating not previously in place will fundamentally change the historic appearance, and it is not reversible. Even a clear water repellent could alter the color or sheen, and it could also change the dew point in the wall. If there is already a coating on the building, it must be tested to ensure it is fully bonded, and the subsequent coating must be compatible with the substrate. (See Figure 6)

There are many types of repairs, depending on the symptom. First, the cause of the problem must be understood, then the cause must be treated before addressing the symptom. Once the cause is addressed, then the repair methods for the symptoms can be selected.

Where cracks are present, they permit water to enter. That moisture will freeze at low temperatures, expanding and causing further cracking of the substrate. If the cracks are not moving, they can be epoxy-injected or sealed with epoxy grout. If the cracks are active, they should be sealed with a more flexible material, such as a non-staining sealant, to permit the movement and prevent water ingress.

Where concrete has spalled and the rebar is exposed, the corroded rebar needs to be cleaned to bare metal and protectively coated to prevent further deterioration, before patching the concrete. If the rebar has experienced significant section loss, ideally, new rebar should be placed. Stainless steel is a good option to avoid future oxidation, if it is compatible galvanically with the existing rebar. If the spill is caused by the rebar being too close to the surface of the concrete, cut back the concrete to a sufficient depth to provide a repair with minimum recommended coverage of the rebar, as published by the American Concrete Institute (ACI). To replace the lost concrete, remove concrete at least ⅛-inch back from the rebar to provide a bond, key the edges of the patch, and roughen the concrete bonding surface. To form the patch, the surface of the form needs to match the surface texture of the concrete to be visually successful. (See Figure 7)

**WHAT TO DO / NOT DO**

Always approach the building holistically to ensure that the cause of the problem is understood, whether structural, moisture, movement, or cathodic deterioration. Once the cause is understood, address the cause to either remove it or mitigate it.

Avoid coating a building whose surface was never intended to be coated. It changes the building’s appearance and creates an ongoing maintenance issue. When a coating is required to address moisture issues or carbonation, ensure the coating has the right properties for water shedding, vapor permeance, color, and texture.

**ADDITIONAL RESOURCES:**

- www.cement.org/cement-concrete-applications/how-cement-is-made
- Preservation of Historic Concrete (Preservation Brief No. 15) by Paul Gaudette and Deborah Slaton

Cleaning Historic Concrete by Deborah Slaton
Concrete Repair Bulletin, January/February 2000

Guide to Concrete Repair (ACI 546R-14) by American Concrete Institute, September 2014

Sustainability for Repairing and Maintaining Concrete and Masonry Buildings by ICRI Committee 160, Sustainability

Concrete Problems Today are Multifactoral—Root Causes by Hamid Khan, Concrete Repair Bulletin January/February 2019


The History of Concrete by Nick Gromicko and Kenton Shepard © 2006-2019 InterNACHI

**SUSAN TURNER** is a Canadian architect specializing in historic preservation of national registered buildings. She is the Director of Architecture for The Tradesmen Group, a restoration contractor specializing in the repair and preservation of historic buildings. She can be reached at sturner@tradesmengroup.com
Endless Possibilities with Allied Window

- TARC Union Station - Louisville, KY
- Landmark Lofts - New Braunfels, TX
- Moody Mansion - Galveston, TX
- University of Arkansas, Faulkner Performing Arts Center - Fayetteville, AR
- Cincinnati Union Terminal - Cincinnati, OH
- Millicent Library - Fairhaven, MA
- The Motherhouse of Baxter Woods - Portland, ME

Allied Window, Inc.
11111 Canal Rd., Cincinnati, OH 45241
www.alliedwindow.com  800-445-5411

- Interior & Exterior Storm Windows
- Custom Colors
- Custom Screens & Special Shapes
- Historic, Residential & Commercial Buildings
- Energy Savings Approx. 50% - Sound Reduction up to 80%
On Columns, Classicism, and Creativity

How should our buildings look today?

Why do we choose to make our buildings look one way and not another? How should our buildings look?

Two different but related questions, the answers to which are many and difficult to tease apart, for architecture operates on many levels.

Today, many who regard themselves as classicists all too often answer “how should our buildings look” with a resounding: classically correct! This is understandable as 21st-century classicism is still operating in recovery mode. The lacuna of what we simplistically call modernism nearly broke the chain of tradition preceding it. In this regard, we are not unlike our Renaissance predecessors.

Through their attempts to understand Roman classicism, Renaissance architects codified a classicism free from “barbarous invention.” Yet in a mere century, design transformed from Rossellino’s chaste work in Pienza to Michelangelo’s ebullient designs for St. Peter’s. This oscillation between rational and emotional classicism would continue for centuries before being nearly exterminated.

Much emphasis in our renaissance has been placed on relearning the rules of classical architecture. Due in large part to the Renaissance, we see classical architecture as defined by five orders. Perhaps due to our quick-fix culture, we have not done as our Renaissance fathers did,
Complimentary design service
No cost job-specific client samples
No charge blanket-wrapped job site delivery

Handcrafted in New Hampshire
Available direct, nationwide
Industry leading on-time delivery

800-999-4994 • www.crown-point.com

TraditionalBuilding.com | 25
turning to origins, learning anew, letting that be transformative. Jeffrey L. Davis, founder and president of Chadsworth Columns reflects, “Classical Architecture to me is not just language—it is a rhythm. The rhythm of place. When you travel to Andalusia, Istanbul, or Petra, and see architecture rooted in the classical yet so changed by each place, you see interpretation and creativity.”

How can we look afresh at classical architecture? Rather than learning rules of how to correctly use the five orders, let us think instead of the orders operating in three primary ways: structural, formal, and symbolic.

Columns and beams can be the actual structure of a building, with the depth of a beam and the spacing between columns relating to suitable span to depth ratios. The columns and beams may also be analogous. For example, the visible ceiling beams may not be the actual beams holding up the floor above. Whether actual or analogous, the beams of a ceiling tell us something about the structure, like the pairing of columns on the Four Seasons Ocean Club [2], which make the wide bays appear more structurally stable.

Each design has issues it responds to or resolves through formal means. The classical orders are our primary means for making those resolutions. For example, imagine a long façade. The classical orders may be used to counter the deadening effects of a run-on façade by bringing more emphasis to the vertical. Additionally, through scale, proportion, and ornament, the formal composition helps develop the character we intend. The delicate columns around the altar at St. Joseph’s Cathedral chapel and the corresponding feeling of intimacy versus the soaring arches on columns at Holy Cross and the resultant grandeur [3], [4].

Finally, the classical orders, due to their use through history in common ways, are signifiers of meaning, whether through denotation or exemplification. For example, columns framing an opening with a pediment on top denotes entry, while the bulging entasis of a column exemplifies the gravity load [1], [5].
Old World Stone is a custom fabricator of dimensional cut stone for new and restoration work. For over 30 years, we have supplied property owners, masonry contractors and design professionals. Our work with limestone, sandstone and marble is unparalleled. We utilize leading edge 3-D scanning and robotic milling to complement our skills as Old World craftsmen.

Old World Craftsmanship ... New World Technology

Our old buildings tell our history. Elevate it, don’t rewrite it.

There are two things we believe in steadfastly: preservation of history & energy. Our elegant solution to both is window inserts, which practically disappear into window frames, but reduce carbon emissions dramatically. Using modern technology to transform historic spaces without changing a thing—it’s how we’re making the past a part of our future.
We often refer to classical architecture as a language. One that operates as structure, form, and content. There is much new to write with this language, a sentiment shared by Davis who recounts, “I attended the first ICAA Summer School in 1992 after I began Chadsworth and had been studying column proportions, wondering if there was a perfect formula. I was thinking about producing a fiberglass column to improve the industry standard and wanted ours to be the most correct. It was a revelation to realize afterward that it is a language.”

We know this language. We should worry less about rules. After all, which are the right rules? Let us learn more as children do, through imitation and imagination. Doing so, we may shake off the stupor of correctness and emerge into a new renaissance of the classical.

“It all starts with the architects. Those who understand classical architecture usually specify everything concerning the dimensions of the columns, requiring custom cutters for all profiles. When having to cut costs, they trust our top end columns and profiles we have developed over many years. Some want to specify all the profiles, have them made in wood, then produced in our PolyStone (FRP) material. We also have less expensive lines which modify some dimensions and allow a little less flexibility. Every column, every project is unique for us.” Jeffrey L. Davis, founder and president, Chadsworth Columns.

SOURCES
3. For more on denotation and exemplification as ways of symbolic reference, see the essays and books of Nelson Goodman, particularly *Languages of Art*, Hackett Publishing Company, Inc (1968)
Our extensive collection ranges from fine hand-finished wrought iron to richly grained stainless steel. Because we manufacture our products right here in the U.S., we are able to offer custom items such as curved bay windows or brackets sized specifically for your application.

View the complete Gaby’s Shoppe catalog online: www.gabys.com
1311 Dragon St. • Dallas, Texas 75207 • 1-800-239-4229

The leading manufacturer of decorative registers, grilles and vent covers.

Our uniquely crafted products are designed to give a home or commercial space the style, beauty and character you are looking for.

Low in price and high in quality • All Proudly made in the USA
Sold direct to the end user. We are NOT a reseller and do not sell to resellers.

www.pacificregisterco.com
(844) 487-7500 info@pacificregisterco.com
In 2018, a project was undertaken by the Phillips Collection, America’s first modern art museum, to upgrade the mechanical, electrical, and plumbing systems, improve access and egress, and update controls for climate and security in the 1897 mansion that had been built for D. Clinch Phillips, his wife, Eliza Laughlin Phillips, and their sons, James and Duncan.

Duncan Phillips and his mother founded the museum in the family home as the Phillips Memorial Gallery in 1921. A fourth floor with a mansard roof and skylight was added to the three-story, flat-roofed Georgian Revival home in 1923. The family moved in 1930 and the Washington, D.C., residence at Q Street and Massachusetts Avenue became the repository of the family’s art collection. Over the years, buildings were added or adapted in the neighborhood, but the original mansion had not been updated for energy, codes, and functionality in more than 40 years.

UNKNOWN CONDITIONS
No matter how thorough preconstruction investigations and diagnostics are, when working with existing and historic buildings, conditions inevitably come to light that can’t be fully understood until work commences. Experienced contractors such as Consigli and other team members can predict where the unknown variables will come to light so they advise owners to plan for contingencies with adequate reserves for budget and construction time. For this project, the end date was hard and fast because an annual gala that raises substantial funds for the institution had to take place. Shortly after work on the 120-year old building began, it was determined that the space needed for the new mechanical equipment was inadequate. Consigli project superintendent Adam Cirigliano worked with his team to develop a 3D model of the building that would help them work through a solution. By using 3D modeling, the field measurements could be adjusted on the digital model and the size and placement of equipment could be tested virtually before fabrication and installation. Weekly meetings and harnessing the 3D modeling to draw to the highest level of detail to guide the construction process put the project back on schedule. It proved to be a time
Specialists in roofing and architectural sheet metal with in-house fabrication, we ensure the highest degree of quality control and cost effectiveness.

Institutional • Commercial
High-end Residential

Infrared Proof: Our Storm Windows Save Energy!

Innerglass Interior Storm Windows keep the building warm in the winter and cooler in the summer without sacrificing the charm and beauty of existing historic windows.

Noise reduction better than replacement windows.

Compression-fits to ANY window, no matter how crooked!

Innerglass Window Systems, LLC
15 Herman Drive • Simsbury, CT
1-800-743-6207 • www.stormwindows.com

Innerglass (left)
Existing window (right)

Lyman Estate
saver when construction and installation occurred. Cirigliano says technology is a “weapon for success” but human beings must guide the process—asking the right questions and thinking creatively to arrive at the right solutions.

PROJECT SPECIFIC CONSTRAINTS
The original mansion building serves largely reception and administrative functions, but there are some key features to protect, such as the Music Room and a room of wax models and casts that could not be moved and required dust protection. Cirigliano credits the craftspeople involved with clever solutions and meticulous attention to work practices. Plaster, vaulted ceilings, ornate millwork, parquet flooring, and other historically significant details had to be protected. Structural steel was added to meet modern loading requirements along with the systems upgrades. The question most frequently asked was, “Where can we hide this?” Obsolete chimneys were among the areas where equipment, cables, and pipes could be concealed.

A SIGNIFICANT ROOF
The museum is a prominent property in Washington, D.C.’s, Dupont Circle neighborhood. The local preservation commission reviewed the project and stressed the importance of preserving the existing slope of the mansard roof despite the need to add mechanical equipment to it. A penthouse addition was designed to add space and to screen the enormous chiller that would be part of the new mechanical system. Flashing and ornament were custom-fabricated and prepatinated to maintain the appearance of aged copper. Cirigliano credits David Boo and DJB Contracting of Maryland for their skills. DJB Contracting was awarded a Washington Building Congress 2019 Craftsmanship Award for this project.

AN OLD ROOF BECOMES A NEW FLOOR
In addition to protecting the roof line, a new floor needed to be installed beneath the mansard roof to protect the artwork and historic fabric below. The construction sequence was critical, so Cirigliano turned to an engineer with extensive experience in construction sequencing for other projects, Maryland-based engineer, John O’Connor, of Pawtuxent Engineering Group. On his advice, the old flat roof was reused as the new floor. They shored the perimeter walls and roof and then cut the roof free, lowered the roof by four feet, installed structural steel, and transformed the old roof into the new floor for the mechanical upgrades.

Good communication and a desire to work together fueled the success of this project. It takes a great project superintendent to bring the subcontractors together when the challenges of construction unfold. Adam Cirigliano enjoys his work and the challenges.
ADVICE FOR THOSE WHO ARE CONSIDERING CONSTRUCTION MANAGEMENT AS A CAREER

We asked Cirigliano what advice he would give to young people considering a career in construction management. “You struggle through,” he says. “Midway through the project, you feel at times like nothing is going the way you want it to go, but you stay open-minded and the solutions come; you forget the struggle and then you get to experience the satisfaction—it is pretty much like this on all jobs.” Cirigliano has a degree in architecture, but the best training is “on-the-job,” he says. Understanding how buildings are built and having time onsite to observe the details is the best way to learn about construction and managing projects.

JUDY L. HAYWARD is executive director of Historic Windsor, Inc. and the Preservation Education Institute. She serves as education director for the Traditional Building Conferences Series and Online Education Program. She blogs and writes this Techniques column regularly for Traditional Building. She specializes in the development of educational programs for builders, architects and tradespeople. She can be reached at jhayward@aimmedia.com or 802.674.6752.

LEFT A penthouse and screening conceal the new rooftop mechanical equipment.

BELOW Newly installed, pre-patinated copper shingles and flashing blend seamlessly with the mansard roof on the 1897 mansion, the original museum building for “America’s first modern art museum.”
Making new windows that are faithful matches with historic buildings is tricky enough, but when they must also resist the new reality of potential terrorism blasts, the task can be daunting. The challenge is juggling myriad dimensions, along with code and energy specs, but specialists like the St. Cloud Window Inc. of Sauk Rapids, Minnesota, are experts at finding that sweet spot.

When it comes to the window business, St. Cloud Window divides their expertise into three window types: acoustic, historic, and custom. “In any given year, about 40 percent of our revenue is historic, and about 40 to 45 percent is acoustic,” explains Casey Mahon, president and CEO, “and sometimes it’s both. We don’t necessarily target the blast resistance market specifically, but a lot of times we find it’s one of the performance parameters, with some projects requiring it, some not.”

That was certainly the case with the 1874 Renwick Gallery in Washington, D.C. A $30 million renovation completed in 2015, it included replacing all exterior windows with new, energy conserving units that replicate the originals. Near the top of that to-do list was the force protection requirement.
for blast resistance—no surprise at a site paces away from the White House and where the consequences of 9/11 are an ever-present reality.

“The blast resistance of a window is only as strong as the building’s ability to hold it in place,” explains Mahon. “I think the principle driver is to retain the frame in the hole and, in the event of a blast, prevent glass shards from spraying into the room. So, if you want that force protection, you need to secure the window frame.” At the Renwick, Mahon reports that the walls were actually quite sound. “The sills needed some steel reinforcement,” he recalls, “but the jambs and the heads are all brick and stone, so we had good anchorage points there.” They used epoxy anchors—basically threaded rods inserted into epoxy-filled holes and bolted through the window frame—with anchor points located anywhere from 5½ inches to 18 inches on center. “So, it’s a little different than simply driving a few screws, as it were.”

The window frames are thermally broken aluminum, with profiles designed to meet the sight line requirements for replicating the historic windows. “I believe we cut over 30 new shapes for that particular project in order to achieve very precise historical proportions and dimensions, and that’s typical for us when we do historic jobs of this nature.”

Mahon says they work off a basic frame design, then elaborate it with new shapes to achieve the required sight lines. “That’s the beauty of aluminum. You can replicate those shapes relatively easily, so long as you don’t invade the primary frame itself. However, if you get into a significant change in the primary frame, then you need to retest and re-certify the entire window design.”

Indeed, performance parameters—from thermal and structural requirements to air and water penetration—can present challenges. “At times they work against your ultimate design objective, and some historic dimensions simply cannot be replicated today because they’re so small.” The answer he says is to be prepared for those challenges. “What we find is that if you can’t go wider to meet the design objective, you can go deeper; so, you can get a little narrower sight line by extending the frame depth, or the mullion depth, a little deeper into the wall section. That will help with the structural load requirements.”

Mahon says that the base model for the Renwick windows was their 564 series, which is a 5-inch system. “Everything in that window was fixed glass, but it has an offset sash arrangement so that it appears as a double-hung window.” After adding the profiles for the brick mould and interior finishes, the overall frame depth grew to 9½ inches. They created the separate brick moulds on the outside and interior trim shaped for the inside, both for the sake of the extrusion process and ease of handling at the time of installation. “Windows the size of Renwick’s get extremely heavy, so typically you first set the exterior brick mould—the ‘pan’ in our lexicon—and get everything sealed up. Next you set the primary frame inside of that, then you set your interior trim pieces inside of that.” This way everything can be installed from the interior, “which is nice too because you don’t have to scaffold the building.”

As he explains, the blast-resistant window—here designated 564-I for impact—is essentially an insulated glass unit but with greatly enhanced physical properties. “The composition gave it an overall 1½-inch thickness comprised of ⅛-inch glass on the outboard light, and 9/16-inch laminated glass on the inboard light separated by an 11/16-inch spacer.” This configuration not only affords blast protection but also all the coatings that are needed to achieve the required thermal performance.

Balancing all these dimensions and requirements within a historical window is no open-and-shut case. “But today’s window is so far superior to the windows of old,” reflects Mahon. “It keeps it interesting, and it keeps it fun.”

GORDON BOCK is an architectural historian, instructor with the National Preservation Institute (www.npi.org), and speaker through www.gordonbock.com.
fortified for the future

Finegold Alexander Architects resurrects Boston University’s iconic Castle to serve as the Dahod Family Alumni Center.

BY KILEY JACQUES
Built in 1915, this Tudor Revival-style mansion was originally a private residence belonging to businessman, playwright, and poet William Lindsey, Jr. Located at the corner of Boston's Bay State Road and Granby Street, it is a part of the city's Back Bay West Historic District. The 15,371-square-foot estate, designed by Chapman & Frazer, was modeled after Athelhampton Hall in Dorsetshire, England—a country frequented by the late Mr. Lindsey. In 1939, the Castle, as it is commonly called, was donated to Boston University, whereupon it housed school presidents and their families until 1967, at which point it was converted into a function hall. By 2015, it had seen better days.

“The building was at a point where a lot of deferred maintenance was coming to a head,” says Finegold Alexander Architects President Rebecca Berry. “It was time to do a major renewal/restoration, yet at the same time, there were some amazing historical interiors that were quite intact—they just needed a little buff and polish and some infrastructure to make them sing.” On the exterior, the sandstone masonry, slate roofs, and wood windows were key target areas. Water was infiltrating the walls, the roof was leaking, and the windows didn’t seal properly. Furthermore, the building was not ADA compliant, a considerable limiting factor in terms of the building’s proposed usage, namely the new Dahod Family Alumni Center.

The building would also need to accommodate a commercial kitchen, an expanded campus pub, a faculty dining room, and a historically sensitive new addition with a terraced roof. The plan called for locating the kitchen in the basement and adding a pub into a 1,000-square-foot addition at the rear of the building, which is not visible from the Historic District. “It was a matter of finding spaces in the building and determining what needed to be done to bring it back to its former glory,” Berry explains.

**RESURRECTING THE FAÇADE**

To start, the Finegold Alexander team conducted a comprehensive assessment of the building, with a focus on the exterior. “It was in worse shape than had been feared,” Berry recalls. “The masonry had some real pain points—eroded stone and loose gable-cap stones, which were a potential hazard.” The sandstone was meticulously cleaned and assessed and, in many areas, existing stones that had been worn beyond repair were replaced. Interestingly, stone pillars from a fence being removed to make way for the addition were salvaged and cut to make new stones used for repairs. The high level of difficulty is owed, in part, to the sandstone’s texture. To mimic it, masons hand hammered all new stone onsite.

As for the roof, it was removed entirely, down to the original sheathing, which was just boards. The team added a new layer of plywood to create a structural diaphragm for shear, as well as insulation. They left an air gap and added another layer of plywood sheathing covered in roofing membrane—essentially a second roof assembly. This resulted in an air pocket vented from the bottom of the roof; the air flows under the secondary roof sheathing and up through a vent at the top. Heat is then trapped inside the building and the roof stays cold in the winter, meaning it is not exposed to the freeze-thaw weather conditions.

The Dahod Family Alumni Center as seen from Storrow Drive. The new addition was designed to complement, rather than mimic the historic structure, and to harmonize with the adjacent Leventhal Center, completed by Goody Clancy Architects.
The building’s eclectic Tudor detailing was revealed by the exterior restoration. The castellations speak to the building’s long-time moniker, The Castle.
“This was a house—a grand house, but still a house—that we were trying to preserve for institutional use.”
—REBECCA BERRY
cycle, which extends the life of the slate. “This is the Cadillac of roof systems and it’s how you get your slate to last 100 years,” Berry says, noting the engineering ingenuity the work demanded. “The slate and copper work was very intense. We had many conditions—gable ends, dormers, double valleys—every roof condition you can imagine on top of a small building.” The team also performed seismic upgrades, which meant adding tie downs between the masonry and the roof structure.

All of the windows were removed and restored—none were replaced. Many are leaded and needed to be taken apart completely and re-leaded. When they were rehung, new sashes and weatherstripping were added to stop air infiltration, which has had a huge positive impact on occupant comfort (as did pointing the masonry, which helped to seal gaps). Additionally, they were able to find and match original paint colors on the windows.

HISTORIC INTERIORS FOR TODAY
Inside, the primary challenge was upgrading the climate control and mechanical systems. The building had been functioning with radiators and window-unit air conditioning. They were replaced with a new variable refrigerant flow (VRF) system as part of the high-efficiency HVAC system. They also needed to account for significant air flows from the new kitchen, which itself required the restructuring of nearly half of the basement floor—it had been servants’ quarters divided into small rooms. The team “shoehorned in” mechanical equipment in an effort to maximize square footage for the pub. “We managed by hook and by crook to hide and couch the mechanical equipment as best we could to preserve the historic nature of the building,” Berry explains. “Dealing with those kinds of modern systems in a building like this is not easy.” Other structural endeavors included shifting a wall in the hallway to make room for a food service lift. That entailed the removal of all millwork—later replaced—and the rebuilding of a coffered ceiling.

In more cosmetic terms, Berry explains how Mr. Lindsey traveled regularly to England, where he handpicked all manner of architectural salvage, which he brought back to his architect to weave into the house. Consequently, each room is styled in a different period—everything from Classic Victorian to French Regency.
to Arts & Crafts and Medieval. “Saying it’s eclectic is an understatement,” Berry muses. The precious nature of the collection meant all interiors required stringent protection. The lengths to which the team went are evidenced by the oversized box built around the light fixture in the main space—it hung off the protection used on the upper-floor gallery rail.

A NEW LOOK
The addition took the form of a simple glass box. Asked about the contemporary treatment, Berry responds: “There were a couple of drivers behind that—the first of which was how the building would be seen at night. The addition is highly transparent. We did some work with the lighting so the original stone wall, which is behind the addition, really pops out. When you drive by, you see three stone arches all lit up through the addition. The glass is kind of a vehicle to bring the historic architecture to the fore.”

Another influential factor was the adjacent Leventhal Center, formerly the Hillel House. Built in the 1950s, Berry describes it as “a midcentury-modern piece of architecture.” When that building was renovated to be the Admissions Center, a contemporary glass structure was added to its rear elevation. The Castle’s addition complements that project.

The new addition is structurally independent of the masonry building—it needed to be seismically separate. The two are connected by a long expansion joint. Because the Back Bay is infilled with silt, every building is on piles. To build the addition, they needed to drill mini piles, resulting in a very expensive foundation considering the diminutive size of the structure.

Three years in the making, the Dahod Family Alumni Center opened in September 2018. On course for LEED Gold certification under Commercial Interiors, the Castle stands as a remarkable example of historic preservation and adaptive re-use. It now houses the Alumni Relations office, Fuller’s Pub, a 1,000-square-foot kitchen, faculty and staff dining rooms, and informal seating areas for alumni to work and socialize. Furthermore, the upper floors were connected to the Leventhal Center for universal accessibility. In other words, it functions well beyond its original intent. “This was a house—a grand house, but still a house—that we were trying to preserve for institutional use,” says Berry, who looks forward to seeing how it performs in the years to come.

KEY SUPPLIERS

ARCHITECT
Finegold Alexander Architects

GENERAL CONTRACTOR
Suffolk Construction

MASONRY
Chapman Waterproofing Company

ROOFING CONTRACTOR
Gilbert & Becker

WINDOW RESTORATION
Window Women of New England

WINDOW LEADING
Blackwell’s Glass

STRUCTURAL ENGINEER
Thornton Tomasetti

M/E/P ENGINEER
WSP

CIVIL ENGINEER
Nitsch Engineering

FOOD SERVICE
Crabtree McGrath Associates, Inc.

COST ESTIMATOR
Fennessy Consulting Services

LIGHTING DESIGNER
Sladen Feinstein Integrated Lighting, Inc.

CODE CONSULTANT
C3 Commercial Construction Consulting, Inc.

SPEC WRITER
Kalin Associates, Inc.

ENVELOPE CONSULTANT/ CONSERVATIONIST
Building Conservation Associates, Inc.

INTERIOR PHOTOGRAPHY
Jane Messinger

EXTERIOR PHOTOGRAPHY
Raj Das Photography

BOSTON UNIVERSITY PHOTOGRAPHY
Cydney Scott
admission standards

Robert A.M. Stern Architects designs a university welcome center with a presence that creates a whole new approach to the campus.

BY NANCY A. RUHLING
PHOTOS BY PETER AARON/OTTO FOR ROBERT A.M. STERN ARCHITECTS
E
lon University, the private liberal arts institution in the namesake North Carolina town, takes great pride in rolling out the red-brick carpet for prospective students. As some 75 percent of the school’s 7,000 undergraduate and graduate students are from out of state, first impressions are of premier importance.

For many years, the university, which was founded in 1889, had been welcoming students to its 656-acre suburban campus in a humble manner—introductions were made and tours departed from a small house. When the university decided to build a new admissions/welcoming center, it commissioned New York City-based Robert A.M. Stern Architects to design a larger building more in keeping with the historic character of the campus.

"Like most colleges, Elon University had a welcome center that was an afterthought," says Kevin M. Smith, AIA, the Robert A.M. Stern Architects partner in charge of the project. "Elon’s decision to build a purpose-built admissions center was part of a general trend among institutions of higher learning to give prospective students and parents more considered introductions to their campuses."

The university asked the Robert A.M. Stern Architects team—in addition to Smith, the leaders were senior partner Robert A.M. Stern, FAIA; partner Graham S. Wyatt, FAIA; and project manager Silas Jeffrey; along with architect of record CRA Associates of Chapel Hill, North Carolina—to help select a new, more prominent site for what came to be christened the Inman Admissions Welcome Center. "We were asked to consider how this building would relate to the others on campus," Smith says. And we were asked to help define a new green space that would become a future quadrangle!"

The Inman Admissions Welcome Center was moved to the northeastern part of the campus and erected on what had been a parking lot. "There was no old building to tear down," Smith says, "so, essentially, we had a blank canvas." Nor were there any other historic buildings close by. Its south façade faces the main library, a utilitarian red-brick building that dates to the 1980s. "The library is not a beauty-pageant winner," Smith says, adding that neither are the fraternity houses farther north. "As part of the project, we planned a potential extension to the library."

The team chose what Smith calls a "spare brick Georgian" style of architecture that is in keeping with the oldest buildings on campus. "After a fire in the 1920s destroyed the original buildings, Elon rebuilt in the Georgian manner on a budget," Smith says. "One of the beauties of spare Georgian, then as now, is that it enables you to build handsome buildings cost-effectively. It doesn’t require a lot of fancy brickwork, and the Inman Center’s roof is asphalt, not slate, another feature that saved money."

The two-floor, 30,000-square-foot red-brick building, austere and elegant, features a central rotunda topped with a cupola. It is framed by wings anchored by open loggias that were inspired by others on campus. "There was no single historical model for the building," Smith says, adding that the bow bay that overlooks the campus is fancier than any other architectural elements at the university. "Even though the materials are humble, it projects a feeling of quality."

Yet, it’s designed to attract attention. "It’s the first building people enter when they arrive for tours," Smith says. "It had to have enough presence to hold its own. The building creates a whole new approach to the campus. The cupola is visible from a distance—it catches the diagonal view."

He adds that because the building presents all four sides to public view, special consideration had to be made for mechanicals. The building doesn’t have a back or a basement, so the air and heating systems were placed in a well on the roof where they cannot be seen. Trash receptacles were sited alongside those of neighboring buildings, again, out of sight.

To make prospective students and their parents feel right at home, Smith says the Inman Admissions Welcome Center was designed to look like “a nice English country house.” Visitors drive up to the building,
park, and enter the atrium, a soaring double-height space that is impressive yet intimate. Resembling a comfy living room, it’s furnished with sofas that invite visitors to sit and stay while sipping iced tea on a hot day.

Student guides greet them and lead them along a sun-drenched gallery, complete with window benches where they can sit and take in the views, to the auditorium to view a film about the campus. The windows in the screening room are designed to frame the landscape. Two pairs of double doors lead outside to the lawn where the tours begin. The second floor houses the financial aid and admissions offices.

“The Inman Admissions Welcome Center is designed to send a message that Elon will be a good home for your student,” Smith says. “The whole campus has a somewhat domestic feel, particularly the older parts. The interiors of the other 1920s buildings are utilitarian; the interiors in Inman, in a traditional-contemporary style, are designed to be welcoming.”

Smith says that he’s received a lot of good feedback from staffers about the design of the building. “Everybody loves it,” he says. “I’m proud of the fact that we have shown that, with a limited budget, Georgian can be used to impress and speak eloquently to what Elon is all about.”

While the work for the Inman Admissions Welcome Center was underway, Robert A.M. Stern Architects was asked to design the new business school building, Sankey Hall, which, along with the Inman building, will frame the new quadrangle.

In the southwest corner of the campus, the Stern team designed a glass pavilion for Elon’s School of Communications. It links McEwen Hall and the firm’s new Schar Hall, which includes a 250-seat movie theater to showcase student productions. The separate Steers Pavilion, to the east of Schar Hall, houses a media lab. It will be mirrored by another pavilion that will become the commons for a neighborhood of existing residence halls.

These projects, Smith says, have the same sense of graciousness as Inman, an attribute that he hopes is carried forward in the university’s future buildings. “We like to say that we do portraits of our client institutions, not self-portraits,” Smith says. “In this case, with Inman, we have accomplished that. It may not be John Singer Sargent, but it’s pretty darn good.”
“I’m proud of the fact that we have shown that, with a limited budget, Georgian can be used to impress and speak eloquently to what Elon is all about.”

— KEVIN M. SMITH
Foyer front entry of Decatur House off Lafayette Square facing west to courtyard and second floor.
When Stewart McLaurin, president of the White House Historical Association (WHHA), called Susan Watkins of Franck & Lohsen Architects to ask if she would help the effort to restore the first floor of the Decatur House in Washington, D.C., she responded with a resounding, “Of course!” As the daughter of a U.S. Navy admiral who raised his family within the walls of multiple important historic homes, Watkins was keen on the commission. Built between 1817 and 1819 by Neoclassical architect Benjamin Henry Latrobe for Commodore Stephen Decatur and his wife, Susan Wheeler, the house, which sits at the northwest corner of Lafayette Square just blocks from the White House, is Federal in style and as familiar to Watkins as a beloved old coat. “When Stewart gave me this mission, he said, ‘I need the Decatur House to be the prestigious home it once was. It’s not a museum anymore;’” she recalls. “I knew what to do. I know what is right in a home like this.”

Watkins was well versed in the house’s history, which includes its purchase by General Edward Fitzgerald Beale in 1871. Under his hand, significant changes were made to both the interior and exterior. Sandstone lintels were added to the front door, and new first-floor windows gave the façade a Victorian flair, as did decorative embellishments inside. In 1844, under Thomas T. Waterman’s ownership, the house was simultaneously restored to its original state and made uniquely his own with a series of changes that included cutting the first-floor windows down by 15 inches. Suffice it to say, by the time the National Trust for Historic Preservation acquired the property in 1956, it was a storied structure—one whose saga was not yet over.

According to Michael Franck, principal of Franck & Lohsen Architects, “Prior to Stewart McLaurin coming to the Association in 2014, the Decatur House had been practically denuded of all historic artifacts and furnishings. It had become a banal box—all of the nice things were removed, and it didn’t have any historic character left.” McLaurin concurs, saying, “These rooms were a blank canvas. The White House Historical Association board of directors was enthusiastic to create a space that would bring to life the history of the home and become a functional area in support of our mission.” McLaurin was relying on Watkins to bring back the home’s character. The scope of her work included the front foyer, two parlors, the back entry, the stairwell, and the second-floor landing. She was given nine weeks to complete the restoration.

The project’s purview was primarily cosmetic, as the structure itself was deemed sound, though beneath the Wilton rug in the entry hall, they found floor boards in need of repair. That work was done using boards from the attic floor. Watkins explains: “We made the decision that the original 1820s flooring would not be able to withstand human traffic, and the National Trust for Historic Preservation gave us permission to cover it with a soft cork to keep it preserved. Floor boards from the 1870s—when the Beales redid the floors—were found in the attic; they were in extremely poor condition but they were numbered. Each piece was completely restored using preservation-quality products and processes such as hot wax filler and very gentle brushes. Most of this work was done by hand. There were three types of wood used in the herringbone-pattern drawings that I found, which were used to re-create the floor with all of the boards in their original location.”
They also fixed cracks in the plaster walls and reworked the HVAC system, which was hidden within the fireplaces. Additionally, they changed the face of the chimneys and the white marble hearth stone and quarter-inch surround, which was not original. “Nothing about the fireplaces was precious except for the mantels,” Watkins says, adding that they painted the fireplaces black to enhance the mantel work. Notably, a chair rail was almost added. “We wanted to save the plaster walls from being pounded by art exhibits being hung,” Watkins explains. “There was no molding to reference outside of one period, so we designed a profile that the National Trust approved, but it just didn’t work visually.”

The pith of Watkins’s work was to create period ambience. “My goal was to make it the Decaturs’ home,” she explains. To do so, she searched the furnishings that had been locked away in storage and the artifacts held in the Decatur House vault. “I was looking for items that had belonged to Stephen and Susan Decatur but there was so little left because she had to leave the house and sell her belongings after he was killed in a gentlemen’s duel. Most things went to auction. I took everything that would visually work, as well as what was theirs, including his prize awards for his bravery in battle—those needed to be on display. The intent was to re-create a semblance of what their home might have looked like—and the essence of who they were in their home.” The collection held a lot of broken furniture as well as many pieces from the Truman era, which wouldn’t have been period-appropriate. Thus, it was necessary to have reproductions made. The entire dining room set, for example, was designed and built by a New Hampshire-based artisan whose talent is perhaps most evident in the cabinet housing White House china.

Watkins estimates that roughly 90 percent of the antique furnishings and artifacts she selected are strictly ornamental. She did, however, still need to plan for how the house would function. “Stewart sees the Decatur House, not as a space to rent to organizations but as the parlors of the White House Historical Association,” Franck says. With that in mind, Watkins ensured that the replica pieces as well as the refurbished and reupholstered furnishings were structurally stable to accommodate visitors. Likewise, the furnishings selected from the Beale family collection were rebuilt and reupholstered by a workshop in Maryland. The house is a mix of artifacts and history as well as furniture and surfaces that need to hold up to contemporary usage,” she notes. “That was a very strong consideration in terms of what to select from the old family collection.”

Notable objects from the house vault include the eagle mirror, the Decatur sword, battle memorabilia, and Stephen Decatur’s desk from the USS United States. “The restoration allows us to showcase items from the Decatur collection as well as the Beale family going back to 1819,” says McLaurin. “We intentionally did not choose to interpret a specific period of time, but rather blended characteristics of periods so these two families of distinction could be highlighted in a meaningful way.”

Watkins worked with historic lighting specialist Paul Bavis from Spurgeon-Lewis Antiques to source appropriate fixtures, and Scalamandré fabrics were imported from France for the new
upholstery. The company was chosen as a nod to Jacqueline Kennedy’s relationship with that family. The selected patterns, materials—cotton, linen, silk, and viscose—and colors were based on those that would have been available in the 1820s. Thought was also given to Mrs. Decatur’s French tastes.

Watkins notes the arrangement of the furnishings and decorative elements saying, “The simple placement of his desk, of the sofas, of the chairs—the parlors don’t tell you anything else but to do that.” Of the parlor rooms, McLaurin says: “They are intended to be a complement to the President’s guest house, Blair House, situated on the southern corner of the same block where Decatur House is located. Both entities are important assets for supporting and telling the stories of White House present and White House past.”

In recognition of their work on the Decatur House, Franck & Lohsen Architects received the 2019 John Russell Pope Award for Historic Preservation. “The house represents classical architecture as a living tradition,” says Franck. “It now comfortably houses artifacts like Admiral Decatur’s sword and other historical elements and pieces, which give the house more meaning. And now that they are out of storage and back in the house, those elements have more meaning, too. Having them on the walls, on the mantels, as part of the house gives the house and the items context.” And, bestowing credit where it is due, he concludes: “Stewart and Susan brought the soul back into the house. It’s now the kind of house that represents the way people used to live. It’s a reawakening.”

FROM LEFT View of drawing room and dining parlors facing west with window into courtyard. South window was previous entrance into a Conservatory.

Front door entry facing Lafayette Square.

Stewart McLaurin and Susan Watkins at the John Russell Pope Awards outside the Carnegie Institute.

BELOW Dining parlor facing west onto courtyard with antique reproduction furniture in Tiger Maple custom made in New Hampshire.
Buried by Vesuvius: TREASURES FROM THE VILLA DEI PAPIRI

At the Getty Villa through October 28, 2019

BY ERICA FIRPO

DRUNKEN SATYR (pre-conservation)
Roman, first century BC–first century AD
Bronze, copper, tin, and bone, H: 137 cm, L: 179 cm
Found at the west end of the rectangular peristyle, B on Weber’s plan, July 10, 1754
Museo Archeologico Nazionale, Naples, 5628
VEX.2019.1.6
Reproduced by agreement with the Ministry of Cultural Assets and Activities and Tourism. National Archaeological Museum of Naples - Restoration Office
In AD 79, a river of hot mud and volcanic debris, the fallout from the eruption of Vesuvius, flooded the seaside town of Herculaneum covering it up for nearly two millennia until its rediscovery in the mid-1700s. Those excavations unearthed long lost treasures, meanwhile Swiss architect and engineer Karl Jakob Weber documented the still-buried Villa dei Papiri, named for the carbonized papyrus scrolls discovered on site in 1752. Weber’s diagrams have been integral in the excavations that followed over the centuries, and they were the inspiration to J. Paul Getty who decided to replicate the villa in Malibu, creating one of Southern California’s most iconic buildings—the Getty Villa. 45 years later, the Getty Villa is bringing some of the most extraordinary pieces from the Villa dei Papiri to the Malibu bluffs in the exhibition “Buried by Vesuvius: Treasures from the Villa dei Papiri”.

“Buried by Vesuvius doesn’t set out to tell the original story of the [Getty] Villa. The idea is obvious—bringing the Villa dei Papiri to the Getty Villa,” says curator Kenneth Lapatin. More than 70 artefacts and objects hand-selected by teams from Italy’s Museo Archeologico di Napoli, the Biblioteca Nazionale di Napoli, and Parco Archeologico di Ercolano were loaned to the Getty for an exhibition that was more than a dozen years in the making.

“We are bringing spectacular finds from Papiri to the Villa—statues, frescoes, ivories, papyrus scrolls, marbles—many of these finds have never traveled outside of Naples, nor have been shown before,” shares Lapatin. “Each object was selected with our Italian colleagues, so even for long-time visitors to the Getty this will be something new.”

While visitors might be familiar with the copy of the Drunken Satyr who lounges in the Getty garden, the original bronze Satyr statue, exhibition centerpiece, is entirely new...to the Getty Villa. The precious statue was all for lost until it was uncovered in the 1750s and in a dubious state. Distinctly damaged by the eruptions, the Satyr had to be pieced together, which included placement on a marble pedestal for its 1754 restoration. Fast forward to 2019, the Getty Villa shared a nail-biting fait accompli on its Instagram profile @GettyVilla, when it documented separating the marble base from the statue for the first time in 250 years.

The show is more than just the Satyr. The exhibition showcases spectacular, never-before-seen treasures including the bronze Runners and the marble Athen...
Promachos. A bronze portrait of Piso Pontifex, the supposed son of owner Lucius Calpurnius Piso Caesoninus, who also just happened to Julius Caesar’s father-in-law is also on view. Along with statuary, frescoes, and mosaics, the show explores (and attempts to read) papyrus scrolls recovered from the Villa dei Papiri in the 1750s which discuss philosophical subjects of Epicurean inspiration, and are remnants of the only surviving library from the classical world. Backdrop to the lineup of “new originals” is the Villa’s antiquities collection itself, framing Buried by Vesuvius in a unique context—inspiration meets original.

“It’s quite extraordinary to witness this International collaboration, going way beyond institutional loans,” comments archaeologist Darius Arya. “The careful selection and painstaking conservation work underlines all of the institutions’ commitment to preserving the past and sharing that important work with video and virtual reconstructions, all within the grounds of a museum, fully decorated and landscaped, inspired by the original villa.”

Buried By Vesuvius also celebrates Herculaneum’s incredible history of archaeological research. The two centuries following the rediscovery of Herculaneum were plagued by decades of abandonment and intermittent years of interest. In 1806, the French commanded excavations, leaving in 1815, followed by a brief 1823 excavation. Following the Italian unification, excavations resumed in 1869 until full stop in 1875. The early 20th century saw short excavations through the oughts, with long-term excavations from 1927 to 1958. New campaigns returned in 1960s, and would carry on to the turn of the 21st century with major excavations in the 1990s and 2000s. These excavations are showcased with original diagrams, plans and books. Rounding out the exhibition is a short film that renders the Villa dei Papiri in its pre-Vesuvius splendor, created specifically by MAV, Herculaneum’s Virtual Archaeology Museum.

“What we are trying to do is treat the site holistically and trying to bring artefacts, archaeology, rediscovery and architecture all together. We wanted to represent the earliest excavation to most recent finds from 2007,” underlines Lapatin.
Graylyn Estate
Winston Salem, NC • October 29-30, 2019

Network with award-winning architects & traditionally trained craftspeople
Earn 10+ AIA LUs | Historic Walking Tours | Eat and Drink Behind the Scenes at Graylyn Estate

Graylyn International Conference Center, located in Winston-Salem, North Carolina, offers conference-goers the chance to experience their own private estate. Combining a modern, sophisticated conference facility and a technically impressive historic residence, Graylyn is a captivating example of traditional materials and methods. Topics, for AIA learning units, will include diagnosing and repairing stone tracery windows, dealing with modern codes, a panel discussion on window fabrication, and tours of historic Winston-Salem.

Each Traditional Building Conference delivers focused, relevant education for architects, contractors, craftspeople, designers, building owners and facilities managers. In a two-day interactive symposium, using Graylyn Estate as our living laboratory, you will learn from best-in-class experts and practitioners about historic preservation, adaptive use, urban infill, classical design, sustainable building restoration/maintenance, and traditional craft. Network with industry peers, clients and the technical representatives from restoration/renovation product suppliers.

The Traditional Building Conference Series is a registered provider of AIA continuing education credits. Credits for NARI, AIBD, and certain NAHB classifications can be arranged. LEED accredited professionals and interior designers should contact the education director to determine if any courses have been registered for continuing education credits with the IDCEC or the USGBC.

For more information, please visit traditionalbuildingshow.com
MAKING THE GRADE

PFA Architects restores an iconic southern high school to impeccable standards.

BY NANCY A. RUHLING | PHOTOS BY TZU CHEN PHOTOGRAPHY
The exterior of the main building of Asheville High School was restored by PFA Architects. The main building is one of seven structures on campus that were erected between 1929 and 2003.
For nearly a century, Asheville High School’s historic main building has stood as a stately monument to public education in the North Carolina city known as the “Paris of the South.” The National Register building, which opened in Asheville in 1929 and features an arched entranceway and a soaring central rotunda, was designed by architect Douglas Ellington, whose other trademark Beaux-Arts and Art Deco structures, including the City Hall and the Biltmore Hospital, still define the skyline of the southern city in the Blue Ridge Mountains.

“The school’s main building is an iconic one in the city,” says architect Chip Howell, AIA LEED AP NCARB, of PFA Architects, which won the $27 million bid to restore the campus’s seven buildings, which were erected between 1929 and 2003 and total 291,122 square feet. “Many of the people in the city, including myself, are Asheville High School graduates and the building’s used for a lot of community activities, so the public is very familiar with it.”

It’s also very visible. “It has a presence in the street,” he says. “It’s right on your route from our downtown to the historic Biltmore Estate, which typically gets some 1.4 million visitors a year.”

Aside from minor repairs and patches, the local-granite veneer exterior façade and tiled roofs of the main building, whose three wings radiate like the blades of an airplane propeller, remained virtually unchanged for more than eight decades. “The whole campus needed a ton of work,” Howell says, adding that although it’s a city school, the Buncombe County government financed the project. “We were given a master shopping list and asked to determine priorities. Restoring the exteriors of all the buildings on campus was the top one, of which the main building was a significant expenditure.”

On the main building, PFA Architects, specialists in the design of health care, educational, and commercial buildings, made major repairs that included replacing the copper gutters and roof tiles and restoring the masonry.

“Although it was not mandated by the funding, which was public money, we solicited input from the Historic Resources Commission because this is such an important building in the community,” Howell says. “The county leadership understood why we were doing this.”

The masonry work, which took two and a half years, included replacing the window lintels and resetting and repointing the mortar throughout. “This was a challenge on two fronts,” Howell says. “We worked year-round, even in the winter, when we had to heat the scaffolding environment, mortar, and stone to the correct temperature. And the school, which has 2,400 students, was occupied; we were doing overhead work, so safety was an issue.”

Howell says Vannoy Construction, the construction manager, was integral to the success of the project. “Their team did an incredible job maintaining safety, cleanliness, and communication with the school while tackling a matrix of complexities inherent to the construction,” he says. “We were very impressed with the execution of the project and the attention to detail in the finished product.”

To get an accurate sample of the mortar color, which had been weathered by decades of Asheville’s solid four-season climate, the team extracted chip samples from several places. For the roof work, Howell and the other members of the team, including PFA Principal Scott T. Donald, AIA and architect Laura Hudson, who is also an Asheville High School Graduate, chose the original clay tile and added it to their palette of materials.

The façade of the building, which was designed by architect Douglas Ellington and opened in 1929, is made of local granite. Its roofs are clay tile.
alumna, consulted with Tom Williams, a retired art history teacher at the school who helps lead the alumni association and shares a passion for architecture and preservation.

They tracked down the original tile manufacturer, Ludowici, a 131-year-old company in New Lexington, Ohio, that also had supplied tiles for other iconic Asheville buildings, including All Souls Church, Grove Park Inn, First Baptist Church, and City Hall. Alicia Cordle, a Ludowici ceramic engineer and design coordinator, says that the challenge “was to mimic history in a way that was authentic by using a modern process. We had to try to make the tiles look old but not too old.”

After the PFA team sent photos and tile samples, the color scheme—red, orange, and brown—was selected. “There was a range within each color because everything had to be blended perfectly on-site, so we had to make sure we gave them the right percentages of different tiles,” she says. “To make the tiles look more historically accurate, we added a green tone to the brown. It’s an unconventional choice we needed to make in this case to get the best match, and we glazed the red and orange tiles with an ebony mist.”

She credits Baker Roofing, which Ludowici has worked with on many restoration projects, with creating the perfect color blend in the tile layouts. Selecting a historically appropriate tile style for the 50,000-square-foot roof proved more problematic.

“We laid out different colors and styles on the roof, then we made several 6-foot-by-6-foot mockups and attached them to the roof so we could stand on the street and look at them from a distance to see what the public sees,” Howell says. “We knew that once we made a decision, there would be no turning back, and everybody and their brother would let us know if we got it wrong.”

The PFA team’s original choice was a modern version of the 1920s tile that was on the roof that had larger dimensions. “Everyone agreed that it just didn’t look right,” Cordle says. “But they were determined to get it right. I was so thankful for their commitment because I knew we could do better with an alternative standard product from a different product family.”

She suggested Ludowici’s Provincial, a 7-inch-by-5-inch terracotta tile that fit the project’s tight budget. “Once everyone saw the Provincial mockups in place, we knew we had nailed it,” she says, adding that the restoration was named Ludowici’s 2018 Project of the Year.

The tiles, which were made with an extruded die, were cut, sand-blasted as part of the aging process, then hand-sprayed with a colored glaze.

Howell sees the restoration of the main building as a tribute not only to Ellington but also to all the high school alumni who call Asheville home. “People have a real affinity for this building,” he says. “It’s in the center of the city, and it’s also a cornerstone at the heart of our community.” He adds that the new-old look has been well received. “I hope it generates momentum to do more campus work,” he says.

Time, he says, will be the true test of the restoration. “When we were working on it, we used to joke that the ironic thing about the project is that if we do a good job, nobody will know we were here. And that turned out to be true.”

Howell is looking forward to watching the main building age gracefully into its restoration. “Copper looks better when it’s weathered for five to 10 years,” he says. “We’re eager to see the next chapter of evolution.”

Tiles on the roof, which are in three colors, are from Ludowici, the original provider.
Visit traditionalbuilding.hotims.com for FREE information on traditional buildings and products provided by the companies below.

**Historical Products Showcase**

<table>
<thead>
<tr>
<th>Company</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abatron, Inc.</td>
<td>17</td>
</tr>
<tr>
<td>800-445-1754 <a href="http://www.abatron.com">www.abatron.com</a></td>
<td></td>
</tr>
<tr>
<td>Allied Window, Inc.</td>
<td>23, 60</td>
</tr>
<tr>
<td>800-445-5411 <a href="http://www.alliedwindow.com">www.alliedwindow.com</a></td>
<td></td>
</tr>
<tr>
<td>Aztec Stone Empire</td>
<td>15, 60</td>
</tr>
<tr>
<td>770-388-9337 <a href="http://www.aztecestoneempire.com">www.aztecestoneempire.com</a></td>
<td></td>
</tr>
<tr>
<td>Bird-B-Gone</td>
<td>61</td>
</tr>
<tr>
<td>800-392-6915 <a href="http://www.birdbgone.com">www.birdbgone.com</a></td>
<td></td>
</tr>
<tr>
<td>Crown Point Cabinetry</td>
<td>25</td>
</tr>
<tr>
<td>800-999-4994 <a href="http://www.crown-point.com">www.crown-point.com</a></td>
<td></td>
</tr>
<tr>
<td>Custom Service Hardware, Inc.</td>
<td>21, 60</td>
</tr>
<tr>
<td>262-243-3081 <a href="http://www.cs">www.cs</a> hardware.com</td>
<td></td>
</tr>
<tr>
<td>E.R. Butler &amp; Co.</td>
<td>60, 61</td>
</tr>
<tr>
<td>212-925-3565 <a href="http://www.erbutter.com">www.erbutter.com</a></td>
<td></td>
</tr>
<tr>
<td>Gaby’s Shoppe</td>
<td>29</td>
</tr>
<tr>
<td>800-299-4229 <a href="http://www.gabys.com">www.gabys.com</a></td>
<td></td>
</tr>
<tr>
<td>Hartley Botanic Inc.</td>
<td>3, 62</td>
</tr>
<tr>
<td>781-933-1993 <a href="http://www.hartleybotanic.com">www.hartleybotanic.com</a></td>
<td></td>
</tr>
<tr>
<td>Historic Doors</td>
<td>31</td>
</tr>
<tr>
<td>610-756-6187 <a href="http://www.historicdoors.com">www.historicdoors.com</a></td>
<td></td>
</tr>
<tr>
<td>Hochstetter Timbers</td>
<td>61</td>
</tr>
<tr>
<td>419-368-0008 <a href="http://www.hochstettertimbers.com">www.hochstettertimbers.com</a></td>
<td></td>
</tr>
<tr>
<td>Indow</td>
<td>27</td>
</tr>
<tr>
<td>503-284-2260 <a href="http://www.indowindows.com">www.indowindows.com</a></td>
<td></td>
</tr>
<tr>
<td>Innerglass Window Systems</td>
<td>31</td>
</tr>
<tr>
<td>800-743-6207 <a href="http://www.stormwindows.com">www.stormwindows.com</a></td>
<td></td>
</tr>
<tr>
<td>NIKO Contracting Co., Inc.</td>
<td>31</td>
</tr>
<tr>
<td>412-687-1517 <a href="http://www.nikocontracting.com">www.nikocontracting.com</a></td>
<td></td>
</tr>
<tr>
<td>Old World Stone Ltd.</td>
<td>27</td>
</tr>
<tr>
<td>800-281-9615; 905-332-5547 <a href="http://www.oldworldstone.com">www.oldworldstone.com</a></td>
<td></td>
</tr>
<tr>
<td>Phelps Company</td>
<td>61</td>
</tr>
<tr>
<td>603-336-6213 <a href="http://www.phelpsc">www.phelpsc</a> compan y.com</td>
<td></td>
</tr>
<tr>
<td>Preservation Products, Inc.</td>
<td>60</td>
</tr>
<tr>
<td>800-553-0523 <a href="http://www.preservationproducts.com">www.preservationproducts.com</a></td>
<td></td>
</tr>
<tr>
<td>Vintage Doors</td>
<td>65,  Back Cover</td>
</tr>
<tr>
<td>800-787-2001 <a href="http://www.vintag">www.vintag</a> doors.com</td>
<td></td>
</tr>
<tr>
<td>Weathercap, Inc.</td>
<td>61</td>
</tr>
<tr>
<td>985-649-4000 <a href="http://www.weathercap.net">www.weathercap.net</a></td>
<td></td>
</tr>
<tr>
<td>Zepsa Industries, Inc.</td>
<td>1, 61</td>
</tr>
<tr>
<td>704-583-9220 <a href="http://www.zepsa.com">www.zepsa.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Inlays, Mosaics & Parquet Flooring**

<table>
<thead>
<tr>
<th>Company</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contour Parquet Inc.</td>
<td>69</td>
</tr>
<tr>
<td>845-896-3162 <a href="http://www.contourparquet.com">www.contourparquet.com</a></td>
<td></td>
</tr>
<tr>
<td>Oshkosh Designs</td>
<td>68</td>
</tr>
<tr>
<td>877-582-9977 <a href="http://www.oshkoshdesigns.com">www.oshkoshdesigns.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Decorative Painting, Murals & Gilding**

<table>
<thead>
<tr>
<th>Company</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>EverGreene Architectural Arts, Inc.</td>
<td>71</td>
</tr>
<tr>
<td>212-244-2800 <a href="http://www.evergreene.com">www.evergreene.com</a></td>
<td></td>
</tr>
<tr>
<td>John Canning Conservation &amp; Painting Studios</td>
<td>72</td>
</tr>
<tr>
<td>203-272-9868 <a href="http://www.johncannonco.com">www.johncannonco.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Exterior & Gas Lighting**

<table>
<thead>
<tr>
<th>Company</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ball &amp; Ball Lighting</td>
<td>77</td>
</tr>
<tr>
<td>610-363-7330 <a href="http://www.ballandball.com">www.ballandball.com</a></td>
<td></td>
</tr>
<tr>
<td>customlightstyles.com</td>
<td>77</td>
</tr>
<tr>
<td>707-547-9709 <a href="http://www.customlightstyles.com">www.customlightstyles.com</a></td>
<td></td>
</tr>
<tr>
<td>Deep Landing Workshop</td>
<td>76</td>
</tr>
<tr>
<td>877-778-4042 <a href="http://www.deeplandingworkshop.com">www.deeplandingworkshop.com</a></td>
<td></td>
</tr>
<tr>
<td>Grand Light</td>
<td>76</td>
</tr>
<tr>
<td>800-922-1469 <a href="http://www.grandlight.com">www.grandlight.com</a></td>
<td></td>
</tr>
<tr>
<td>House of Antique Hardware</td>
<td>31</td>
</tr>
<tr>
<td>888-223-2545 <a href="http://www.houseofantiquehardware.com">www.houseofantiquehardware.com</a></td>
<td></td>
</tr>
<tr>
<td>Lantern Masters, Inc.</td>
<td>75</td>
</tr>
<tr>
<td>818-706-1990 <a href="http://www.lanternmasters.com">www.lanternmasters.com</a></td>
<td></td>
</tr>
<tr>
<td>St. Louis Antique Lighting Co.</td>
<td>9, 76</td>
</tr>
<tr>
<td>314-863-1414 <a href="http://www.slalco.com">www.slalco.com</a></td>
<td>19, 76</td>
</tr>
<tr>
<td>Steven Handelman Studios</td>
<td>76</td>
</tr>
<tr>
<td>805-962-5119 <a href="http://www.stevenhandelmanstudios.com">www.stevenhandelmanstudios.com</a></td>
<td></td>
</tr>
<tr>
<td>Vintage Hardware &amp; Lighting</td>
<td>29</td>
</tr>
<tr>
<td>360-379-9030 <a href="http://www.vintagehardware.com">www.vintagehardware.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Ornamental Metalwork**

<table>
<thead>
<tr>
<th>Company</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Architectural Grilleworks</td>
<td>78</td>
</tr>
<tr>
<td>516-488-0628 <a href="http://www.aagrilles.com">www.aagrilles.com</a></td>
<td></td>
</tr>
<tr>
<td>Architectural Grille</td>
<td>79</td>
</tr>
<tr>
<td>800-387-6267 <a href="http://www.archgrille.com">www.archgrille.com</a></td>
<td></td>
</tr>
<tr>
<td>Heritage Metalworks</td>
<td>25</td>
</tr>
<tr>
<td>610-518-3999 <a href="http://www.hwmpa.com">www.hwmpa.com</a></td>
<td></td>
</tr>
<tr>
<td>King Architectural Metals</td>
<td>13, 79</td>
</tr>
<tr>
<td>800-542-2379 <a href="http://www.kingmetals.com">www.kingmetals.com</a></td>
<td></td>
</tr>
<tr>
<td>Pacific Register Company</td>
<td>29</td>
</tr>
<tr>
<td>805-487-7500 <a href="http://www.pacificregisterco.com">www.pacificregisterco.com</a></td>
<td></td>
</tr>
<tr>
<td>W.F. Norman Corp.</td>
<td>4</td>
</tr>
<tr>
<td>800-641-4038 <a href="http://www.wfnorman.com">www.wfnorman.com</a></td>
<td></td>
</tr>
<tr>
<td>Wiemann Metalcraft</td>
<td>79</td>
</tr>
<tr>
<td>918-592-1700 <a href="http://www.wmcraft.com">www.wmcraft.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Columns, Capitals & Balustrades**

<table>
<thead>
<tr>
<th>Company</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chadsworth Columns</td>
<td>63</td>
</tr>
<tr>
<td>910-763-7600 <a href="http://www.columns.com">www.columns.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Metal & Wood Windows**

<table>
<thead>
<tr>
<th>Company</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architectural Components, Inc.</td>
<td>66</td>
</tr>
<tr>
<td>413-367-9441 <a href="http://www.architecturalcomponentsinc.com">www.architecturalcomponentsinc.com</a></td>
<td></td>
</tr>
</tbody>
</table>

**Old House Journal**

<table>
<thead>
<tr>
<th>Category</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Crafts Homes</td>
<td></td>
</tr>
<tr>
<td>NEW OLD HOUSE DESIGN CENTER SOURCEBOOK</td>
<td>61</td>
</tr>
<tr>
<td>OLDHOUSEONLINE.COM</td>
<td></td>
</tr>
<tr>
<td>TRADITIONAL BUILDING PERIOD-HOMES.COM</td>
<td>65</td>
</tr>
<tr>
<td>TRADITIONALBUILDING.COM</td>
<td></td>
</tr>
</tbody>
</table>

**Log Home Living**

<table>
<thead>
<tr>
<th>Category</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber Home Living</td>
<td></td>
</tr>
<tr>
<td>COZY CABIN &amp; COTTAGES</td>
<td></td>
</tr>
<tr>
<td>DREAM HOME SHOWCASE</td>
<td></td>
</tr>
<tr>
<td>BEST LOG &amp; TIMBER HOME OF THE YEAR</td>
<td></td>
</tr>
<tr>
<td>BEST LOG &amp; TIMBER FLOOR PLANS</td>
<td></td>
</tr>
<tr>
<td>LOG &amp; TIMBER HOME PLANNER</td>
<td></td>
</tr>
<tr>
<td>CABINLIFE.COM</td>
<td></td>
</tr>
<tr>
<td>LOGHOME.COM</td>
<td></td>
</tr>
</tbody>
</table>
TRADITIONAL TECHNIQUES, ADVANCED EDUCATION

**SAVE THE DATES**
**FUTURE LIVE WEBINARS**

**FINISHING METAL**
TUESDAY, SEP. 10, 2019, 2PM ET

**GLASS & SAFETY**
WEDNESDAY, NOV. 13, 2019, 2PM ET

ON-DEMAND VERSIONS TO FOLLOW

Visit traditionalbuildingshow.com for more webinar topics to be announced

**ON DEMAND**

**WINDOWS AND HISTORIC HOMES: REPAIR, REPLACE AND NEW ADDITIONS**
1 AIA HSW Learning Unit

**Speaker:** Charles “Chick” McBrien, Marvin Windows and Doors

**DESIGNING SECURITY AND SWING: LOCKS, HINGES AND THEIR APPLICATIONS**
1 AIA HSW Learning Unit; .1 IDCEC CEU

**Speaker:** Betsy O’Day, Business Development Manager, Nostalgic Warehouse

**AN INTRODUCTION TO ORNAMENTAL METALS, DISTANCE EDUCATION VERSION**
1 AIA HSW Learning Unit

**Speaker:** Douglas Bracken, Wiemann Metalcraft

**THE PRESERVATION-MINDED HOMEOWNER IN THE 21ST CENTURY**
1 AIA Learning Unit

**Speaker:** Scott Intagliata, Chief Marketing Officer, The Unico System

**STORM WINDOWS 2.0: FORM, FUNCTION AND FIT**
1 AIA HSW Learning Unit

**Speaker:** David Martin, President, Allied Window

**TERRA COTTA TILE: COLOR SELECTION AND MATCHING**
1 AIA HSW Learning Unit

**Speaker:** Alicia Cordle, Ceramic Engineer, Ludowici

**PAST, PRESENT AND FUTURE USES OF EXTERIOR SHUTTERS**
1 AIA HSW Learning Unit

**Speaker:** Harry Rembert, Vice President, New Horizon Shutters

**ON DEMAND**

**TRADITIONAL DOORS: A MASTER CLASS ON CRAFT, FORM, AND FUNCTION**
1.25 AIA HSW Learning Unit

**Speaker:** Brent Hull, Hull Historical, Inc.
HISTORICAL PRODUCTS SHOWCASE

www.phelpscompany.com

#1 SPECIFIED BIRD NETTING
by architects and government agencies

Call us at 888.727.2117 for a FREE consultation
birdbgone.com

Weathercap®
Joint Protective System
A permanent elastic seal for any masonry joint, horizontal or vertical.
We are honored to assist in the protection of our Supreme Court Building & National Cemetery

Weathercap®, Inc.
www.weathercap.net
988-649-4000
f: 988-847-1237

Precision-Milled Oak & Douglas Fir TIMBERS

ALL TIMBERS
GRADE-CERTIFIED
• White Oak up to 40’
• Douglas Fir up to 50’
Dense & Free of Heart Center

CALL FOR FREE TIMBER PRICE LIST: 419-368-0008
FAX TIMBER LIST FOR FREE QUOTES: 419-368-6080

552 SR 95, LOUDONVILLE, OH 44842

To see larger photos and informational captions, visit traditionalbuilding.com/page/the-magazine
Scroll down and click on the Buying Guides link

See our ad on page 1
Zoesa Stairs
HARTLEY BOTANIC INC.  
781-933-1993; Fax: 781-933-1992  
www.hartleybotanic.com  
Woburn, MA 01801  
Hartley Botanic is one of England’s oldest greenhouse manufacturers. Every greenhouse is handmade to order for delivery worldwide. They offer a 30 Year Limited Warranty on their greenhouses. They are the Royal Horticultural Society’s recommended aluminum greenhouse supplier.  
SEE OUR AD ON PAGE 3, 60.

HISTORIC DOORS  
610-756-6187; Fax: 610-756-6171  
www.historicdoors.com  
Kempton, PA 19529  
Custom fabricator of wood windows & doors: casing, circular & crown moldings; complete entryways; wood storefronts; restoration & period-style construction.  
SEE OUR AD ON PAGE 31.

INDOW  
503-284-2260; Fax: 503-284-2261  
www.indowwindows.com  
Portland, OR 97227  
Manufacturer of handcrafted acrylic interior storms: edged in Compression Tube that press into place without a track or magnetic system to preserve historic windows while creating comfort, energy efficiency, savings & noise reduction; laser-measured for out-of-square openings, for residential & commercial projects.  
SEE OUR AD ON PAGE 27.

INNERGLASS WINDOW SYSTEMS  
800-743-6207; Fax: 860-651-4789  
www.stormwindows.com  
Simsbury, CT 06070  
Manufacturer of custom glass interior storm windows for energy conservation & soundproofing; outperforms almost any replacement; automatically conforms to the opening, compensating for out-of-square conditions; no sub-frame needed; all glazing options available; easy do-it-yourself installation.  
SEE OUR AD ON PAGE 31.

NIKO CONTRACTING CO., INC.  
412-687-1517; Fax: 412-687-7969  
www.nikocontracting.com  
Pittsburgh, PA 15213  
Custom fabricator & contractor of sheet metal & roofing: slate, tile & other roofing; storefronts, cornices, cupolas, domes, steeples, snow guards & leader heads; copper, lead-coated copper, zinc & stainless steel, metal ceilings.  
SEE OUR AD ON PAGE 31.

HARTLEY BOTANIC INC.  
781-933-1993; Fax: 781-933-1992  
www.hartleybotanic.com  
Woburn, MA 01801  
Hartley Botanic is one of England’s oldest greenhouse manufacturers. Every greenhouse is handmade to order for delivery worldwide. They offer a 30 Year Limited Warranty on their greenhouses. They are the Royal Horticultural Society’s recommended aluminum greenhouse supplier.  
SEE OUR AD ON PAGE 3, 60.

HISTORIC DOORS  
610-756-6187; Fax: 610-756-6171  
www.historicdoors.com  
Kempton, PA 19529  
Custom fabricator of wood windows & doors: casing, circular & crown moldings; complete entryways; wood storefronts; restoration & period-style construction.  
SEE OUR AD ON PAGE 31.

INDOW  
503-284-2260; Fax: 503-284-2261  
www.indowwindows.com  
Portland, OR 97227  
Manufacturer of handcrafted acrylic interior storms: edged in Compression Tube that press into place without a track or magnetic system to preserve historic windows while creating comfort, energy efficiency, savings & noise reduction; laser-measured for out-of-square openings, for residential & commercial projects.  
SEE OUR AD ON PAGE 27.

INNERGLASS WINDOW SYSTEMS  
800-743-6207; Fax: 860-651-4789  
www.stormwindows.com  
Simsbury, CT 06070  
Manufacturer of custom glass interior storm windows for energy conservation & soundproofing; outperforms almost any replacement; automatically conforms to the opening, compensating for out-of-square conditions; no sub-frame needed; all glazing options available; easy do-it-yourself installation.  
SEE OUR AD ON PAGE 31.

NIKO CONTRACTING CO., INC.  
412-687-1517; Fax: 412-687-7969  
www.nikocontracting.com  
Pittsburgh, PA 15213  
Custom fabricator & contractor of sheet metal & roofing: slate, tile & other roofing; storefronts, cornices, cupolas, domes, steeples, snow guards & leader heads; copper, lead-coated copper, zinc & stainless steel, metal ceilings.  
SEE OUR AD ON PAGE 31.

To see larger photos and informational captions, visit traditionalbuilding.com/page/the-magazine  
Scroll down and click on the Buying Guides link.
Visit TraditionalBuilding.com today for web exclusives like blogs by industry leaders & experts.
BUYING GUIDES

METAL & WOOD WINDOWS

ARCHITECTURAL COMPONENTS, INC.
413-367-9441; Fax: 413-367-9461
www.architecturalcomponentsinc.com
Montague, MA 01351
Manufacturer of reproduction & custom wood windows & doors; true-divided lites with insulated glass; wood-framed storm sash & screens; renovation & restoration projects & new construction, paneled walls & storefronts; catalog 85.
SEE OUR AD ON PAGE 65.

COOPER WINDOWS
860-599-2481; Fax: 860-599-1071
www.cooperwindows.com
Pawcatuck, CT 06379
Manufacturing mortise & tenon, true-divided windows with single-pane vintage glass or insulated vintage glass. Custom screens available. Featuring integrated roll-down, 200 mph hurricane/security shutter. Deploys remotely from smart phone or tablet, protecting home from hurricanes, burglary and vandalism. *patent pending
SEE OUR AD ON PAGE 66.

CRITTALL WINDOWS, LTD.
011-44-1376530800; Fax: 011-44-1376530801
www.crittall-windows.com
Witham, Essex CM8 3UN U.K.
Manufacturer of steel window & door systems: single hung, casement, pivot, awning, projecting, fixed lite & round top; historical restoration & renovation; minimum maintenance; custom shapes & sizes; recycled recyclable steel content.
SEE OUR AD ON PAGE 66.

GREEN MOUNTAIN INSULATED GLASS, INC.
802-772-4394; Fax: 802-776-4153
www.greenmtninsulatedglass.com
Rutland, VT 05701
Handcrafted small lite, narrow sightline insulated glass units, with either warm edge or aluminum spacer; specializing in: restoration/historical wavy glass, custom laminated glass, most regular & specialty glasses, shapes/patterns, Low-e IG units & monolithic glass cut-to-size.
SEE OUR AD ON PAGE 67.

GREEN MOUNTAIN WINDOW
802-747-6915; Fax: 802-747-7864
www.greenmountainwindow.com
Rutland, VT 05701
Manufacturer of wood windows & doors: traditional & historic styles; many options; Milestone Series energy-efficient windows, since 1993.
SEE OUR AD ON PAGE 67.

HOPE’S WINDOWS, INC.
716-665-5124; Fax: 716-665-3365
www.hopeswindows.com
Jamestown, NY 14702
Manufacturer of custom-designed windows & doors: handcrafted, hot-rolled, solid-steel & solid-bronze window & door systems.
SEE OUR AD ON PAGE 5, 60.

GERKIN WINDOWS & DOORS
402-494-4600; Fax: 402-494-8765
www.gerkin.com
Sioux City, IA 51102
Full range of aluminum windows, from C-20 to HC-80; meet AAMA standards; commercial and residential. Two-track storms and removable one-lite storms. Oriel styles available.
SEE OUR AD ON PAGE 66.

KOLBE WINDOWS & DOORS
800-955-8177; Fax: 715-845-8270
www.kolbewindows.com
Wausau, WI 54401
Manufacturer of windows & doors: traditional details; extruded aluminum-clad, roll-formed aluminum-clad, wood & vinyl energy-efficient windows & doors; fiberglass doors.
SEE OUR AD ON PAGE 11, 67.

PARRETT WINDOWS & DOORS
800-541-9527; Fax: 877-238-2452
www.parrettwindows.com
Dorchester, WI 54425
Manufacturer of custom, quality wood & aluminum-clad windows & doors; vast array of options, numerous wood species & complete finishing capabilities; historical restorations, screen doors, casings & moldings.
SEE OUR AD ON PAGE 9, 67.

MARVIN
888-537-7828; Fax: 651-452-3074
www.marvin.com
Warroad, MN 56763
Manufacturer of wood windows & doors: clad & cladwood; special shapes; custom sizes & more than 11,000 standard sizes; historical replicas; interior & exterior storm windows.

MON-RAY, INC.
800-544-3644; Fax: 763-546-8977
www.monray.com
Hopkins, MN 55343
Manufacturer of DeVac aluminum windows & Mon-Ray secondary windows: high-performance replacements & storms for existing windows; operating & fixed; for historical residential & commercial projects.
Rohlf’s Studio is proud to have been entrusted with the restoration and replication of over 40,000 stained and leaded glass windows at Yale, as depicted in the various buildings shown. Our expertise and longevity for nearly 100 years are your assurance of our professional ability to service your every need.

**OSBORN MEMORIAL LABORATORIES**
Total restoration including over 20,000 overlays and 90,000 lead inserts

**STERLING MEMORIAL LIBRARY**
All new leaded glass windows

**BERKELEY COLLEGE**
Stained glass restoration

**REPERTORY THEATRE**
Total wood and stained glass restoration

**TRUMBULL COLLEGE**
Over 7,000 Windows

**YALE LAW SCHOOL**
Total restoration of all stained and leaded glass windows

Rohlf’s Stained & Leaded Glass Studio, Inc. • 783 South Third Ave., Mount Vernon, NY 10550 • 914-699-4848
Email: rsg@rohlfstudio.com • Kindly visit our website at rohlfstudio.com for our full range of services.

WOODSTONE builds custom wooden windows and doors to the highest standards for both traditional applications and more modern designs. You can use our standard details, or we provide fully custom options that meet the needs and visions of architects and owners. From the gate house to main house and everything in between, we’re here to provide whatever you’re looking for, so kindly give us a call.

**WOODSTONE**
Historic handcrafted wooden replications, since 1978, including traditional pegged mortise-tenon joinery, true divided lite insulated glass, custom finishes, and hardware. Made in the USA.

603-445-2449 • Woodstone.com
FINELY CRAFTED REPRODUCTION AND CUSTOM
WINDOWS, DOORS & ARCHITECTURAL MILLWORK
413-367-9441
architecturalcomponentsinc.com

PELLA WINDOWS AND DOORS
800-847-3552; Fax: 641-621-3666
www.pella.com
Pella, IA 50219
Manufacturer of windows & doors: wood, alumi-
num-clad wood, fiberglass, & vinyl; variety of wood
types; renovation & new construction; experience on
National Park Service projects; standard and custom
sizes, shapes, colors, styles, muntin patterns, and
exterior casings/brickmolds; many glass and hardware
options; high transparency screens, wide variety of
installation systems, local representation & service.

SEEKIRCHER STEEL
WINDOW CORP.
914-734-8004; Fax: 914-734-8009
www.seekirchersteelwindow.com
Peekskill, NY 10566
Repair & restoration of steel casement windows
& doors: work done in place and off site; large
selection of vintage steel windows & doors for sale;
restored windows & doors at Fallingwater and
countless other landmarks.

REILLY WINDOWS & DOORS
631-891-6945; Fax: 631-208-0711
www.reillywd.com
Calverton, NY 11933
Custom fabricator of wood windows, doors &
millwork: large-scale new & historical residential,
commercial & institutional construction.

ST. CLOUD WINDOW, INC.
800-383-9311; Fax: 320-255-1513
www.stcloudwindow.com
Sauk Rapids, MN 56379
Manufacturer of aluminum windows for heavy com-
mercial & architectural replacement: dual windows
for acoustical abatement; screens, metal windows
& doors.

SEE OUR AD ON PAGE 7, 65.

ROHLF’S STAINED & LEADED
GLASS STUDIO
914-699-4848; Fax: 914-699-7091
www.rohlfstudio.com
Mount Vernon, NY 10550
Designer, fabricator & installer of new stained &
leaded glass: restoration & replication; protective
glazing; beveled, curved & fused/slumped glass; steel
casement retrofitting; mosaic; established in 1920.

SEE OUR AD ON PAGE 65.

STEEL WINDOWS
& DOORS USA
203-579-5157; Fax: 203-579-5158
www.steelwindowsanddoors.com
Stratford, CT 06615
Supplier of steel, bronze, stainless steel & corten
windows & doors: hot rolled, cold formed, thermally
broken, fire rated; custom colors; variety of finishes
available.

SEE OUR AD ON PAGE 7, 65.

INNERVERSION®

Designed with modern living in mind, Crittall Windows’
InnerVision range of bespoke steel framed internal screens
opens up endless possibilities, adding a whole new
perspective to interiors

Now with Sliding Doors

+44 (0)1376 530800    www.crittall-windows.com
GREEN MOUNTAIN INSULATED GLASS

We produce the highest quality custom small lite, narrow sightline insulated glass units in the industry. We back our products with a full 10 year seal failure warranty.

Features

Online Education
The Traditional Building Conference’s Online Education series for architecture, building, and restoration professionals provides best practices, industry insights, AIA credits and more—for FREE.

Features

The Institute of Classical Architecture & Art’s 2018 Stanford White Awards
The winners have been announced for “The Institute of Classical Architecture & Art (ICAA)’s 2018 Stanford White Awards.”

Features

Merritt, International Interior Solutions Firm, Acquires Renowned Agrell Architectural Carving
Acquisition showcases Merritt’s continued company expansion and commitment to excellence.

Blogs & Opinion Pieces

Visit us online at TraditionalBuilding.com to

• learn about our free educational series offering AIA credits
• read our bloggers latest posts
• browse our book reviews and story archives
• and much more
INLAYS, MOSAICS & PARQUET FLOORING

AALTO INC.
319-237-7230; Fax: 319-333-7115
https://aaltomarbleinlay.com
Fairfield, IA 52556
Aalto specializes in creating one-of-a-kind marble inlay surfaces for grand spaces. Using our extensive archive of distinctive designs or your reference as a starting point, we work with you to create statement pieces befitting the personal style and tastes of the client. Our team of designers works with you to ensure that our marble inlay, whether for the floor, wall, or ceiling, is in keeping with your interior or exterior project.

CONTOUR PARQUET INC.
845-896-3162
www.contourparquet.com
Kingston, NY 12402
Supplier of antique & reproduction wood flooring panels: wide plank & parquet; handcrafted contoured surface; antique hand-rubbed finishes.

SEE OUR AD ON PAGE 69.

CZAR FLOORS
800-577-2927
www.czarfloors.com
Newtown, PA 18940
Custom fabricator of wood flooring: inlay, mosaic, parquet; custom paneling.

GOODWIN COMPANY
800-336-3118; Fax: 352-466-0608
www.heartpine.com
Micanopy, FL 32667
Supplier of centuries-old, river-recovered, reclaimed heart pine: for flooring, stair parts, millwork; solid or engineered, finished or unfinished.

KOYDOL, INC.
202-449-9525; Fax: 202-449-3847
www.koydol.com
Washington, DC 20032
Manufacturer of flooring: carpet in historic patterns; bamboo, strip, inlay, mosaic, laminate, parquet, wide board, random width wood flooring; flagstone & ceramic tile flooring; cork & linoleum flooring; fireplace tile & more.

Visit TraditionalBuilding.com today for web exclusives like blogs by industry leaders & experts.
Oshkosh Designs has over 25 years of experience crafting decorative medallions, floor borders, parquet flooring, 3D wood walls, and custom stone and wood inlay. We utilize a variety of natural hardwoods, including responsibly sourced exotics, metals, stone, glass, and leather, allowing for a limitless array of designs. All products are 100% made in the USA.

SEE OUR AD ON PAGE 64.

Thomas D. Osborn Mosaic Hardwood Floors
413-532-9034; Fax: Take me off
www.thefloorist.net
Holyoke, MA 01040
Designer, custom fabricator & installer of mosaic floors: marquetry & inlaid; native & exotic hardwoods; all 3/4 in. thick.

Parquet by Dian
310-527-3779
www.parquet.com
Gardena, CA 90248
Manufactures custom parquet flooring: solid, unfinished, straight-edged, over 20 original designs; 7/16-in. or custom thicknesses; PBD & LEED credits.

Wood & Co. Fine Hardwood Interiors
770-514-0129; Fax: 800-249-5328
www.thewoodco.com
Marietta, GA 30064
Supplier of wood flooring: antique, parquet, random width, wide board, barn siding, antique & salvaged timbers, millwork, moldings & paneling.

Contour Parquet, Inc.
Dedicated to preserving the beauty of yesteryear’s floors. Contact us for the restoration, care and maintenance of your antique floors. Complete Floor Creation and Installation. Experts in Oil & Wax Finishes
845-896-3162
www.contourparquet.com
2019 PLATINUM SPONSORS

ALLIED WINDOW, INC.

LUDOWICI
Trusted. Timeless. Terra Cotta.

MARVIN

CROWNPOINT CABINETRY

PILKINGTON

SILVER SPONSOR
CRITTLALL WINDOWS

BRONZE SPONSORS
HADDONSTONE
OLD WORLD STONE
INNERGLASS
MON RAY
KUIKEN BROTHERS COMPANY INC.
INDOW

YOUR PARTNERS IN EDUCATION
The technical representatives of our sponsors provide unique knowledge and expert solutions. These suppliers are dedicated to serving the historic restoration, renovation, and traditional building industry. Earn AIA continuing education credits, as well as credits for NARI, AIBD, and some NAHB certifications.

To become a Traditional Building Conference sponsor, contact Jennifer Baldwin at jenbaldwint@msn.com or 718-619-7645

GRAYLYN ESTATE
LYNNE RUTTER MURALS & DECORATIVE PAINTING
415-282-8820; Fax: No fax
www.lynnerutter.com
San Francisco, CA 94107
Creator of fine art murals: trompe l’oeil, gilding, plaster, hand-painted fabrics and marble, faux bois, murals, painted wall pattern and more.

OSMUNDO ECHEVARRIA & ASSOCIATES, INC.
718-707-9610; Fax: 718-717-9612
www.osmundoartist.com
Long Island City, NY 11101
Decorative painting firm: interior & exterior murals, faux finishes, graining, marbling, gilding, Venetian plaster, embossed wall coverings & more.

To see larger photos and informational captions, visit traditionalbuilding.com/page/the-magazine
Scroll down and click on the Buying Guides link

If you’d like to order a GIFT subscription for a colleague, just call 800-548-0148
DECORATIVE PAINTING, MURALS & GILDING

BUYING GUIDES

To see larger photos and informational captions, visit traditionalbuilding.com/page/the-magazine Scroll down and click on the Buying Guides link

Visit TraditionalBuilding.com today for web exclusives like blogs by industry leaders & experts.

EXTERIOR MOLDED ORNAMENT

BUFFALO PLASTERING
716-885-9020; Fax: Same as phone www.buffaloplastering.com Buffalo, NY 14216
Custom fabricator of moldmaking & original sculpture: interior & exterior GRC & FRP columns, domes & more; historical restoration & custom moldings as per drawings.

CUSTOM DECORATIVE MOULDINGS/CDM
800-543-0553; 302-349-4337; Fax: 302-349-4816 www.custom-moulding.com Greenwood, DE 19950
Molded exterior ornaments in high-density prefinished polyurethane. Products include archways, pediments, pilasters, capitals, lions, corbels, moldings. Custom Rail is a PVC porch rail system with colonial and square balusters.

FLEX TRIM INDUSTRIES, INC.
800-353-9874; Fax: 800-861-0737 www.flextrim.com Lexington, NC 27292
Flexible molding for interior and exterior use; can be made to shape, profile, or contour; radius molding for curved walls, round windows, doors, arch openings, etc.; made from a polymer-composite resin, looks and stains like wood.

WASSMER STUDIOS
800-923-4234; 913-563-4949; Fax: 913-563-4944 www.wassmerstudios.com Kansas City, MO 64111
Manufacturer of interior & exterior ornament: cast-limestone columns, balustrades, cornices & range hoods; plaster brackets, ceiling domes, medallions, moldings & mantels.

PORTER STUDIO, LEONARD
212-206-3738; Fax: 212-206-6311 www.leonardporter.com New York, NY 10001
Painter specializing in antiquity & classical mythology: large-scale & site-specific commissions accepted.

RAMBUSCH DECORATING CO.
201-333-2525; Fax: 201-433-3355 www.rambusch.com Jersey City, NJ 07304
Designer & fabricator of public & ecclesiastical art & stained glass: altars, ambo, arch, crosses & more; decorative painting; murals & mosaics; lighting; commercial environments; since 1898.
Learn from the past
to build for the future

Fall 2019 Continuing Education Courses:

The Richard Morris Hunt Memorial: A Field Study
Friday, September 6, 5:30 PM - 6:30 PM
Saturday, September 7, 10:00 AM - 4:00 PM
Instructor: Martin Burns

Harmony in Sound and Space: A Perennial Analogy
Saturday, September 21, 10:00 AM - 3:00 PM
Instructor: Joscelyn Godwin

Theory of Proportion
Saturday, October 5, 9:30 AM - 4:30 PM
Instructor: Steve Bass

The Classical in Western Painting
Tuesday, October 15, 6:00 PM - 7:30 PM
Wednesday, October 16, 6:00 PM - 7:30 PM
Instructor: Leonard Porter

The Architecture of the Theater
Tuesday, November 19, 6:00 PM - 8:00 PM
Wednesday, November 20, 6:00 PM - 8:00 PM
Instructor: Professor Donatella Gorreri

Register online at classicist.org.
EXTERIOR & GAS LIGHTING

ARROYO CRAFTSMAN
800-227-7496; Fax: 626-960-9521
www.arroyo-craftsman.com
Baldwin Park, CA 91706
Manufacturer of interior & exterior lighting fixtures: solid-brass post- & column-mount, wall-mount & hanging garden lights; brass chandeliers, sconces, table lamps & flush ceiling mounts; Arts & Crafts style; stock & custom.

BALL & BALL LIGHTING
610-363-7330; Fax: 610-363-7639
www.ballandball.com
Exton, PA 19341
Fabricator of historical lighting: chandeliers, sconces, pendants, lanterns & table lamps; Early American & Turn of the Century styles; antique & salvaged originals; new designs, custom work & reproductions; stair handrails; restoration services.
SEE OUR AD ON PAGE 77.

BEACHSIDE LIGHTING
800-425-6732; 808-247-8835
www.beachsidelighting.com
Kailua, HI 96734
Manufactures heavy-duty, corrosion-resistant, copper and brass, low-voltage landscape lighting for upper-end homes and/or near-ocean applications. Also manufactures copper gas garden torches, seen at Hawaii’s hotels and restaurants.

COPPERSMYTHE, JOSIAH R.
800-426-8249; Fax: 508-432-8587
www.jrcoppersmythe.com
Harwich, MA 02645
Supplier of handcrafted Early American & Arts & Crafts reproduction lighting fixtures: lanterns, chandeliers, sconces & post lights; copper, brass, tin, wrought iron & wood; catalog $3.

CUSTOM SERVICE HARDWARE
262-243-3081; Fax: 262-375-7970
www.cshardware.com
Cedarburg, WI 53012
Wholesale supplier to the building, remodeling, woodworking and DIY industry since 1977. Products include: Rolling Library Ladders, Barn Door Hardware, Decorative Wood Products, Cabinets, Drawer Slides, Hinges, lighting, kitchen storage accessories.
SEE OUR AD ON PAGE 21, 58.

CUSTOMLIGHTSTYLES.COM
707-547-9909; Fax: 775-465-2535
www.customlightstyles.com
Gardnerville, NV 89410
Designer and fabricator of exterior, interior and custom lighting for 110 years. Lanterns, hanging pendants, chandeliers, sconces, ceiling mounts, landscape lighting hand-crafted in hand forged brass, copper and iron; Gas and electric available. 20 brass patinas. Custom finishes are an option. Made in the USA.
SEE OUR AD ON PAGE 77.

DEEP LANDING WORKSHOP
877-778-4042; Fax: 410-778-4070
www.deeplandingworkshop.com
Seymour, CT 06483
Manufacturer of custom lighting fixtures: chandeliers, sconces, pendants & lanterns; new designs, historic reproductions & custom work; handcrafted in wood, tin, brass or copper; glass, mica or alabaster shades.
SEE OUR AD ON PAGE 76.

GRAND LIGHT
800-922-1469; Fax: 203-828-6307
www.grandlight.com
Seymour, CT 06483
Restorer of historic lighting fixtures & manufacturer of custom lighting fixtures: metal fabrication, glass fabrication, metal finishing, polishing, painting, welding, abrasive blasting; historical replication & reproduction.
SEE OUR AD ON PAGE 76.

HISTORICAL ARTS & CASTING
800-225-1476; Fax: 801-280-2493
www.historicalarts.com
West Jordan, UT 84081
Designer & custom fabricator of ornamental metalwork: doors, windows, hardware, stairs, balustrades, registers, fans, lighting, gutters, columns, weather-vanes, snow guards, cupolas, planters, fireplace tools & more; iron, bronze, aluminum & steel; restoration services.
SEE OUR AD ON PAGE 78.

KICHLER LANDSCAPE LIGHTING
866-558-5706
www.kichler.com
Cleveland, OH 44131
Decorative-lighting manufacturer since 1938; exclusive hand-painted finishes and designs. Also, a complete line of 12-volt and 120-volt landscape lighting products and 12-volt exterior lanterns.

HERITAGE METALWORKS
610-518-3999; Fax: 610-518-7264
www.hmwpa.com
Downingtown, PA 19335
Foundry, blacksmith shop and custom metal fabricator offering historically accurate and custom-designed metalwork including interior and exterior gates & railings.
SEE OUR AD ON PAGE 25.

HOUSE OF ANTIQUE HARDWARE
888-223-2545; Fax: 503-233-1312
www.houseofantiquehardware.com
Portland, OR 97232
Manufacturer & supplier of vintage reproduction door, window, shutter, cabinet & furniture hardware & accessories: Federal, Victorian, Colonial Revival, Craftsman & Deco styles; lighting fixtures, push-button switches & plates; bathroom accessories; registers & grilles.
SEE OUR AD ON PAGE 31.

KICHLER LANDSCAPE LIGHTING
866-558-5706
www.kichler.com
Cleveland, OH 44131
Decorative-lighting manufacturer since 1938; exclusive hand-painted finishes and designs. Also, a complete line of 12-volt and 120-volt landscape lighting products and 12-volt exterior lanterns.
Lighting *your* way since 1978 with fine craftsmanship, unique details and excellent design service.

31328 VIA COLINAS SUITE 103  •  WESTLAKE VILLAGE  •  818.706.1990
LANTERNMASTERS.COM  •  📱  🌐
Unsurpassed Quality & Attention to Detail
Experts at Historical Reproduction

STEVEN HANDELMAN STUDIOS INC
805-962-5119
stevenhandelmanstudios.com

Historic Lighting Restoration & Custom Lighting

GRAND LIGHT
American Artisans at Work
Preserving History
www.GrandLight.com
1-800-922-1469
Seymour, CT

LANEPT LIGHTING FIXTURES
800-828-6990; 413-664-7141;
Fax: 413-664-0312
www.periodlighting.com
Clarksburg, MA 01247
For over 40 years we have been producing Handmade 18th- and 19th century chandeliers, sconces, and lanterns. Aged tin, oxidized copper-, natural copper-, and pewter- finishes. Exterior and interior lanterns. Over 200 historically accurate models. Made in the USA. UL-listed.

OLD CALIFORNIA LANTERN CO.
800-577-6679; 714-771-5223;
Fax: 714-771-5714
www.oldcalifornia.com
Orange, CA 92867
Supplier of historically inspired lighting: interior & exterior; many styles from Arts & Crafts to Cottage to Old West.

SCOFIELD LIGHTING
610-518-3999; Fax: 610-518-7264
www.scofieldlighting.com
Downingtown, PA 19335
This signature 19th century inspired collection by Heritage Metalworks provides over 120 original custom and reproduction designs in the finest handmade indoor and exterior lighting. Artisans use traditional tools and proven techniques that show the mark of the human hand.

St. Louis
Antique
Lighting Co.
See our ad on Page 19

Elegance in Custom Lighting

INSPIRED DESIGN TO TAKE YOUR BREATH AWAY
DEEP LANDING WORKSHOP
115 Deep Landing Rd
Chesapeake City, MD 21620
877-778-4042
410-778-4042
410-778-4070 fax
www.deeplandingworkshop.com
deeplandingworkshop@gmail.com

WHEN CONTACTING COMPANIES YOU’VE SEEN IN THIS ISSUE, PLEASE TELL THEM YOU SAW THEM IN TRADITIONAL BUILDING MAGAZINE.
**Sheryl Stringer**  
**GAS LANTERNS & LIGHTING**  
713-626-4001; Fax: 713-626-4019  
www.gaslanternsandlights.com  
Houston, TX 77057  
Supplier of lighting; interior; exterior; gas fixtures; historical reproductions; garden & special effect lighting; porch; custom & more.

**ST. LOUIS ANTIQUE LIGHTING CO.**  
314-663-1441; Fax: 314-663-6702  
www.slalco.com  
Saint Louis, MO 63130  
Manufacturer & supplier of architectural lighting: all styles; historical reproductions & custom lighting; restoration services; commercial & ecclesiastical projects.  
SEE OUR AD ON PAGE 19, 76.

**Steven Handelman Studios**  
805-962-5119; Fax: 805-966-9529  
www.stevenhandelmanstudios.com  
Santa Barbara, CA 93103  
Manufacturer of hand-forged traditional lighting, grilles & fireplace accessories: many types & styles of lighting & grilles; fireplace screens, grates & inserts; historic reproduction & restoration services.  
SEE OUR AD ON PAGE 76.

**Vintage Hardware & Lighting**  
360-379-9030; Fax: 360-379-9029  
www.vintagehardware.com  
Port Townsend, WA 98368  
Supplier of door hardware, window hardware: window locks & sash lifts; drapery hardware; bathroom accessories; reproduction lighting; weathervanes.  
SEE OUR AD ON PAGE 29.

**W.T. Kirkman Lanterns Inc.**  
877-985-5267  
www.lanternnet.com  
Ramona, CA 92065  
Manufacturer of custom 1800s-1900s period lighting fixtures: Chandeliers, Railroad Car Lamps, Sconces, Pendants & Lanterns. New designs, specializing in historic reproductions & custom & restoration work. Features largest offering of replacement oil lamp and lantern globes, chimneys and replacement parts.

**Wiemann Metalcraft**  
918-592-1700; Fax: 918-592-2385  
www.wmcraft.com  
Tulsa, OK 74107  
Designer, fabricator, finisher & installer of fine quality custom ornamental metalwork: railings, fences, gates, custom, hot-rolled steel doors & windows, lighting, grilles, bronze & aluminum entry doors; all cast & wrought-metal alloys, finishes & architectural styles; since 1940.  
SEE OUR AD ON PAGE 79.
Achieving Period Designs and Finishes
Our Specialty

Advanced Architectural Grilleworks
Artistry in Architectural Grilles & Metal
aagrilles.com • sales@aagrilles.com • 516-488-0628

Advanced Architectural Grilleworks
516-488-0628
www.aagrilles.com
New Hyde Park, NY 11040
SEE OUR AD ON PAGE 78.

Architectural Grille
800-387-6267; Fax: 718-832-1390
www.archgrille.com
Brooklyn, NY 11215
Manufacturer of custom grilles: perforated & linear bar grilles; radiator covers; aluminum, brass, steel & stainless steel; variety of finishes; stock sizes; waterjet & laser cutting.
SEE OUR AD ON PAGE 79.

Heritage Metalworks
610-518-3999; Fax: 610-518-7244
www.hmwpa.com
Downingtown, PA 19335
Foundry, blacksmith shop and custom metal fabricator offering historically accurate and custom-designed lighting, architectural hardware, and designer-envisioned metalwork including interior and exterior gates & railings.
SEE OUR AD ON PAGE 25.

Historical Arts & Casting
800-225-1414; Fax: 801-280-2493
www.historicalarts.com
West Jordan, UT 84081
Designer & custom fabricator of ornamental metalwork: doors, windows, hardware, stair, balustrades, registers, fences, lighting, gates, columns, weathervanes, snow guards, cupolas, planters, fireplace tools & more; iron, bronze, aluminum & steel; restoration services.
SEE OUR AD ON PAGE 78.

Visit Period-Homes.com today for the latest residential projects, profiles, & our exclusive online Buying Guides.
KING ARCHITECTURAL METALS
800-542-2379; Fax: 800-948-5558
www.kingmetals.com
Dallas, TX 75228
Wholesale supplier of ornamental & architectural metal components: staircases, handrails, gates, fences, furniture, mailboxes, lampposts, finials & fireplace screens; wrought iron & aluminum.
SEE OUR AD ON PAGE 13, 79.

PACIFIC REGISTER COMPANY
805-487-7500; Fax: No fax
www.pacificregisterco.com
Oxnard, CA 93033
Manufacturer of registers: metal, wood & stone; many historic styles; accessories.
SEE OUR AD ON PAGE 29

W.F. NORMAN CORP.
800-641-4038; Fax: 417-667-2708
www.wfnorman.com
Nevada, MO 64772
Manufacturer of sheet metal ornament: hundreds of stock designs; cornices, moldings, brackets, pressed-metal ceilings, railing, siding, finials & more; zinc, copper & lead-coated copper; duplication from samples or drawings.
SEE OUR AD ON PAGE 4.

WIEMANN METALCRAFT
918-592-1700; Fax: 918-592-2385
www.wmcraft.com
Tulsa, OK 74107
Designer, fabricator, finisher & installer of fine quality custom ornamental metalwork: railings, fences, gates, custom, hot-rolled steel doors & windows, lighting, grilles, bronze & aluminum entry doors; all cast- & wrought-metal alloys, finishes & architectural styles, since 1940.
SEE OUR AD ON PAGE 79.

To see larger photos and informational captions, visit traditionalbuilding.com/page/the-magazine Scroll down and click on the Buying Guides link

At Wiemann Metalcraft, we’ve stood by our word for over 79 years. So when we tell you we can handle a seemingly impossible job, you can believe it. Simply put, when others can’t, WIEMANN CAN.

The Forged Iron Equivalent of A Firm Handshake.

Wiemann Metalcraft
639 West 41st Street, Tulsa, Oklahoma 74107 Phone (918) 592-1700 Fax (918) 592-2385 Email sales@wmcraft.com
IN THE APRIL 2019 ISSUE OF THIS MAGAZINE, “How to Repoint Masonry,” used the Chicago definition of tuckpointing: “placement of mortar in the joint without the removal of mortar.” Referencing the article, “Tuck Pointing History and Confusion” confirms the existence of a Chicago method using that term, but clarifies the original English definition and method of tuckpointing as discussed in this article.

WHAT IS TUCKPOINTING?
Sixteenth-century brickwork in England had wide mortar joints to compensate for irregularly shaped bricks. Following the Great Fire of London in 1660, building materials such as good facing bricks were hard to come by. Until the 17th century, when uniformly sized bricks from Holland became available, and Christopher Wren and other significant architects promoted narrow joints, tuckpointing’s traditional definition meant a narrow contrasting band over a background colored mortar. Originally called “tuck and pat,” it evolved to “tuck and point jointing,” and later to just “tuck-pointing.” The technique made the assembled masonry appear to have better quality masonry units when viewed at a distance. Embraced by the middle class, the method was not typically used on royal homes or other important buildings. Along with brick-staining, it was notably used in 1732 on Number 10 Downing Street, the home of the British Prime Minister, in order to unify three row houses into one address.

To tuckpoint masonry, mortar for filling the joint is selected in a similar color to the brick or stone to make it appear monolithic. Sometimes the brick itself is stained to achieve the most consistent appearance. Once the base mortar is slightly set, a v-shaped mason’s tool is used to inscribe a straight groove into the damp mortar to provide a narrow, regularized line between the bricks or stones. Into this groove, contrasting mortar is placed at a raised profile. This technique results in a strongly defined mortar joint and implies that a much more regular (higher quality) brick or stone was used. The Smith and Coleman Houses in Toronto, Canada, had the original tuckpointing restored to the way it was applied in 1885.

With the Great Chicago fire of 1871, the masonry trades were stretched thin re-creating in non-combustible construction all the buildings that were lost. The Chicago method of pointing evolved as a simpler, faster technique, employing a single color of mortar with a raised ridge placed along the center as the final tooling. This method should not be confused with the traditional technique of tuckpointing, or the Irish form of it, known as “wigging.” Wigging points the joint with the mortar color of the raised band. Once set, a colored stopping mortar is applied adjacent to it. The difference between the two is in longevity. In tuckpointing, the ribbon will weather first, leaving the brick-colored mortar joint. In wigging, the stopping mortar will weather first leaving the contrasting ribbon color.

REFERENCE:

http://dublincivictrust.ie/articles/to-wig-or-not-to-wig/
Door Knobs Available in 2\(\frac{3}{4}\), 2\(\frac{1}{4}\), 2\(\frac{1}{2}\), 2 inch Diameters (2\(\frac{3}{4}\) in. Shown).
Available in 3 inch Diameters for Use as Center Knobs.
Also Available in 1\(\frac{1}{2}\), 1\(\frac{1}{4}\), 1 inch Diameters for Cabinets and Fine Furniture.
Solid Turned Brass Knob and Rose.
Standard, Custom Plated and Patinated Finishes Available.

WWW.ER BUTLER.COM

CATALOGUES AVAILABLE TO THE TRADE - SHOWROOMS BY APPOINTMENT ONLY

\(\frac{3}{4}\) Scale
Author Bryant H. McGill once said, "The loss of craftsmanship has turned America into a sweeping, franchised wasteland of disposable goods." At Vintage Doors, we couldn't agree more. That's why our craftsmen take great pride in hand-crafting real wood doors of heirloom quality, just like the olden days. The kind people actually notice and respect—to be valued for generations. With an industry history celebrating three decades, discerning homeowners and trade professionals across the country rely on Vintage Doors to provide the best, time-honored door solutions available. Whether you're an architect, designer, contractor, historian or homeowner, we believe buying quality doors should be an enjoyable experience. That's why your project receives individual attention to detail and is specially made to meet exact specifications. To see and feel the difference a custom door can make for your next project, contact us today.

“Extra-Ordinary” designs, craftsmanship, size capabilities, lead times and personal service—Guaranteed!

GO ONLINE NOW | Request a Quote »  www.VintageDoors.com
CONTACT US | Call for a Catalog »  1 (800) 787-2001

Shop Now

Beautifying Traditional and Historic Properties Across the Nation — *Inside and Out* — SINCE 1990