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## From the editor

### There Are So Many Faces to Education

In the fall our attention turns to architecture that advances the crucial goals of education. In this case, it is higher education, with attention to facilities in Virginia and neighboring North Carolina.

At the University of Virginia we have seen amazing advances in the school's development under the rubric of Jeffersonian intent. Says U.Va. Architect for the University David J. Neumann, FAIA, "I don't like the expression: 'Well, if Jefferson were alive today, he would ...'" From Charlottesville to Wise County, the university's notion of following in its founder's footsteps is much more complex than Palladianism in brick and copper, as Neumann explains with precise passion.

The University of Mary Washington, too, is striving toward a much stronger future for its student legacy. With its relatively recent elevation to university stature, the school's campus master plan envisions a major renovation and building campaign that will still keep an eye to its Georgian architectural roots. The first major renovation of a residence in 30 years encompasses two dormitories in the heart of that campus. And it is one element of that renovation, The Link, that makes this project special. (Coincidentally, this project also received a VSAIA 2013 Award for Architectural Excellence. Those awards will be the focus of the next issue of *Inform*.)

The big buzz recently has been the new library at N.C. State, designed by Snøhetta, which graces the cover of this issue. Mike Welton captures the building's essence in the overall sense of university planning and architecture as well as the building's symbolic place in the overall fabric of Raleigh's history. Moving to more hands-on education on the history of architecture is the 350-year-old Arthur Allen House. As the only Jacobean grand house on the continent, this house embodies the abrupt turn of indentured servitude toward race-based slavery—a twist that many historians ascribe to the Nathaniel Bacon Rebellion of 1676. Although Bacon apparently never set foot in the house, his supporters did hold it as a fortress for awhile, and the house has since been called Bacon's Castle. As such, it is a physical remnant of those elements of this nation's history that led—directly or indirectly—to the Revolutionary War, Whiskey Rebellion, and Civil War. And it is all there, waiting for you to visit (and contribute) in Surrey.

We wouldn't want you to go away without some more contemporary lessons as well. PowerButton looks at 3D printing. Beyond the headlines of what can go wrong with this technology is Will Rourke's assessment of how it can be a boon to architectural presentations. There is an interesting look at how craftsmanship made the U.S. Chamber of Commerce renovation something special and a look at the newest jewel on the Rosslyn skyline.

As always, these stories, typically in more complete versions and with links to more information, are available on [readinform.com](http://readinform.com). Also, don't miss [aiava.org](http://aiava.org) and [architectureva.org](http://architectureva.org).

Most importantly: Enjoy.

—DEG





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Did you say Bacon?

On the cover:

Students ascend at the new N.C. State library.

Photograph by Jeff Goldberg/Esto.



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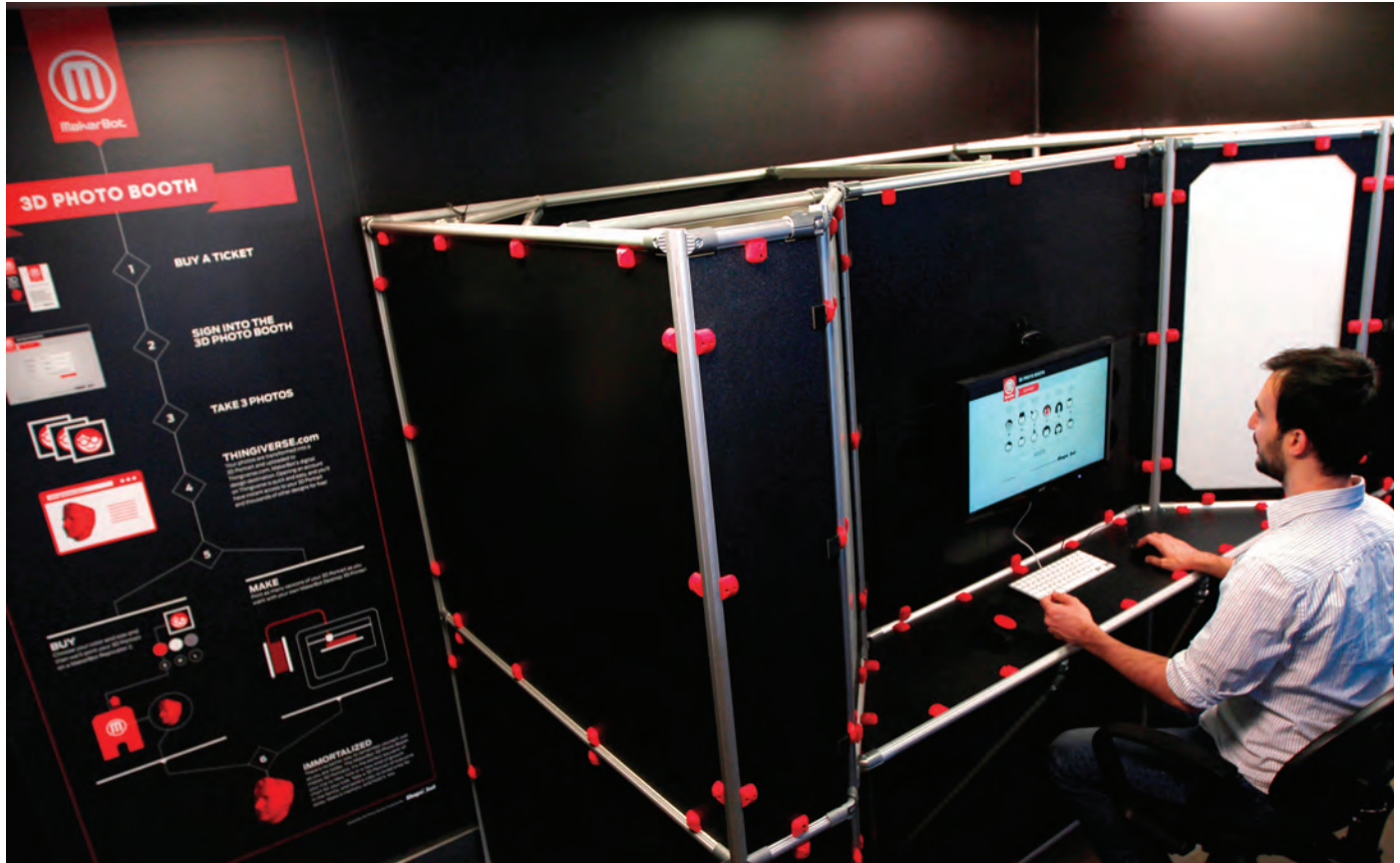
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**Next issue:**  
2013 Awards  
for Excellence  
in Architecture



# Gone to Print

by Will Rourk



The Makerbot 3D PhotoBooth.

**R**apid prototyping, whether for manufacturing or design, is fundamental to architects, engineers, and industrial designers; traditionally with an Exacto knife and chipboard. Even with computer controlled tools from the good old days, like maybe three or four years ago, machines created models by removing material. 3D printers employ additive manufacturing. A model emerges from the addition of material into minute layers that are extruded or formed by mechanical or chemical processes rather than cut away from a block of material.

These 3D printers have been around since the mid-1980s, but have just recently hit the mass consumer market because of the expiration of patents on the technology. If you've heard anything about 3D printing over the past couple of years, then you've probably heard

the name Makerbot, which exploded on the market as a result of a 2012 media blitz. But beyond mass-produced plastic junk is another revolution: using 3D computer-generated models as a file source. Whatever you've modeled in Revit or Rhino can be printed into material form. To understand what 3D printing can do for design, it's best to understand the scope of the technology.

## 3D printing can be categorized by at least three main processes:

### • *Fuse Deposition Modeling (FDM)*

A strand of plastic filament is heated and extruded into minute layers, usually fractions of a millimeter in thickness. The layers cool and form a solid object based on the 3D model you've told the printer to create. The result is a strong product, but the form can be kind of

rough. This 3D printing option is the most affordable today, and it's the method that the Makerbot uses to produce models.

### • *Sintering*

The most common form of high-end production-grade 3D printing is Selective Laser Sintering (SLS). This process involves the use of a laser that draws onto a hot bed of thermoplastic powder. Where it draws, it forms the powder into a solid, layer by layer similar to FDM. The result is a durable object with a smoother form than FDM products. Unlike the FDM printers, the SLS printer can print in thousands of colors for more accurate, high-resolution results. A variant of this type of printer, Direct Metal Laser Sintering (DMLS), can print in metal using metal powder as the manufacturing material.



#### • *Stereo Lithography (SLA)*

This type of printing is probably the most complex, but it is also the oldest form of 3D printing, first invented in the 1980s. The process uses light to fuse liquid resin into a solid, again layer by layer like other 3D printing methods. The result produces the smoothest, highest quality detail finish, although it is not as durable as the other methods.

#### **Affordable, practical modeling**

"There's no more cheap intern labor, and so higher-paid modelers have to make models by hand," says Kate Novy of Anvil Prototype, in Charlotte and Hampton. 3D printing services can yield higher-quality models that have the ability to do more than communicate ideas in physical form.

"With a 3D printed model, clients can pick it up, handle it, and talk about it in 360 degrees. They become physically and emotionally attached to that model and that project. Especially when a concept model is printed off in all white, it really gets people excited," Novy says. Anvil is fully capable of printing models in full color and in a variety of materials and is a professional-grade Zprinter distributor, so they can produce models that are highly customized for their design and manufacturing clientele.

For Crenshaw Lighting, 3D printing has become a vital part of their workflow. The studio makes high-quality, custom-designed and -built lighting fixtures. Crenshaw designer Jason Selznick has been working with Fast 3D printing service out of Maryland for more than five years to produce custom prototypes of parts for lighting fixtures. He says: "It's good to get something printed to check the fit or see what it looks like and hold it in your hands before going to production. We can make a mold for a sand casting off of an actual 3D print. If an original casting mold is unavailable, then we can use the 3D printer to rebuild the mold. At times it's cost prohibitive, but when we can't afford to make a \$3,000 cast mold in brass, then printing is a better, quicker solution."

Not only has 3D printed models helped the design process, they can make a real impact when meeting with clients. "With 3D printing you can print a prototype and use it to illustrate the process going from computer to 3D print to mold to cast in brass," Selznick notes. "It's a real selling point."

Novy notes that most of her clients are engineers, and architects have been conservative in adopting the technology. Yet 3D printing is finding its way into large and small architecture offices, most notably in branch offices of the bigger firms like Pelli Clarke Pelli, which has production-quality Zprinters in-house. Closer to home, the Arlington branch of Cannon Design has recently acquired a Makerbot, an affordable gateway into 3D printing technology.

Working with Rhino 3D and Revit, Cannon's Erik Maso has worked with 3D printed models for design competitions and client meetings, including a courthouse tower from a model file provided by their Los Angeles office.

"You really have to understand the limitations and capabilities of the tool to understand how to model the components that you want to print," Maso says. "Some people think that it's a hands-off process; that you just export it from Revit right to the printer. But there is a lot of time reducing the digital model information down to the important elements the printer can physically produce. It's more like modeling a



The future is now for this child as he learns to control his 3D-printed prosthetic hand.

diagram. You also have to plan for print time. The courthouse model maxed out the scale and articulation of the mass in the model, and it took eight hours to print. To print bigger and faster you need bigger printers.

"With the larger, high-end printers, you have to hire a trained technician on top of the cost of the machine. If something goes wrong with the machine, it takes two to three weeks to fix it. But with the smaller machines, most of the printer parts are fixable via DIY methods, and there are great YouTube support and instructional videos, online user forums, and blogs to guide your efforts."

Maso uses the technology to augment traditional hand built modeling techniques as well. "The 3D printer allows us to generate complex forms into physical form to produce more complex shapes that are more difficult to build from planar modeling material. If the form of an object moves in and out in the z direction, not just x and y, then printing really helps." For high quality models, Cannon Design will outsource to a third-party printing service. A hybrid model of foam, chipboard, and 3D printing massing units can produce a highly effective and attractive client-presentation model.

#### **The future?**

With a number of patents on SLS-type 3D printing methods set to expire early next year, the Maker Revolution is about to take another leap forward. For better or worse, the applications seem limitless, extending from printed weapons to a robotic hand for children born without fingers. Scientists are experimenting with organic printing material to bio-print tissues with the potential for producing functioning organs. And plastic recyclers are coming on the market as well. Whatever directions this technology takes it is definitely here for the long-term.

*Will Rourk (rezn8r@me.com) is a digital media specialist at the University of Virginia's Digital Media Lab.*



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# Museum Medley

By Margaret Hancock

The school season is back in full swing, and museums across the Mid-Atlantic provide their own learning opportunities with shows successfully merging aesthetics with history..

## ▼ Mint Museum of Art—Charlotte

[mintmuseum.org](http://mintmuseum.org)

Inventing the Modern World:

Decorative Arts at the World's Fair 1851-1939

September 22, 2013–January 19, 2014

The Mint celebrates the World's Fair expositions with objects debuted at these historical events during an almost 90-year span. As the most important vehicles for introducing advancements in modern living, the fairs—and subsequently this exhibition—combine the decorative arts, fine arts, and industrial design with iconic works including Marcel Breuer furniture. Like the fairs themselves, this exhibition showcases a wide range of artistic and technological achievements through hundreds of objects curated from both private and public collections across America and Europe.



## ● National Gallery of Art—Washington

[nga.gov](http://nga.gov)

Charles Marville: Photographer of Paris

September 29, 2013–January 5, 2014

Paris maintains a long and continuous history of inspiring all who partake in the culture and design of the city. The National Gallery captures the inspirational character of the City of Lights through the first retrospective exhibition in the U.S. of 19th-century French photographer Charles Marville. The exhibition brings together 100 photographs covering the arc of Marville's career and features city scenes, landscape details, architectural studies, and compelling photographs of Paris and its environs.



## ■ Virginia Museum of Fine Arts—Richmond

[vmfa.state.va.us](http://vmfa.state.va.us)

The Dorothy and Herbert Vogel Collection:

Fifty Works for Fifty States

On view through October 20, 2013

In this two-room exhibition, the VMFA reveals the 50 works from the much-celebrated Vogel collection received by the museum in 2008. The Vogels are renowned for amassing 20th century Minimal and Conceptual works, as well as Post-Minimalist and new-Expressionist art. As a couple, they redefined the collecting world by living off one New York State employee salary and using the other state salary to purchase art. Through interpretive material that includes a biographical film of the pioneering Vogels and gallery text describing the personal relationships between the artists and the collectors, the story of the art takes center stage with the art itself.



## ◆ Museum of Contemporary Art—Virginia Beach

[virginiamoca.org](http://virginiamoca.org)

Matt Eich—The Seven Cities

September 12–December 29, 2013

MOCA hosts a photography exhibition exploring the pronounced character and rich heritage of Hampton Roads through the lens of local artist Matt Eich. The compilation of color photographs capture Hampton Roads and the region's seven distinctly different cities: Norfolk, Virginia Beach, Chesapeake, Portsmouth, Newport News, Hampton, and Suffolk. The documentary imagery delves into the variety of peoples, cultures, natural environments, and built environments to present a unique study of a specific locale.







## U.S. CoC Library Regains Beauty and Function

**P**rominent on the main level of the 1924 Cass Gilbert-designed U.S. Chamber of Commerce Building, which faces the White House across Lafayette Square, is the Library Reception Room. Long neglected and under-used, the once-grand space's function as a green room for presidents and dignitaries speaking in the adjacent Briefing Center was diminished when through-access was blocked. The chamber's many prominent speakers had to go through a staircase to reach the lectern.

As they were initiating renovations throughout the building, the CoC leadership decided it was time to clear out the library shelving and a central glass meeting nook and recapture the grandeur of the original space. Morgan Gick McBeath & Associates came on at the beginning of 2012, says Principal Michael Gick, AIA, with the task of restoring the room to its original use as a reception area and venue for moderately sized but prominent conferences.

"As you enter the space, you have a 4x12-foot door on ball bearings at the front and, at the back, a door on



**A green-room, reception-area, and conference space bring multi-function back to an under-performing library. The eye-catching ceiling consists of individual painted canvases glued to lime plaster. Below, the galley is convenient yet invisible from the conference area.**

either side," Gick explains. "Through the left back door, one originally went into an octagonal vestibule to enter the auditorium from the stage side or right onto the stage." Years ago, that door had been sealed.

"The program for the restored reception room was to provide a seating area that works as a green room, conference area, and independent galley," Gick explains. "The client needed to be able to do video interviews

from their conferencing area and use it to watch developing events. The initial such event that drove the project-completion date was the November 2012 election returns."

The spatial progression MGMA implemented was to provide a relaxed seating area at the front of the room, furnished in what Glick calls "Old Club Style," with stuffed chairs and a lounge. "Then, in the middle, we had a series of conference tables that were almost Craftsman Style and could be bolted together," he says. "It was completely wired for Internet, and beyond that is a curved wall with a video monitor on the conference-table side and a hidden galley on the back. To the left we opened up the door to the octagonal vestibule so that the international leaders who would address the Chamber of Commerce in the Briefing Center could once again have properly direct and dignified access to the stage."

Out came the book shelves, and in went a new wooden floor. Wood blinds screen the east-facing windows. And the design maintained the original black walnut used on the doors.

George Dunn Jr., president of the Heffron Company, orchestrated the renovation of the entire building, Glick says. And, among Heffron's many crucial contributions was to bring on a lime-plaster craftsman, Danny Roth.

"The ceiling, which is about 16 feet high, was falling apart," Glick recalls. "But it was too wonderful to ignore. We had to get rid of the blinding down-lighting added in the 1980s and put in up-lighting. Each of those ceiling panels is different, and Danny made drawings and photographs of every one of them. He put a coat of stabilizing plaster over the whole thing, then painted and numbered each panel on canvas in his studio, which he applied like wallpaper. He also restored the look of the beams with veneer and touched up the damaged cartouches.

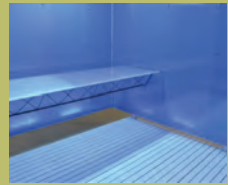
"The space was outstanding to begin with, but with the talent and teamwork—from Shannon DiBari, representing the CoC, and Heffron, to our own people—this was an amazing job."

—DEG

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## 2014 Schedule

**December 2, 2013:** Registration opens

**March 7, 2014:** Registration closes

**March 14, 2014:** Project submissions due

**April 18, 2014:** Winners will be announced

**May 16, 2014:** Winners appear in a special section of *Inform* magazine.

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# Taking a Stand

By J. Michael Welton

*Snøhetta, Clark Nexsen Collaborate with N.C. State on the New James B. Hunt Library in Raleigh*

**T**wo decisive gestures in master planning, more than a century apart, have yielded two different outcomes in two adjacent states:

In 1896, Stanford White counseled the U.Va. board of visitors against blocking off the university's Lawn and its spectacular views of the Blue Ridge Mountains to the southwest. A second site to the side, he argued, would be "most practical" for a new building.

His words fell on deaf ears.

"Ignoring his advice, university officials decided to close the vista," writes U.Va professor Daniel Bluestone in *Buildings, Landscapes and Memory: Case Studies in Historic Preservation*, published in 2011.

Construction of Cabell Hall quickly ensued.

Fast-forward to 2008: Architects from the Oslo- and New York-based architecture firm Snøhetta suggest to N.C. State University officials that they revise their 25-year-old master plan. They take a strong stand in favor of an expansive view from the Oval, a long grassy area three football-fields deep on Raleigh's Centennial Campus. They, too, want to place a building to the side.

"We proposed opening up that southern edge down to Lake Raleigh, so it's more open to the landscape," says Nic Rader, design team leader at Snøhetta, lead architects on the project.

"Leaving the south end open makes sense," says Clymer Cease, partner with Clark Nexsen (formerly Pearce, Brinkley, Cease & Lee), executive architects. "It frames the view, rather than closing it off."

The original master plan called for a mirror image of the existing School of Engineering building, located at the northern end of the Oval. The new structure was to sit on the southern edge and enclose the campus.

"We challenged that," says Rader.

This time, in North Carolina, the architects prevailed.

Along the Oval's western edge, they carefully placed the James B. Hunt Library, an elongated, slightly doglegged structure that's molded tightly to its site. To the east, it faces a series of soon-to-be completed dormitories for 1,200 beds, and a native landscape that will be allowed to mature over time. It all adds up to a classic Palladian scheme, though its forms vary substantially from precedents in America or abroad.



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Functional as screens to control solar gain, the ribbed exterior treatment also invokes the warp and woof of a loom in action, reflecting the state's long heritage as a textile manufacturing center, and the N.C. State Raleigh campus's role in advancing the state of that art. They also carry on "a dialog between interior and exterior," says Snøhetta's Nic Rader.

The James B. Hunt Library has an elongated and slightly doglegged massing molded to its site. The architects created a building that holds the western edge of the university's Oval and creates a magnet for student interaction, exploration, and research. The north/south axis provides east and west exposure to the sun.





Charged with creating an iconic library that would draw other companies to campus and the region, Snøhetta collaborated with Clark Nexsen to break with the monotonous orange brick and stainless steel that chatters ceaselessly from buildings around the Oval, as well as on the formal grid to the north. Like the decision to depart from the master plan, this library boldly steps up and into the future.

"We wanted to provide a highly inspirational, incredibly innovative space for students," Rader says. "We wanted a building like you've never seen before – a magnet for exploration and research."

For their own research, Rader and Snøhetta principal Craig Dykers dug deep into N.C. State's long history with the textile industry, a driver of the Carolina economy for much of the 19th and 20th centuries. Acknowledging the technology of looms and weaving ingrained in the university's DNA, the architects sought out a way to represent them first on the building's exterior, and then within its interior spaces.

"It's emblematic of the technology created on the campus," Rader says of the building's exterior skin. "They're solar blades that create a functional use for shading and reducing heat loads, but they're a literal metaphor too – and a dialog between interior and exterior."



Outside, the architects created a curtain wall from 800 distinct patterns and thousands of the blades, some as wide as 18 inches and others as slim as eight. The weaving patterns swoop up and back, along with stairways inside.

"There's a north/south axis through the building, with east/west exposure to the sun," says Cease. "The idea is that we want the building to move upward in a weave that flows from the base to the top, with an interplay of light."

Inside, the weaving takes place over five levels of wide open spaces, stitched together with Day-Glo yellow stairways.

Some stretch out in wide Roman seating for lectures or gatherings, but all lead up to the fifth-floor Skyline Reading Room, perched over lake below and clouds above. Intense pops of color shout across each level: red for a ground-floor auditorium, green for cafés, orange for restrooms and midnight blue for fire stairs and elevators.

Throughout it all, there's a pervasive democratic feel to its 235,000 square feet of space, flexibly used by students and visitors alike. "The idea was to make it the most special place on campus, with the best views of the lake and of Raleigh,"



says Shann Rushing, a Clark Nexsen associate. "It's meant to be open to the students and the public – it's not reserved for a boardroom, but for everyone."

Furnishings from Herman Miller, Knoll, Steelcase, Thos. Moser, Bernhardt, Davis and HBF – much of it sourced from North Carolina manufacturers – are dispersed liberally on each level, with 1,750 seats and 75 different styles in 100 mind-blowing colors.

At its very heart is a "Bookbot" retrieval system that fetches tomes of choice electronically at the touch of a screen. In essence, it's a computerized forklift that searches, on command, through 1.5 million books in the library's below-ground stacks – and not just for the volumes assigned to it.

"The university invented software that mimics browsing," Rader says. "You can wave your finger, see the books next to the one you're searching for, read a few pages and request it."

No 19th-century architect – not Thomas Jefferson nor Stanford White nor any who might have worked on N.C. State's early buildings – could have envisioned the kind of technology that would seek out and retrieve a book so accurately from so many choices.

Jefferson and White, though, *could* foresee the enduring value of a master plan that opened up both landscape and mind to unlimited possibilities, even if the late-19th-century U.Va. board of visitors could not.

But because of forward-thinking leaders at Snøhetta, Clark Nexsen and N.C. State, the James B. Hunt Library now stands as a symbol of how long-held plans can be turned into lasting inspiration – if everyone involved looks and listens thoughtfully.

*J. Michael Welton writes about architecture, art and design for national and international publications, including The New York Times, The Washington Post, Dwell and The International Herald Tribune. He also publishes an online design magazine at [www.architectsandartisans.com](http://www.architectsandartisans.com).*

**Technology is all-pervasive in the library, including the Bookbot resource retrieval system. By means of this aesthetically compelling and futuristic amenity, a computerized forklift quickly and accurately searches through 1.5 million books to retrieve and deliver a requested book automatically from the stacks, upper right.**

Mark Herboth





# Design Dialogue

## Buildings Don't Claim Space, They Frame Space

*The University of Virginia's Architect for the University David J. Neumann, FAIA, explains the meaning of context for that historic campus.*



**Sending stormwater through underground pipes is bad water management and ignores the landscape architecture appeal of water features. By daylighting long-buried streams, the U.Va. grounds plan brings action and life to the Dell and South Lawn. Above, the Rotunda in 1935.**

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In the master plan for the University of Virginia, both the architectural and landscape design guidelines are held together through our grounds plan. We certainly respect the World Heritage Site, which encompasses the Jeffersonian core and surrounding buildings and buildings peripheral to that, including some venerable buildings, such as the University Chapel.

From the beginning there has been a direct connection between the landscape and the architecture at the university. The original Jeffersonian alignment of the Lawn is slightly off from a direct north-south alignment, very likely because Jefferson decided to avoid a ridge of rock that runs directly under the lawn. With the Rotunda to the north, the Lawn has set up an alignment that the central campus plan has been followed religiously, even into the 1960s.

It only started to morph from that with the development of the north grounds, where the Darden School, Law School, Judge Advocacy General's quarters, and some of our housing are.

Now, rather than adhere to an orthogonal relationship with the core grounds, we have endeavored to use landscape as a knitting device. Our notion of spaces and the quality of those spaces includes elements such as bringing storm water up to the daylight rather than conveying it through buried pipes. The dell pond and the landscape design for stormwater control in front of the John Paul Jones Arena and in front of the large parking garage at the corner of Emmet and Ivy, are part of that strategy, as is the South Lawn project. We view topography as a positive aspect rather than something to defeat.

By bringing that water to surface

we have natural riparian areas that we can then re-vegetate as needed, which, in turn allows us to form informal pathways for pedestrians and bicycles. We have had a strong demand for traffic management since I've been here—emphasizing pedestrian, bicycle, and bus accommodation rather than private vehicles. And it all works in concert as we knit the fabric of the campus back together.

This is an outlook that the university is doing at our Wise County campus as well. The original Clinch Valley College of the University of Virginia was sited on a former strip mine. Just a year ago, with the help of the state, we cut a slot through one of the leftover ridges so that now you can see across the campus from east to west. The connection among buildings that VMDO established with the convocation center and that



Photo © Maxwell MacKenzie

**The Claude Moore School of Nursing, by Bowie Gridley Architects, shows how a traditional palette of materials can make a contemporary statement.**

Train & Partners accomplished with the renovation of Smiddy Hall will be continued with the new library Cannon has designed and is now under construction. In all of these cases we use landscape and pedestrian access to create campus identity.

### **An aesthetic that is didactic**

The architecture is important, of course, but this approach means the buildings are not as much the front piece, as everyone assumes. If you think of the beauty of what Jefferson did originally as a paradigm for campus planning, you understand that he first worked with the site. He aligned the Lawn so that its open south end faced out towards the mountains. Jefferson had negotiated the Louisiana Purchase, initiated the Lewis and Clark Corps of Discovery Expedition, and was a frontier attorney when he was very young. A large part of the original campus concept was that students would be inspired to move out and spread the ideals of democracy to the rest of the United States, which, by then, was defined as stretching from the

Atlantic to the Pacific.

So the progression is: site planning, landscape, and then architecture. As historians such as Richard Guy Wilson have pointed out, the architecture of the University of Virginia is really framing the space in a way that is didactic. For instance, the pavilions are all different. For some, their architectural expression comes directly from Palladian copy books. But the last two, Pavilions 9 and 10, derive from Jefferson's interpretation of the French Palladian style. At one point he denied that he was influenced by Claude Ledoux, but you can see those influences in Pavilion 9. So one can imagine the influences on Jefferson from the time he was the U.S. ambassador to France. He was projecting a very rich Palladian vocabulary yet treating it in his own fashion and interpreting it front to back, side to side in ways that hadn't been done in the U.S. before. We feel that spirit of context and we learn from it.

### **Developing a contemporary context**

When we move out to the Medical Center, we obviously have a whole

different world; one of intensity that had very much been paved over. It was introverted architecture with narrow windows, some pastiche added on here and there. But generally speaking, not a very good collection of architecture, and hardly any landscape design or a sense of order.

In developing that part of the campus, we started with the question of how we could create a sense of order in our Regents Plan. The hallmark of that plan, now seven years old is getting the hospital connected to its administrators and to establish connections among the university's hospital community Medical Center, the School of Nursing and the Medical School.

They wanted more green space, more order, and more attachment to the grounds, as the original hospital buildings had been. One of McKim Meade and White's ideas was that order would be continued with the academic development to the east and comingled with the medical community. Now, with their support, we have been implementing as much a "greenscape"





Photo courtesy of the Office of the Architect for the University of Virginia.

The roof line of the Emily Couric Clinical Cancer Center by ZGF is reminiscent of praying hands.

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program as an architectural program. We also recognized that as we worked out the vocabulary there that we also had been gifted with a very large white building from Max Bond, which, along with a number of other buildings, we wanted to retain. To make sense out of this collage, I developed a different set of design guidelines. We took our renderings from that, along with the Regents Plan to the Board of Visitors. They understood that what we were trying to do was something unique to the campus, but that also had a strong University of Virginia identity, which doesn't need to be all brick with white columns and Palladian windows.

Then, as we moved into other areas of the grounds, such as the Arts Grounds with the Smith Band Building and the new Thrust Theater, both designed by William Rawn, and Ruffin Hall. Again, we had a different world with which to contend; a world that includes Campbell Hall, which AIA Gold Medalist Pietro Belluschi had a hand in designing. We had some rather dramatic new additions designed by faculty such as W.G. Clark and William Sherman. So the arts administrators and faculty wanted buildings that are more expressive

for their grounds, which are not even visible from the Rotunda. The three new buildings and parking garage there have their own interpretation of University of Virginia identity.

Landscape architect Laurie Olin and his firm developed a master plan for the site about 12 years ago to reinforce and preserve the landscape. We resurrected that when we developed Ruffin Hall. Olin's firm was also involved with the green roof on the Thrust Theater. We also changed the lighting there and worked out a vista from the colonnades across the train tracks to the Thrust Theater—through grading and a ha-ha—whereby you don't see the trains as they go by. As you look across at Lambert Field and the dramatic colonnade, you sense that it is all about the University of Virginia, too. But we didn't put a single white column in any of the Arts Grounds buildings. As with the Medical Center, we used the general guidelines, including brick, copper, and soft white on the window frames. It is of the university, but it is not heavy-handed. Moreover, whether Belluschi intended it or not, the siting is a distinct flip of the Lawn, where it is looking north instead of south, with Campbell Hall at the head.

### The importance of many disciplines

Although my title is Architect of the University, my office actually has more landscape architects than architects. And a number of our people are cross-disciplinary. Our land-use planner has a degree in both architecture and landscape architecture, and she practices as a planner. One of our landscape architects has an architecture degree and landscape architecture degree, but is registered as a landscape architect and does a lot of design work in-house at a variety of scales. We also work with a number of high-stature landscape architects, such as Olin, Michael Van Valkenburgh, Warren Byrd, and Michael Vergason, who is working on our new Battle Building project. We're going to put in a park that will mimic Clark Park across the street,

which he is also improving as a part of the Medical Center Master Plan.

U.Va. School of Architecture Dean Kim Tanzer and I have a strong collegial relationship. She, her faculty, and others in the university arts programs were involved in the Thrust Theater design. And we have people like renowned landscape architect Beth Meyer on the faculty. Our own landscape architect, Mary Hughes, FASLA, has had her work honored by the ASLA. Our program planner worked as a landscape architect when he first came to U.Va. I myself am both an architect and land-use planner. And we have GIS planning, sustainability planning, historic preservation, and architectural conservation staff. We see all of this talent together as additive to creating a sense of place.

We are very careful to select architects who share our commitment in this regard, and the results bear this out. Our Cancer Center with its upside-down roof, designed by Zimmer Gunsul Frasca, was innovative—it catches rainwater to irrigate along Lee St. When we first showed it to the Cancer Center people, we were afraid they would be nervous about something that looked odd. The head of nursing and the director of the Cancer Center at the time said: "This is fabulous because it's like hands in prayer hoping for a cure and giving hope to all of our patients." And they've adopted that roof in abstract ways as a symbol of our Cancer Center. Well-expressed function, in that case, became spiritual. We're about to put a massive green roof on top of our hospital lobby, both because it makes sense for stormwater control and so that the patients in the hospital tower see vegetation rather than a stark roof deck when they look out.

Again, Olin was in the lead in master planning. Ayers Saint Gross, who have designed several buildings with us has landscape architects integrated into their team. Warren Byrd, who is more or less retired, has nonetheless been working with our team working on the landscape design for a dorm now under construction.



Interior space layout and fixtures are predicated on building function. With McLeod Hall, above, and the Mary Morton Parson Clinical Simulation Learning Center, below, both by Bowie Gridley Architects, the function is to emulate a patient-friendly environment, with smooth floors and broad hallways for wheeled access and straightforward wayfinding.



We never have anybody just go away and come back and present us with something. We collaborate on everything.

That has included two science buildings with Bohlin Cywinski Jackson as well as work on the South Lawn with Moore Rubell Yudell and Walter Hood. The university has been blessed with an enormous range of planners and designers.

Building performance fits building function

I don't like the expression: "Well, if Jefferson were alive today, he would ..." Who knows what he would do? But we do have an appreciation, based on his

architecture here and at Monticello, that he interpreted space differently based on its intended use.

You can see this by just walking through the Pavilion, from what was a classroom floor down to the basement level, which would have been the area that the slaves worked in, and then up to the second floor, which was rather Spartan, but well-decorated living quarters for the faculty members.

Likewise, I think we are very conscientious about treating spaces based on their function. And, with function so fluid in many instances due to rapid technological advance, that focus,

more and more, is on flexibility. Built-ins were so popular years ago, which now has become something of a problem in a lot of places. Laboratories, especially, need a lot of flexibility rather than casework bolted to the floor. Buildings are all meant to have a long life, so we build them with quality materials, we design them as flexibly as we can to anticipate change, and we are very conscientious about the public spaces.

And of course it's different if you are waiting in the Cancer Center or you are waiting on the South Lawn. So on is more patient-focused; the other more student-focused. We are also looking for chance-meeting-place opportunities. Inter-departmental collaboration really does happen if the design encourages people to interact, for instance on the way to a coffee pot. In my last major project at Stanford before I came here was the Clark Center, with Norman Foster and Peter Walker, and all 200,000 square feet were based around the notion of comingling different disciplines from medicine, engineering, life sciences, and physical sciences.

One of the things we're doing here in that regard is to design the libraries more as mixing and meeting places and less as book storage. Our librarian is right up front on that. And it's not just a simple matter of being able to get coffee there. She wants the library to be where students go when they're not going back to their residences. It's almost parallel to the way student unions function. So the fact that our two are side-by-side, we looked to see if we could connect the two. That was impractical, but it illustrates how much we want to see the comingling of spaces to get interaction among students.

So context isn't a single thing, it is everything: Water, topography, collaboration, and function as one. That is what Jefferson did, and that is what we continue to do with our buildings. Not to claim a space but to frame space.

## RESOURCES

**ENVELOPE SYSTEMS:** Lynch Roofing (see ad, p. 8)





# The Link Between Yesterday and Tomorrow

*UMW is an emergent presence in Fredericksburg.*

**T**he University of Mary Washington is currently working on an extensive upgrade of its Fredericksburg campus based on a 2009 master plan developed by Burt Hill and Symmetra Design. One of the first dormitory renovations has been for the mirror-image Randolph and Mason Halls. These two dormitories face the university's administration building, built in 1938, George Washington Hall.

Mason Hall is an upperclassmen residence hall named for Ann Thomson Mason, mother of the author of the Virginia Bill of Rights, George Mason. Constructed in 1957, the building

underwent extensive remodeling in 2011 and re-opened for the 2012-2013 academic year. Mason houses 185 coed residents and is centrally located on the Mary Washington campus. The dormitory features a third-floor kitchen, study lounges, inside bicycle storage, and a laundry room. It now provides elevator access, central air-conditioning, and several cell-phone rooms throughout the hall. Residents of Mason and Randolph connect via The Link and have sunrooms overlooking the university's main pedestrian way, Campus Walk.

Built in 1954, Randolph Hall is

a freshmen dormitory named after Thomas Jefferson's daughter Martha Jefferson Randolph, who was also married to Virginia's 21st governor, Thomas Randolph. Randolph Hall is a coed freshmen residence housing 185 students and, following the 2011 renovation, is complete with air conditioning and elevators. The hall also features study lounges and sunrooms, private cell-phone areas, interior bike storage, a laundry room, and a kitchen.

Part of the University of Mary Washington master plan is a set of historic guidelines, notes Department of Historic Preservation Assistant





The Beach, below, is only one of the casual gathering spots on campus, left. The Link serves as another, and, behind that is the UMW ceremonial pedestrian path, the Campus Walk. Newly renovated, this assemblage is at the campus center.



Collegiate Georgian is the traditional style for the University of Mary Washington. The new connection—The Link—between renovated Randolph and Mason residence halls brings students closer to each other and their studies.

Professor Michael Spencer, who worked on developing them. The campus is well-known for its comfortably scaled red-brick Georgian buildings set amid neatly landscaped lawns, and the renovation of Randolph and Mason halls, located near the main campus entrance, are in keeping with the goal of maintaining that campus construct as the university grows.

These two dormitories underwent the first major housing renovation project in over 30 years at MWU. With contextual design as a clear mandate, UMW seized the opportunity to set precedents in both function and design when they commissioned Bowie|Gridley Architects.

As the programmatic balance between student rooms and social spaces evolved, capturing under-utilized

balconies and patios as interior space emerged as a strategy to enhance variety and quality of lounge and study venues, maximize the bed count and provide revenues needed to support the budget says Principal Calvert S. Bowie, FAIA.

The building committee embraced the concept of a coordinated living-learning environment that integrates academic uses with student housing. An addition between the halls on top of an existing two-story, partially below-grade connector evolved into the connecting Link, housing seminar/meeting rooms that flank a large central gathering space.

Representing a new operational model for UMW, the Link is open to the entire university community for scheduled classes and meetings during







Within the two coed residence halls, Bowie Gridley provided well-lighted and inviting areas for congregation and study.





Communications connections are all-pervasive at UMW. The renovation provided physical connection as well with the new connector now dubbed **The Link.**

the day, and to residents-only as a social and study venue at night and on weekends. The addition also opens to the Beach a small campus quad that opens toward George Washington Hall and serves as the front yard to the chevron that the now-linked Mason and Randolph halls form in plan.

The scale of the Beach creates a presence while remaining subordinate to the existing two-story porticoed entrances on either side, says Project Manager Leslie W. Loudon, AIA. A pitched roof form and cupola with standing seam metal roofing, also used for a mechanical equipment screen on each existing roof, echo nearby campus buildings.

Detailing takes cues from the original structure. Brick with cast stone accents are borrowed from the vocabulary of existing porches on each end of the residence halls. Glazed walls, which follow the curvature of the existing structure below, express hallways and connect the Link to the Resident Halls while maintaining a

strong visual connection to the Beach, notes Project Architect Robert K. Sherill, AIA. Compact brick elements that terminate the new corridors complete the visual transition between the Link and the existing halls. On the rear, where the grade drops two stories, the glazed porch-like expression wraps the full length of the addition. A large oriel window opens the main gathering space to expansive views while sheltering a private entrance to the faculty/staff housing area below.

Renovations to the existing halls include custom aluminum replacement windows that carefully replicate original wood windows' sight lines and profiles. New doors and windows are detailed with proportions and profiles in keeping with the original design.

Sustainability is woven throughout the design, from the repurposing of the original structure to maximizing space use by combining living and learning in one facility. Many features serve as teaching tools, connecting

students' daily experiences with a deeper understanding of the connection between their way of life and the environment. Final LEED Gold Certification is pending with the USGBC.

The underutilized terrace provided a platform for the new connecting Link addition. The Link entry plaza provides outdoor gathering space and accessibility. At the back of the building, the addition above the original two-story connector provides expansive views while sheltering a new entrance to faculty and staff apartments below. New stair and elevator towers are tucked behind each hall.

In the main gathering space, lighting, finishes and furnishings combine traditional warmth and a more modern open feel. Formal lounge renovations preserve original details with updated interiors. Open porches at the end of each hall are enclosed to provide much-needed group study space with light, views, and visibility from the Campus Walk. —DEG

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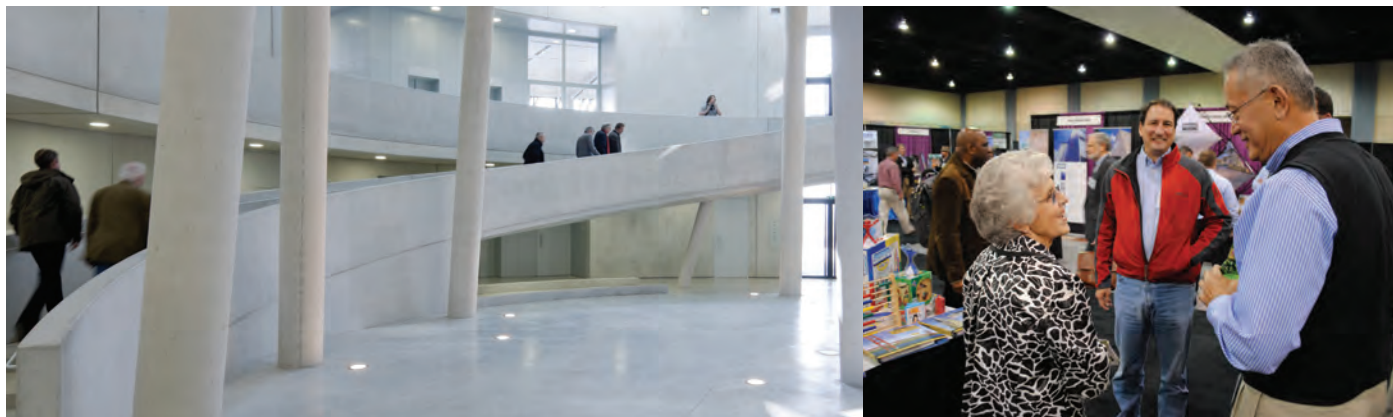


Inside and outside, students have adopted the Link and the Beach as a choice location for spontaneous interaction. Distinct from the original 1954 dormitories, the new element forms a recognizably new hinge to the contextually compatible mix.



# Architecture Exchange East

The ArchEx program for November 6–8, 2013, to be held Greater Richmond Convention Center, offers multiple opportunities to meet and mingle with fellow professionals, professional development offerings in seven topical tracks including tours, internationally recognized Keynote Speaker Bernard Tschumi, FAIA, and much more. Visit [www.archex.net](http://www.archex.net) for detailed information.



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## Special events and highlights

Tschumi Keynote Address, *Conceived, Perceived, Experienced*  
Thursday, November 7, 2:30–4 p.m.

*Sponsored by Froehling & Robertson, Inc., MEB General Contractors, and Hanbury Evans Wright Vlattas*

## ArchEx Exhibit Hall

**Thursday: 10 a.m.–2:30 p.m.**

**Friday: 10 a.m.–2 p.m.**

Discover the latest trends, products, and technologies in the ArchEx Exhibit Hall, enjoy the Mid-Atlantic Design Showcase, and partake in the 15-minute content-rich continuing education presentations. Shop at the ArchEx Bookstore (*sponsored by Acuity Business Solutions*). The exhibit hall also features a chance to have your thoughts recorded at the AE Global Media booth, check email at the Internet Lounge (*sponsored by Diversified Educational Systems and Technology Assurance Group*), and mingle at the Virginia Women in Design Networking Lounge.

## CONNECTIONS Cocktail Party

**Thursday: 5:30–7 p.m.**

*Sponsored by Riverside Brick and Shade & Wise Brick Co., Inc.; Apex Companies; and WDP + Associates*

*CONNECTIONS band sponsored by Abakus Solar*

## Continuing Education

In addition to the topical tracks (Design, Green, Historic, Business, Tech, General, and Health and Healthy Buildings), there are programs specifically focused to Virginia's Interfaith Forum on Religion, Art and Architecture; Women in Architecture (*sponsored by Draper Aden, Gilbane Building Company, Glavé and Holmes Architecture, Pace Collaborative, Keast + Hood, and Kjellstrom + Lee*); and Emerging Professionals. Unless noted otherwise, sessions offer 1.5 AIA/CES learning units (LUs). Check the program to find programs that qualify for AIA/CES HSW LUs.

## Pre-conference Workshops

(Workshops and tours are offered on a space-available basis.)

### WEDNESDAY, NOV. 6

**9 a.m.–4 p.m.** (with one-hour lunch break)

**W-01** 2012 IBC Accessibility & Usability for Commercial Buildings (6 LUs)

**9 a.m.–noon**

**W-02** Home Modifications for Persons with Disabilities (3 LUs)

**W-03** [TOUR] Dooley Mansion at Maymont Park

**1–4 p.m.**

**W-04** Principles and Techniques of Urban Design (3 LUs)

**W-05** Communicating Effectively With Diverse People (3 LUs)

**W-06** Owner-generated Agreements: Evaluating the Contracts Your Client Provides (3 LUs)

**W-07** [TOUR] Bon Secours Washington Redskins Training Center

### THURSDAY, NOV. 7

**8:30–10 a.m.**

**101** Lilly Reich's Barcelona Chair: Dispelling the Myth of the Hero Architect presented with Virginia Women in Design

**102** Repositioning the Post-industrial Landscape

**103** Understanding the new AWS Manual and Section 10-Casework

**104** Implications of Radiant Floor Mechanical Systems on Elementary School Design

**105** Furniture for Museums—An Educational Mission

**106** Designing the Building Envelope for Climate Mitigation

**107** [Master Architect Series] Kahn in Texas

**108** Concepts in Risk Management

**109** Continuous Insulation and Air Barriers for High Performance Wall Assemblies

**10:45 a.m.–12:15 p.m.**

**201** Achieving Design Success: Evidence from a Study of Office Culture and Physical Workspace

presented with Virginia Women in Design

**202** Why Things Go Wrong with LED Lighting

**203** 7 Keys to Unshakeable Network Security Every Business Owner Must Know

**204** Building Community: Case Study of Two Virginia Farmers Markets

**205** Portfolio Review for Students and Emerging Professionals (1 LU)

**206** VSAIA Prize for Design Research & Scholarship: Commercializing Energy Efficient Affordable Housing

**207** [Master Architect Series] Kahn's Classroom: Louis Kahn's Former Student Discusses His Teaching

**208** Updates to Federal, State, and Local Utility Energy Tax Incentives and Related Green Design Strategies

**209** Consider Acoustics: Incorporating Acoustical Concepts in the Building Design Process

**210** So You Want to Be a Fellow? Demystifying Fellowship

**Keynote Address**

**2:30–4 p.m.**

Conceived, Perceived, Experienced

Bernard Tschumi

*Sponsored by Froehling & Robertson, Inc., MEB General Contractors, and Hanbury Evans Wright Vlattas*

**4:15–5:45 p.m.**

**301** Personality, Performance, Professionalism

presented with Virginia Women in Design

**302** Water as Design Inspiration in Architecture and Engineering

**303** Salutogenic Design for Office Buildings

**304** Pecha Kucha Design Presentations

**305** Emerging Leaders in Architecture

*sponsored by Glavé & Holmes Architecture and an anonymous donor*

**306** 2013 Virginia Society AIA Prize: A Celebration of Student Design

*sponsored by Virginia Housing Development Authority*

**307** Civic Leadership and Urban Design

**308** Find the Lost Dollars: 6 Steps to Increase Profits in Architecture, Engineering and Environmental Firms

**309** Integrating New Lighting Technologies into Architecture

**310** Integrating Design and Delivery: Achieving More With Less

*Sponsored by Skanska USA.*

**For details on registration and accommodations, visit [www.archex.net](http://www.archex.net).**

**FRIDAY, NOV. 8**

**8:30–10 a.m.**

**401** Healthcare, FGI, HIPPA, LEED, HCAHPS and Acoustics

**402** NFPA 285 and the 2012 IBC: Combustibles in Non-Combustible Construction

**403** Creating the Culture of an IDP Outstanding Firm

**404** 5 Pitfalls in Construction Administration

**405** Urban Historic Districts: The Next 50 Years

**406** The Sacred in the City: The Milwaukee Cathedral Project presented with Virginia IFRAA

**407** How to Design Green Without Spending Green

**408** Precast Concrete and High-Performance Design

**409** Fundamentals in Acoustic Design

**10:45 a.m.–12:15 p.m.**

**501** The New Saint Elizabeths: Architecture for Recovery and Community

**502** Mountains of Influence: Early Landscape Architects in Virginia's Blue Ridge

**503** The Business Case for Green Building

**504** Design Loci: Contemporary Design in Washington, D.C.

**505** Historic Preservation Program at NIH's Bethesda Campus

**506** Washington National Cathedral: The Cathedral Shaping the City, the City Shaping the Cathedral presented with Virginia IFRAA

**507** Case Studies of Successful Applications of Section 179D – Energy-efficient Commercial Building Deductions for Design Firms

**508** Next Generation Classrooms

**509** The History of Bathing: The Past Informs the Present

**2–3:30 p.m.**

**601** Awards for Excellence in Architecture *sponsored by Donley's*

**602** Architectural Photography Live: Fundamentals of Perspective Control, Composition, and Creative Photo-Manipulation

**603** WAV-T: The Path to a Proper Building Enclosure (Part 1)

**604** Stadia Within a Landscape

**605** Kenya: Rural Design and Construction

**606** Choosing Sustainable Finishes

**607** Design Assist & Prefabrication: Dual Paths to Risk Reduction

**608** Dynamic Worship by Design: Worship Technology for the 21st Century

**609** Below Grade Assemblies and Rigid Insulation

**3:45–5:15 p.m.**

**701** The Catalyst for Change: Ambulatory Facility Design in a Reforming Health System

**702** Combined Effects of Multi-Story Buildings and Brick Veneer

**703** WAV-T: The Path to a Proper Building Enclosure (Part 2)

**704** Office Space as a Tool: Incorporating a Strategy in Your Workspace

**705** Where Is BIM on the Design Path?

**706** New Daylight Simulation Methods for LEEDv4 Daylight Credit



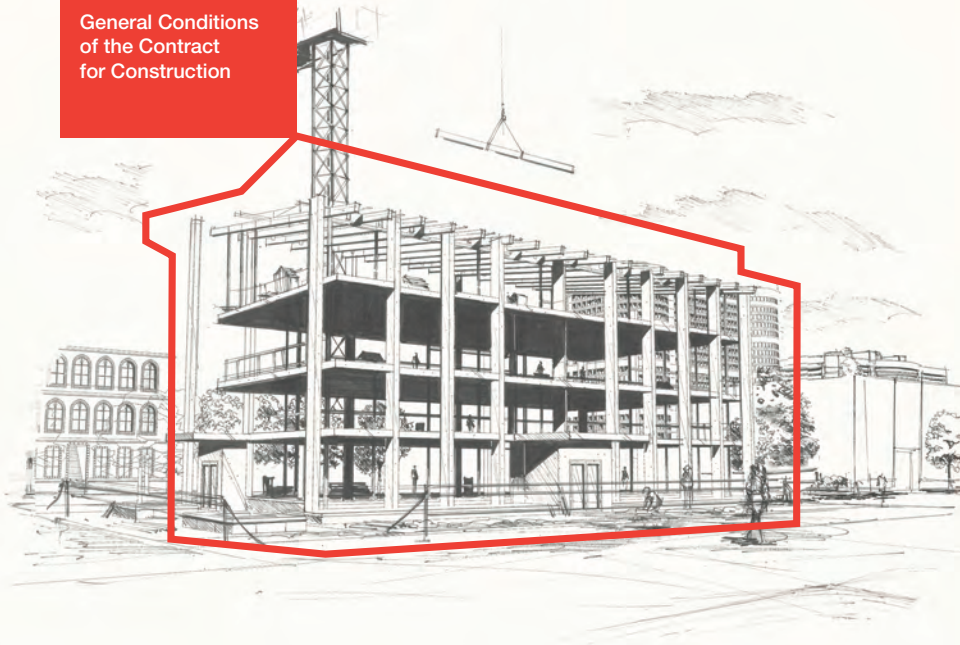
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# 1812 N. Moore Anchors an Emergent Rosslyn

By Douglas E. Gordon, Hon. AIA

**“R**osslyn is a submarket that really is unmatched from the standpoint of location,” notes Timothy Helmig, the executive vice president and chief development officer for Monday Properties, the developer of Northern Virginia’s newest, tallest, and greenest mixed-use office complex. Situated next door to the Rosslyn Metro station and cantilevering into the leased air space above the adjacent Virginia Dominion substation, 1812 N. Moore also commands some of the most spectacular views across the Potomac to Washington and, in the other direction, Arlington National Cemetery and the

Marine Corps Memorial.

“Situated in this dynamic submarket, 1812 is itself the most high-efficiency building ever delivered in this marketplace,” Helmig continues. “We see a significant transition to becoming more efficient in the workplace. At 1812, we define layouts to foster better collaboration, thereby increasing productivity. With its column-free floor space, high-performance glass systems, and energy-efficient mechanical systems, 1812 lends itself perfectly for that trend.”

The building is part of Arlington County’s long-range plan for the Wilson

Blvd. corridor stretching from Ballston to Rosslyn. Once a low-rise and tired mix of small-scale commercial and residential outposts, the area—over the past four decades since the subway system was completed there—has emerged as one of the nation’s premiere transit-oriented developments.

“There was nothing easy about the negotiations,” says Project Manager Chris Garwood, Assoc. AIA, of DCS Design, the architect for the project. Building in the tight confines, with major thoroughfares on either side, one of the busiest subway stations in the Metro system, and a major Metro





**With some of the best views available of monumental Washington, 1812 N. Moore also establishes Rosslyn as a transit-oriented hub of political and business activity at Rosslyn's most active location—right next door to a major Metro rail and bus connection for all of Northern Virginia.**

bus stop meant a lot of discussions with the county and neighboring property holders. The architect worked closely with Arlington officials, Ramada, and other stakeholders to work through the multiple phases of putting the building in place, Garwood says. "The only magic bullet was 'meet with them meet with them, meet with them,'" he says.

"We were able to reach compromises and agreements through at least seven different phases of the work plan to keep the buses moving to different positions along Moore Street, have pedestrian movement, and everything else. Logistically, that was just one challenge. Another was building right up against an operating Metro station. In fact, we penetrated the wall through to the Metro station to provide ADA access through one of the street entrances that previously hadn't been available. Equally daunting was the challenge of constructing a 35-story building in a

densely developed city. This building actually cantilevers almost 15 feet over the electric substation to the north, which presented the challenges of keeping that substation operating and access points available at all times while building directly over the top. There were a lot of tenuous circumstances with this site."

### **The building itself**

The 580,000-sf building provides tenants with a wide range of amenities, including a two-story through-block main lobby with double-height ceilings, on-site access to the Rosslyn Metro Station as well as the many stores and restaurants along N. Moore Street and N. Fort Myer Drive.

The building's core and shell are on track for LEED Platinum rating, and the property is a pioneer project in the LEED for Neighborhood Development program. The neighborhood

development points derive in part from enhanced access to the Metro platforms far below grade, affordable housing contributions, space provided free to the county for a community performing arts program, and a \$750,000 public art project Monday Property is providing on a nearby plot. "These are all critical pieces of what brought the development together and show a greater impact on the community as a whole," Garwood says.

The structure consists of post-tensioned beam with reinforced slabs. The skin is a high-performance unitized curtain wall with low-e, energy-efficient vision glass. Each floor provides almost 23,000 sf, with 12'-2" between slabs and 9-foot-high ceilings. Windows are 10'-8" high with 5-foot-wide mullions, and each floor has 580 linear feet of unencumbered window line. Typical perimeter column bays are 41' x 30', and the interior layouts are virtually column-free. Each typical floor has one







electrical closet with one 400 amp and one 200 amp bus plug, one 112.5 KVA dry type transformer, two 480-377 high-voltage panels, and two 120-208 low-voltage panels. Bus duct risers serving the typical floors will be sized for 6.5 W/sf in addition to HVAC equipment loads. Of that 6.5 W/sf, 1.5 is for lighting and 5 for receptacles.

Five low-rise passenger elevator cars serve to the 24th floor, another five cars serve floors 24 to 33, and two jump-elevator cars serve 34 and 35. Three elevator cars serve parking levels P1 to P9, which, altogether, provides access to 480 parking spaces. In addition to two freight elevator cars ascending from P1 to the 33rd floor, there is a glass-enclosed elevator that connects the two lobby levels.

The typical floor systems consists of one variable-air-volume unit, with a range of available fan powered terminal devices (FPTDs), each of which constitutes a separate thermostatically controlled zone for temperature control. FPTDs will be provided at an average of one device per 1,500 sf of interior office area and an average of one device per 500 sf of perimeter office area. Each FPTD will be digitally controlled and fully-integrated into the building's energy management system. Building heat will be redistributed through electric heating coils located in the FPTDs. Condenser water is available for supplemental HVAC.

The building contains a central addressable fire alarm system with a fire command station located in the main lobby, which is monitored at all times. The building is fully sprinklered. An engine-driven standby power generation emergency system provides 1,250 kW of standby power at 480/277V. The three-phase generator with automatic controls and has an eight-hour fuel supply.

Fiber-optic telecom entry points to the building provide telephone service and redundancy for uninterrupted use. Data and telecommunications closets are on each floor, with conduits from the main building telecom service room.

### Non-tangible amenities

In addition to a direct connection to Washington's Metro bus and rail system, Rosslyn is situated within a mile of the four bridges that access the District. One



The building, which is now open for occupancy, ties the Rosslyn skyline together visually and physically, being within walking distance of the Key Bridge, left, foreground. Imposing as the tallest building in the area, the lobby is austere, inviting, and staffed 24/7.

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can access Capitol Hill within 10 minutes, and, by 2015, the subway is projected to extend to Dulles Airport. "In many ways, it is more accessible than if you were located at Connecticut and K, Washington's central business district," Helmig point out. "You reinforce that point with the fact that Rosslyn is within the commuting path of most of the decision makers that we are marketing to—most of them live to the west and northwest and travel at least within a mile of Rosslyn before they get to their ultimate destination. So that, again, saves time, and increases productivity. And then Rosslyn itself has transformed itself into a dynamic, more residential and retail-based area, underpinned by the fact that we have a great corporate neighborhood.

"Rosslyn has transformed itself from a marketplace that was a 65 to 70 percent federal market to the inverse. Now only about 30 percent of the space is occupied by the federal sector. So with these new highly efficient, high-performance buildings like 1812, it attracts top-tier

corporate tenants, which is highlighted by Deloitte and Carlyle being attracted here, and the list goes on and on. The corporate stamp of approval has been endorsed, and now you look on at the streets and see that there are a lot of young people, the streets are active and vibrant, they're attracting restaurants. So really we feel that the timing overall is perfectly suited."

The building's floor plates project in plan to allow for more corner offices. And, Helmig points out: "We have benchmarked the building from an efficiency standpoint against all of our market competitors in the District and Northern Virginia, and we find ourselves anywhere between 8 and 20 percent more efficient. So what initiates companies to consider relocating today is how they can become more efficient and place themselves in a marketplace and a building that enhances their productive position."

"The result is going to be fantastic," Garwood concurs.



# Design Industry Consultants Directory 2013

## ACOUSTICS

### • Acoustical Solutions, Inc.

2420 Grenoble Rd.  
Richmond, VA 23294  
Tel: 800-782-5742  
Fax: 804-346-8808  
Email: info@AcousticalSolutions.com  
Web: www.AcousticalSolutions.com  
Contact: Gary Hudson, Sales Manager

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*Recent projects:* Liberty University, Toyota, National Assoc. of Occupational Safety & Health, U.S. Mint, Univ. of Virginia

### • Acoustics First Corporation

2247 Tomlyn St.  
Richmond, VA 23230-3334  
Tel: 804-342-2900  
Fax: 804-342-1107  
Email: nick@acousticsfirst.com  
Web: www.Acousticsfirst.com  
Contact: Nick Collieran

Acoustics First Corporation designs, manufactures, and distributes acoustical materials to control sound and eliminate noise. The company holds several patents for unique acoustical devices.

### • Stewart Acoustical Consultants

Since 1979, members of NCAC, INCE, ASA, ASHRAE, ASTM  
7330 Chapel Hill Rd., Ste. 101  
Raleigh, NC 27607  
Tel: 804-545-3935  
Email: inform@sacnc.com  
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*Recent projects:* Thomas Jefferson Visitor Center and Smith Education Center, Charlottesville (featured in *Inform* magazine); Glen Allen High School (LEED for Schools), Richmond; Little Hall Theater Renovation, Quantico MCB, Quantico; Bethel Temple Assembly of God, Hampton; Squires Recital Salon, Virginia Tech, Blacksburg.

### • Whitlock

12820 West Creek Pkwy., Ste. M  
Richmond, VA 23238  
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*Recent projects:* Virginia Commonwealth University, Richmond; MeadWestVaco, Richmond; Williams Mullen, Richmond; GlaxoSmithKline, Philadelphia; Verizon Business, nationwide projects.

## ARCHITECTURAL PHOTOGRAPHY

### • Dave Chance Photography

610 High St.  
Portsmouth, VA 23704  
Tel: 757-406-3181  
Fax: 757-397-0105  
Email: dave@davechancephotography.com  
Web: www.davechancephotography.com  
Contact: Dave Chance, Assoc. AIA

Dave Chance Photography specializes in capturing architectural moments for design and construction professionals. Dave combines his architectural education with his construction experience to create award-winning images for use in publications, marketing materials, and design award submittals. Dave is a member of ASMP, HRACRE, and SMPS and is an associate member of the AIA.

*Recent projects:* AECOM Norfolk Headquarters, Norfolk (HRACRE Award of Excellence—Best Interior); VIMS Eastern Shore Seawater Laboratory, Wachapreague (HRACRE Award of Merit—Best Institutional/Public Building); Lake Taylor Transitional Care Hospital Patient Care Unit, Norfolk (HRACRE Award of Merit—Best Institutional/Public Building); Portsmouth Judicial Center, Portsmouth (HRACRE Award of Excellence—Best Institutional/Public Building); PRHA Administrative Headquarters, Portsmouth (HRACRE Award of Merit—Best Renovation/Historic Renovation).

### • Eric Taylor Photography

7128 Swift Run Trails Dr.  
Fairfax Station, VA 22039  
Tel: 703-503-7845 (o) 703-851-7102 (c)  
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Eric has been photographing for architects, interior designers, engineers, contractors, and others for more than 20 years following a career as an architect. He brings an architect's perspective to architectural photography. He listens. He understands. He speaks your language. Commercial—residential—interiors—exteriors—aerials. Check out his new Web site.

## ARCHITECTURAL PRECAST CONCRETE & CAST STONE

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## AUDIO VISUAL

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### • Whitlock

12820 West Creek Pkwy., Ste. M  
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Web: www.specialtydrapery.com  
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*Recent projects:* Virginia State Capital, Richmond; Governor's Mansion, Richmond; National Cathedral, Washington; Virginia Museum of Fine Arts, Richmond.

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9 West Cary St.  
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Fax: 804-262-5973  
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Web: www.thespecialtygrp.com  
Contact: Tony Lovette

The Specialty Group offers energy saving and LEED®-assisting consultation, design, specification, and installation of interior lighting control systems and daylight management systems (automated window treatments) for total light management commercially and residentially.

*Recent projects:* VCU Medical School, Petersburg Library, Capital One Westcreek campus Multipurpose Building and Building 8, Smithsonian Postal Museum, Old Dominion University Diehn 2, James Madison West Tower Hospital, Virginia Tech Signature School of Engineering, Collegiate Hershey Center and Academic Building, Collegiate Reed Gumenick Library, Altria Landmark Theater.

## FOODSERVICE DESIGN

### • Foodservice Consultants Studio, Inc.

4870 Sadler Rd., Ste. 300  
Glen Allen, VA 23060  
Tel: 804-550-2090  
Fax: 804-550-2090  
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Web: www.FoodserviceStudio.com  
Contact: Amy E. Hegarty, CID, ASID, CFSP, FCSI, LEED Green Associate

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*Recent projects:* Capital One West Creek Campus, Richmond; CFA Institute Headquarters, Charlottesville; Defense Distribution Center—U.S. Army COE, New Cumberland, Pa.; Indian River High School, Virginia Beach; Uniformed Services University Cafeteria, Walter Reed NMMC, Bethesda, Md.

### • Foodservice Solutions Design Consultants

605B Jack Rabbit Rd.  
Virginia Beach, VA 23451  
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### • Woodburn & Associates, Inc.

3808 Annandale Rd.  
Annandale, VA 22003  
Tel: 703-658-1350  
Fax: 703-658-5038  
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*Recent projects:* Dulles Discovery Secure Office Complex—Cafeteria, Grab & Go, Chantilly; Pennsylvania College of Technology—Student Dining, Williamsport, Pa.; Constitution Center—Full Service Café & Catering Kitchen, Washington; Patriots Park 1 & 2—Full Service Café & Coffee Shop, Reston; New VA Medical Center—Patient & Staff Foodservice & Coffee Shop, Orlando, Fla.

## LIGHTING DESIGN

### • C.M. Kling & Associates, Inc.

1411 King St.  
Alexandria, VA 22314  
Tel: 703-684-6270  
Fax: 703-684-6273  
Email: light@cmkling.com  
Web: www.cmkling.com  
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An award-winning architectural lighting design firm founded in 1980, providing quality and efficient lighting for hospitality, corporate, convention, civic, and religious spaces.

*Recent projects:* Music City Center Convention Center, Nashville; Army National Guard Readiness Center, Arlington (IESNA Section Award); Dulles Discovery II, Herndon; Marriott Harbor Beach Ballroom, Riva Restaurant, Ft. Lauderdale.

### • Kuyk & Associates, Inc.

P.O. Box 7291  
Charlottesville, VA 22906  
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Fax: 434-974-9302  
Email: info@kuyk.com  
Web: www.kuyk.com  
Contact: Dirk Kuyk III, LC

Our lighting designs enhance architectural spaces by controlling focus, defining forms, creating moods, and conserving energy. Whether a romantic evening or a bustling workplace, the lighting for the appropriate mood is what we deliver. Our diverse array of lighting designs includes interior and exterior lighting for commercial, institutional, hospitality, retail, theatrical, worship, and residential projects. We are independent lighting consultants.

*Recent projects:* Culpeper Center, Culpeper; Garrett Hall, University of Virginia, Charlottesville; Alumnae Hall, Hood College, Frederick, Md.; Davidson's Men's Store, Roanoke; Saint John's Episcopal Church, Roanoke; Kay Spiritual Center, American University, Washington; Alleghany Highlands Arts and Crafts Center, Clifton Forge; Trinity Episcopal Church, New Orleans; and private residences from Virginia to Massachusetts.



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P.O. Box 534  
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Email: info@mcla-inc.com  
Web: www.mcla-inc.com  
Contact: Maureen Moran or Abby Camacho

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*Recent projects:* Copeland Residence, Oakton; St. Thomas Aquinas Seminar, Buckingham County; Wells Fargo Center, Norfolk; Virginia Tech's Signature Engineering Building, Blacksburg; The College of William & Mary's Integrated Science Center, Williamsburg.

## • The Specialty Group

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Richmond, VA 23220  
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Fax: 804-262-5973  
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Web: www.thespecialtygrp.com  
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The Specialty Group offers energy saving and LEED®-assisting consultation, design, specification, and installation of interior lighting control systems and daylight management systems (automated window treatments) for total light management commercially and residentially.

*Recent Projects:* VCU Medical School, Petersburg Library, and numerous personal residences and estates.

## ROOFING

### • Lucas & Associates

13105 Walton Bluff Pl.  
Midlothian, VA 23114  
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Fax: 804-594-3609  
Email: lucasassociates@comcast.net  
Contact: Bob Lucas

Lucas & Associates is a design-oriented firm specializing in roofing and waterproofing assemblies. We offer professional consulting services to A&E firms, building owners, and facility and property managers. Our services include surveys and evaluations of existing conditions, complete design services for new and replacement systems, and ConA and on-site construction observation.

*Recent projects:* Science Museum of Virginia, IMAX Theater roof replacement (green roof), Richmond; First National Bank Building, roof replacement, Richmond; Strawbridge Elementary School roof replacement, Virginia Beach City Public Schools; Department of Military Affairs, Warrenton Armory roof replacement, Warrenton; Warren County Middle School, roof replacement.

## STAGE CURTAINS

### • LuXout Stage Curtains by Specialty

1221 Admiral St.  
Richmond, VA 23220  
Tel: 804-264-3700 and 800-817-1204  
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Email: info@LuXout.com  
Web: www.LuXout.com  
Contact: Ned Dunford, VP Sales

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*Recent projects:* University of Virginia Thrust Theater, Altria Landmark Theater, and numerous public and private schools across the Mid-Atlantic.

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Contact: Dirk Kuyk III, LC

Our consulting services include planning for audience access, amenities, and sightlines; analysis of technical and space requirements for the stage, the performers, the technicians, and equipment storage; and design of rigging and lighting systems. We are independent theater consultants.

*Recent projects:* Norfolk Collegiate School Performing Arts Center, Norfolk; Langanore and Oakdale High Schools, Frederick, Md.; Conmy Hall, Fort Myer, Arlington; Blue Ridge Community College, Weyers Cave; Brooklyn Academy of Music, New York City; Carrington Pavilion, Danville; Wilder Performing Arts Center, Norfolk.

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Tel: 804-264-3700, 800-817-1204  
Fax: 804-264-6878  
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**Architect:** Moseley Architects, Virginia Beach  
**Project:** Georgiadis Hall Renovation, J. Sargeant Reynolds Community College

Planned as a multi-phased renovation, the two-story design features a bookstore, student success center, testing center, and allied health gymnasium and offers teaching labs and classrooms. Tel: 757.368.2800 / [www.moseleyarchitects.com](http://www.moseleyarchitects.com)



**Architect:** Odell Associates, Richmond  
**Project:** SNVMC OR Replacement, Woodbridge, Va.

In addition to providing a state-of-the-art OR facility, the project establishes a new image and precedence for Sentara's Northern Virginia Medical Campus. Tel: 804.287.8200 / [www.odell.com](http://www.odell.com)



**Architect:** Dewberry, Danville  
**Project:** New College Institute—Building on Baldwin, Martinsville, Va.

Dewberry is designing a new 50,000-sf facility. It will house administrative space, academic teaching and training space, grand hall/community space, and advanced manufacturing space. Tel: 434.797.4497 / [www.dewberry.com](http://www.dewberry.com)



**Architect:** Mitchell/Matthews, Charlottesville  
**Project:** Commons Housing at Liberty University

In this initial phase of a new master plan for Liberty University housing precinct, four existing residence halls will be demolished to make way for a new 9-story, 260,000-sf, 1,200-bed residence hall. Tel: 434.979.7550 / [www.mitchellmatthews.com](http://www.mitchellmatthews.com)





**Architect:** Clark Nexsen  
**Project:** Advanced & Emerging Technologies Building  
Cape Fear Community College, Castle Hayne, N.C.

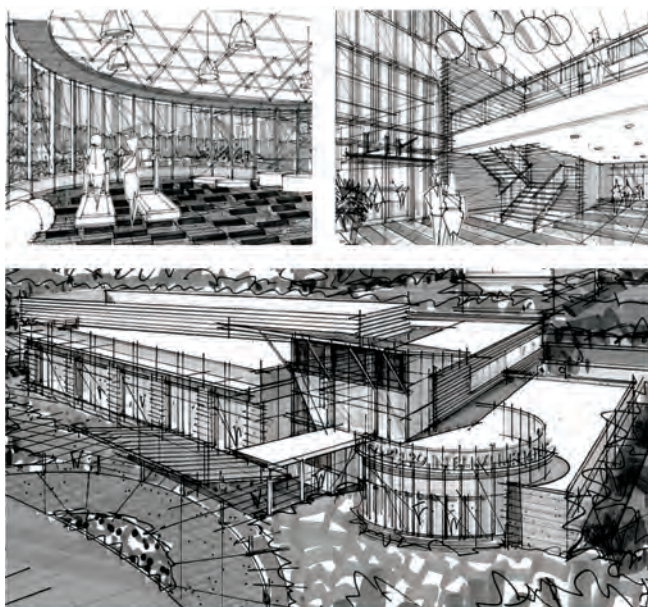
The 90,000-sf Advanced & Emerging Technologies Building for Cape Fear Community College will house new programs for veterinary medicine, sustainable technologies, and lasers and photonics. Tel: 919.828.1876 / [www.clarknexsen.com](http://www.clarknexsen.com)



**Architect:** Rust | Orling Architecture, Alexandria  
**Project:** Alexandria Renew Environmental Center, Alexandria

Rust | Orling is designing a new 60,000-sf LEED Platinum office for Alexandria Renew Enterprises working to achieve Net Zero classification. Tel: 703.836.3205 / [www.rustorling.com](http://www.rustorling.com)

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**Architect:** Price Studios  
**Project:** CMG Nationwide Medical Office Building

This new two-story, 46,000-gsf facility will house the relocated offices for Lynchburg Internal Medicine and other associated outpatient practices. Tel: 804.521.2266 / [www.pricestudios.com](http://www.pricestudios.com)



**Architect:** Rust | Orling Architecture, Alexandria  
**Project:** 1620 Prince St. Hotel. Alexandria

This hotel, for a national franchise, is located on an irregular, high-visibility site near a Metro station. It will be LEED Silver. Tel: 703.836.3205 / [www.rustorling.com](http://www.rustorling.com)



**Architect:** Bowie Gridley Architects/Perkins + Will Joint Venture,  
Washington

**Project:** Ballou Senior High School, Washington

The 360,000-sf school is organized into three wings: Mind, housing classrooms and labs; Body, housing gymnasium, natatorium, and fitness; and Spirit, housing visual/performing arts. Tel: 202.337.0888 / [www.bowiegridley.com](http://www.bowiegridley.com)

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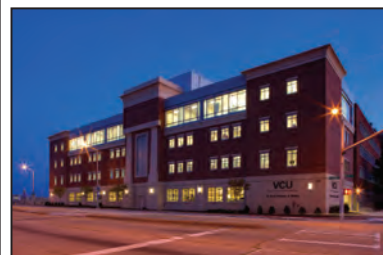


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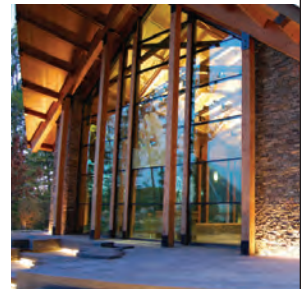


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# Bacon's Castle: She's a Brick House

By Joanna Braswell & Andrea Williams



In 1665 when Arthur Allen completed his brick house it stood as a grand testament to his family's wealth and prosperity. Today, 350 years later, it stands as the oldest brick structure in British North America and is the New World's only example of Jacobean architecture. The site in Surry, Va., became known as Bacon's Castle after surviving a 1676 occupation by Nathaniel Bacon's anti-establishment rebel forces. Since the 1970s, Bacon's Castle has operated as a house museum.

Preservation Virginia has dedicating \$300,000 to stabilize and preserve as much of the original fabric as possible. Featuring Flemish gables, triple diamond-set chimney stacks, and a cruciform plan with projecting towers, the house demonstrates Allen's intent to build his home in the European high style. His 5,300-sf house was the seventh largest in 17th-century Virginia. Complete with North America's oldest surviving formal garden, the structure distinguished Allen as one of the wealthiest men in the colony.

A two-story hyphen connects an 1854 Neo-Classical addition to the 17th-century wing, and visitors experience this transition of time. The Neoclassical parlor and dining room served the Hankins family, who owned the house through the Civil War. In the 1665 wing, visitors can see the original wood and brickwork from the 17th century in chambers furnished according to probate inventories. Downstairs, modifications of the 18th-century period include the addition of

raised paneling in the chamber and an aesthetic transition from the original hall-chamber plan to a central-hall plan.

Outbuildings include an 1829 slave quarter modified in the 1840s. The plantation's original labor force consisted of approximately half indentured servants and half enslaved Africans who lived in the main house. Bacon's Rebellion in 1676 resulted in a shift to race-based slavery, eventually facilitating the construction of separate slave quarters. The clapboard structure is an important element of African American heritage. One of Tidewater Virginia's oldest outbuildings is a smokehouse/barn with mortise and

tenon construction dating to the early 18th century.

Bacon's Castle continues to be a unique learning laboratory as it preserves and discovers more about its history and architecture. Preservationists are working to repoint the stair tower brickwork and soon will replace the weathered cedar shingle roof with a new cedar shingle roof. Maintaining and preserving the oldest brick home in North America depends on funding from independent supporters. Bacon's Castle is open to visitors and hosts an annual symposia/lecture summer series resuming May 2014 with the Historic Architecture Symposium.



A Jacobean relic of 17th century colonial indulgence, the Arthur Allen House, with furnishings based on historic records, is perhaps the most important physical reminder of many of this nation's most painful political upheavals.

Photos: Chris Malpass





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