

# Bulletin

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# Bulletin

February/March 2017

Washington Building Congress is a nonprofit association made up of professionals from a variety of disciplines, all with an active interest or involvement in the Washington Metropolitan Area's real estate, design, and construction community. The organization was established in 1937 to represent the collective interests of its members by providing education and networking opportunities and by promoting the advancement of the building industry. For additional information about membership, joining a committee or the WBC Bulletin, call (202) 293-5922 or visit us on the web at [www.wbcnet.org](http://www.wbcnet.org).

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**Washington Building Congress**  
1100 Vermont Avenue, NW, Suite 700  
Washington, DC 20005  
T: (202) 293-5922 | F: (202) 429-1922  
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**On the cover:** Sheridan Station Apartments,  
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## Chairman's Letter

### Dear Members and Colleagues:



The Washington Building Congress is going strong! Member participation is terrific and we achieved an impressive 87 percent member retention rate this year. To date, we have added 18 new company members, 8 small businesses, and 56 additional representatives. The Membership Services Committee is hosting a new member orientation breakfast open to all members at the WBC office on April 7. The committee, led by Chair Gary Cooke (Natelco Corporation), Vice-Chair Alfred Llop (K2 Construction Consultants), and Board liaison Erin Meitzler (Forrester Construction), is doing another terrific job this year.

Since the start of 2017, WBC has been moving nonstop with Craftsmanship and Star Awards judging, winter networking, Hammerheads networking, Hall of Fame video shoot, evening panel program, and the St. Patrick's membership event. To top it off, the 61st annual Craftsmanship Awards banquet and Hall of Fame induction were held on March 31. WBC continues to thrive and we are very well positioned for another outstanding year.

I would like to thank the Community Services Committee and the WBC member firms that participated in the 8th annual *Member Giving* edition of the *Bulletin*. The committee's next major initiative will be the April 29 Rebuilding Together Workday. This year's team, lead by House Captain Vanessa Carrion (Aerotek), will be reaching out to the membership seeking donations of labor, materials and cash. Thanks again to the Community Services Committee, Co-Chairs Ken Ellis (Langan) and Rob Wenger (WCS Construction), Vice-Chair Vanessa Carrion, and Board Liaison Greg Koger (Holland & Knight).

The Program and Education Committee put together the well received Leading Edge Technology panel program March 9 with over 100 in attendance. The evening program featured presentations from Gensler, the digital group, Simpson Gumpertz & Heger (SGH), and Stanford University Center for Integrated Facility Engineering. Thank you to the Program Committee, Chair Dan Rakes, Vice-Chair Kevin Pavuk (Structural Technologies), and Board Liaison Bob Freas (Exponent). Special thanks to Paul Elias (The JBG Companies) who served as program moderator and was instrumental in putting the panel together.

The WBC Craftsmanship Awards Banquet was held at the Marriott Wardman Park on March 31. We proudly recognized over 400 individual craftsmen for their significant contributions to our industry. WBC received 255 entries this year, of which 83 were selected as Craftsmanship award winners. Out of these 83, the eight "best of the best" entries were nominated for Star Awards. The three Star Award winners were announced at the end of the awards banquet. We also inducted three new members into the WBC Craftsman Hall of Fame. Please be sure to check out the April-May special edition of the *Bulletin* where we will feature all 2017 Craftsmanship and Star Awards winners, Hall of Fame inductees, and event sponsors. This information is also currently available on the WBC website.

I would like to conclude with a special thank you to the Craftsmanship Awards Committee, Chair Shawn Fenstermacher (Siemens Industry), Vice-Chair Todd Scales (Manhattan Construction), and Board Liaison Sean Frazier (HSU Builders). We sincerely appreciate your support of this important industry event. Special recognition also goes to Lynne Coville (Boston Properties), who continued her truly valued participation on the committee and during the awards banquet.

I look forward to seeing you at an upcoming WBC program or event. Thank you for your active participation and ongoing support of our great association!

Best regards,

**Joe Schall**

*WBC Chairman of the Board*

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## Chris Cash Becomes JATC Training Director



Chris Cash

Longtime JATC instructor, **Chris Cash**, has been appointed training director at Washington, DC's electrical apprenticeship program, the Joint Apprenticeship Training Committee (JATC).

As JATC director, Cash maintains a program that provides tuition-free electrical training to hundreds of apprentices. The program graduates more than 100 highly-trained apprentices into the region's electrical construction field annually. Graduates have studied the core tenants of electrical construction as well as cutting-edge energy efficiency and green technologies. Cash's primary focus is on keeping Washington, DC's JATC program among the best in the country.

Cash started his career in electrical construction nearly 27 years ago. After attending college for two years, Cash switched gears; applied for the apprenticeship and was accepted into the 5-year program. He graduated from the Washington, DC JATC Inside Wireman Apprenticeship in 1995.

After graduating from the apprenticeship, he spent 12 years as a foreman or subforeman on dozens of projects around the Washington, D.C. metro region. In 2003, he started teaching at night for the JATC's Manassas training center which led to a full-time day teaching position in 2007. In 2014 he became the school coordinator in Manassas. Cash holds Virginia and Charles County (MD) Journeyman's licenses.

Cash is optimistic about his role and the future for the apprentices he is training.

The JATC is sponsored by the Electrical Alliance, a cooperative effort between the Washington, DC Chapter of National Electrical Contractors Association (NECA) and the International Brotherhood of Electrical Workers, Local 26.

## Mitchell Joins Washington, DC Chapter of NECA

**Denise E. Mitchell** has joined the Washington, DC Chapter of NECA as director. She has experience both in the labor sector as well as the association world, and has served as executive director of the Howard University Medical Alumni Association, labor relations and compliance programs manager with DC Water and senior labor relations officer at the Washington Metropolitan Area Transit Authority (WMATA).

With WMATA, Mitchell performed a wide array of duties including negotiating collective bargaining agreements as well as litigating highly complex final and binding contract interpretation and disciplinary cases before tri-partite arbitration boards as first chair. She interacted with tradespeople covering all aspects of construction work.

At NECA, Mitchell works closely with Executive Director Andrew Porter to improve employee communications, build relationships with NECA members and IBEW leadership, as well as participates in trust funds operations and more.

Mitchell earned her law degree in Employment and Labor Law from Howard University School of Law in Washington, DC and undergraduate degree in Education and Industrial Psychology from the State University of New York-New Paltz. She is a certified Human Resources Professional, a designation of SPHR from the Society of Human Resources Management, a Certified Public Manager through the Metropolitan Council of Governments Executive Leadership Program at George Washington University and a certified EEO investigator.



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## DAVIS Announces Company-Wide Promotions

James G. Davis Construction Corporation (DAVIS) recently announced 48 promotions, including new construction executives and directors. Many veteran employees will take on new strategic roles, further strengthening the company's operations depth.

With over 100 years of combined construction experience, **Rick Ager**, **Dennis Lewis**, and **Mike Welch** were each named Construction Executive. Responsible for multiple large-scale projects, construction executives provide direct, expert leadership to Field Management Staff and ensure successful completion of projects.

Four former project executives were named Directors: **Greg Ghent**, **Joel Miller**, **David Purdy**, and **TJ Sterba**. As market sector leaders, they are responsible for the strategic development of business plans and corporate initiatives. In addition to being actively involved throughout the entire construction process, from project procurement to completion, directors streamline the engagement of corporate resources during all phases of a project.

"These promotions are a testament to the quality of people we have at DAVIS and they reflect a higher level of growth for the company. We continue to redefine the construction experience by offering the best experience, expertise, and technical ability in the industry," said Bill Moyer, DAVIS Executive Vice President.

Additional promotions at DAVIS include:

### OPERATIONS

#### Senior Superintendent

- **Shawn Good**
- **Thomas Hern**
- **John Kolbjornsen**
- **Joshua Majerowicz**
- **David Taft**
- **Superintendent**
- **Eric Bross**
- **Robert Nellis**

#### Project Executive

- **Patrick Cotter**

#### Senior Project Manager

- **Eric Fedder**
- **Stephen Feight**, LEED AP
- **Benjamin Mahoney**
- **Erin McQueen**, LEED Green Associate
- **Kara Mele**
- **Eric Metcalf**
- **Natalie Miller**, LEED Green Associate
- **Tyler Moyer**, LEED AP
- **Daunte Neal**, LEED AP
- **Daniel Preston**
- **Adina Salomon**, LEED AP
- **Bill Watkins, Jr.**
- **Aaron Yarbough**

#### Project Manager

- **Neil Gallagher**
- **Brian LaChance**, LEED Green Associate
- **Stephanie Mason**
- **Lauren Mihara**
- **Andrew Pino**
- **Robert Shekletski**, LEED Green Associate

#### Assistant Project Manager

- **Jeremy George**
- **Paul Harrison**, LEED Green Associate
- **Julia Malitoris**

### NON-OPERATIONS

- **Kate Attilio**, Senior Marketing Communications Manager, CPSM
- **David Chandler**, Director – Safety
- **Michael DeAngelis**, Senior Instructional Designer
- **Milton Gonzalez**, Field Engineer
- **Ryan Himber**, Estimating + Preconstruction Engineer, LEED Green Associate
- **Edward Launt**, Senior Helpdesk Technician
- **Amir Martell**, Senior Helpdesk Technician
- **Richard Nolan**, Field Engineer
- **Veronica Vela**, Estimating Manager
- **Missy Walker**, Estimating + Preconstruction Coordinator
- **Spencer Yearous**, Preconstruction Manager



## Promotions Announced at WCS Construction, LLC

Jim Anglemeyer, President of WCS Construction, LLC recently announced the following promotions: **Jae Park** to senior project manager, **Robert Munson** to senior project manager, and **Marty Shaffer** to senior project superintendent.



Jae Park

Park joined WCS Construction, LLC in 2001 as an assistant project manager and is currently managing the Windmill Parc III project in Dulles, Va. A licensed real estate agent in the Commonwealth of Virginia and a LEED accredited professional, Park played an important role in the creation of the contract templates still in use at WCS today. He also served an integral role in the various redesigns of WCS' central office. Park is a graduate of the University of Maryland, College Park with an MS in Construction Management as well as a graduate of James Madison University with a BS in Physics.



Robert Munson

Munson is currently managing our team at the 800 New Jersey/Agora at the Collective project in Washington, DC. His knowledge of alternate construction software products such as Prolog and Bluebeam has been instrumental in the growth and education of our project manager teams, revamping the way WCS does business. Munson is a LEED BD+C accredited professional and graduate of James Madison University with a BS in Integrated Science and Technology.



Marty Shaffer

Shaffer joined WCS Construction, LLC in 2014 and is currently heading up the WCS project team at their Agora project in Washington, DC. Shaffer has been in the field of construction since 1986 and proudly served in the United States Air Force prior to entering the industry.



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## Peckar & Abramson Welcomes Keene to the Firm's Partnership



Jesse S. Keene

Peckar & Abramson, P.C. has announced that **Jesse S. Keene** has been elevated to the firm's Partnership.

Recently selected for inclusion on Super Lawyers' list of Rising Stars,

Keene is an experienced litigator focusing on construction, government contracts, and commercial law. As a partner in Peckar & Abramson's Washington, DC office, he has successfully tried numerous cases in state and federal courts, administrative boards, and arbitral panels.

Keene earned his Bachelor of Arts degree, with honors, from Washington State University, where he was elected student body president and represented 17,000 undergraduate students from four statewide campuses before the state legislature, legislative committees on higher education, and the University Board of Regents and Administration. He later attended the Gonzaga University School of Law where he received his Juris Doctor and served on the Gonzaga Law Review editorial board.

## Lewis and McCaulley Promoted at Hensel Phelps Mid Atlantic District

Hensel Phelps has promoted **Brad Lewis** to corporate director of supplier diversity and **Matt McCaulley** to director of operations.



Brad Lewis

In his new role, Lewis will continue his advocacy and commitment to utilize, coordinate, monitor, and report small and minority business initiatives within Hensel Phelps.

He started his Hensel Phelps career in 1999 and has held many field operation positions including area superintendent. Most recently, Lewis held the role of

director of supplier diversity for the Mid Atlantic District. In this role, he focused on mentoring small business subcontractors, guiding them towards meeting their overall growth development objectives, and ensuring they were afforded the maximum amount of contract opportunities on all Hensel Phelps projects in the Mid-Atlantic Region.

Lewis holds a B.S. in construction engineering technology from Florida A&M University and is affiliated with several industry organizations including Associated Builders & Contractors and the Maryland Washington Minority Companies Association.



Matt McCaulley

As director of operations, McCaulley will focus on strategic planning, procurement efforts as well as providing oversight for our safety and information technology

teams. Most recently, he held the role of operations manager where he led the procurement, design, and construction of many of the Mid Atlantic District's most significant projects including the High Performance Computing Center at Fort Meade, Md., and a large data center project for an unnamed client.

After graduating from the University of Colorado with a B.S. in civil engineering, McCaulley joined the company in 1998 as a field engineer. He has since helped to successfully deliver a wide variety of projects throughout

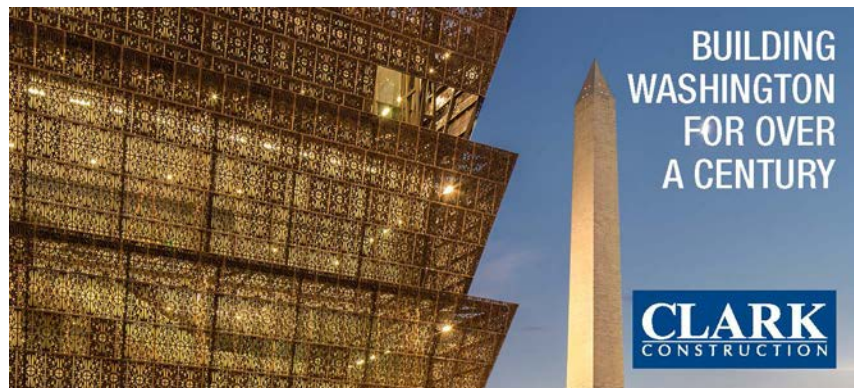
his 18 year career with Hensel Phelps including specialized and challenging projects in the institutional, aviation, healthcare, hospitality, federal, and mission critical sectors.

## Hogan and Myers Assume Leadership Roles at IBEW Local 26

Members of the International Brotherhood of Electrical Workers (IBEW), Local 26 have elected **George Hogan** and **Tom Myers** as business manager and president, respectively. The two men took over leadership of IBEW Local 26 late last summer.

Hogan is a 43-year member of IBEW and the fourth generation in his family to hold membership following his great-grandfather, grandfather and father, who is a former business manager. He graduated from the apprenticeship program in 1976. Throughout his career he worked on many well-known sites in Washington, DC, including the Metro System, the U.S. Capitol and many monuments, including the Jefferson Memorial, Washington Monument, Lincoln Memorial and FDR Memorial.

Myers began his electrical construction career upon graduation from the apprenticeship in 2004. He spent years working for several of the region's top electrical contractors. He then became a night instructor at the JATC and eventually full time instructor, positions he has held for the past 10 years.





## Free Named New VP of Preconstruction, Estimating & Purchasing Groups



Donald Free

Effective earlier this year, Forrester Construction promoted **Donald Free** to the role of vice president overseeing the firm's preconstruction services, estimating

and purchasing groups. He has more than 30 years of construction industry experience and has managed dozens of successful projects during his 11 year career with Forrester. Most recently, Free served as a project executive overseeing all aspects of various commercial, education and public sector projects including important work at Arlington National Cemetery and Prince George's Community College

Forrester's President Steve Houff said of the promotion, "Don Free has a long record of excellent service to Forrester. His extensive experience in both construction operations and procurement made this role a natural fit."

## ASA Honors Whitlow



Mary Whitlow

American Subcontractors Association (ASA) recognized **Mary Whitlow**, who was president of ASA of Metro Washington in 2015/16, with the National Chapter President of the Year

honor at ASA's SubExcel convention earlier this March. Whitlow is President and Owner of Wayne Insulation Company in Alexandria, Va.

ASA selected Whitlow for her superior leadership, the chapter's membership growth, innovative programming, legislative successes, and financial stewardship. She is a role model for Metro Washington and for all ASA chapters in the country.



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## GORDON Paints Parking Spaces to Honor Wounded Veterans

GORDON, a veteran-owned engineering and design firm, has established at its Chantilly Headquarters two parking spaces reserved for wounded military veterans. The special parking spots are part of a movement started by “Wounded Warriors Family Support” (WWFS). The recognizable Purple Heart color and large “Combat Wounded” signs are intended to be a visible “Thank You” and a reminder of those who have served and sacrificed while in the United States military.

GORDON and the building that houses its Headquarters office are owned by William H. Gordon, himself a combat wounded veteran from Vietnam. The original idea of reserving parking spaces was developed to honor the estimated 1.8 million Purple Heart

recipients. Gordon, who hails from a long line of military veterans including his own Father who was killed in action in WWII, wanted to encourage a greater sense of patriotism to his tenants and building visitors. Creating colorful parking spaces that recognize special people who were willing to lay down their lives for their country seemed an appropriate way to do so. Gordon is hopeful that other building owners will follow suit and reserve spaces for such heroes.

To date, over 2,000 signs have been distributed throughout the U.S. by WWFS at no cost to the recipients. Businesses, churches, schools, fitness centers, and government facilities from coast to coast have instituted Combat Wounded parking spaces.



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# Welcome

## to the Innovation Issue

By **Mike Holland**, VP, Construction, Boston Properties

### Explore the Latest:

- **The Evolution of UAVs, and their Construction Appeal**
- **VRF Technology – How Does It Work and What Are the Benefits?**
- **Commercial Solar in the DC Metropolitan Area**
- **Project Highlights**
  - **Sheridan Station Apartments**
  - **Net Zero Conversion: Renovation of American Geophysical Union Headquarters Models Sustainability**
  - **DPR's Washington, DC Office**
- **Arc: Connect, Benchmark and Improve Your Building, Community and City**
- **Healthy Building Technology – InstaScope**
- **Future Trends in Building Automation Controls**

**A**s hard as this is to believe, just less than 10 years ago, the mobile revolution leapt forward with the release of something called the iPhone, which could play digital music and even keep track of your grocery list using an “application” called One Trip. The revolution was on! In those ten years, society has been transformed—not only because one can play Candy Crush while sitting in a too-long staff meeting, but because every single thing we do can be done more efficiently, from nearly anywhere, and with greater accuracy and precision than we could ever have imagined a decade ago. The Internet of Things has brought communication to devices we never knew needed to communicate and various mobile applications have made collaboration nearly instantaneous. The internet has put the power of collective knowledge literally in the hands of the individual. And phrases like, “Google it” or “there’s an app for that” have empowered anyone with a smart device and even a little bit of initiative.

Around the same time, Washington, DC passed the Green Building Act of 2006, which required all public buildings in the District to meet the requirements of USGBC’s LEED certification program at a Silver level. While this act was not nearly as revolutionary as the iPhone, it had a profound impact on our building community and led to many subsequent codes and laws, making Green Building a requirement for nearly all new buildings in the city. Suddenly we were being asked to change the way construction had been done for decades—to recycle the waste we produced, to use materials that had no VOC’s, to do something called “commissioning.” In 2009, a “Green Building Task Force” was formed at WBC to help its members sort through what all of this “sustainability stuff” meant. How would it change the industry? What did these new government requirements mean? What resources were available locally to help guide us through the LEED gauntlet? This Task Force later became the Sustainability Committee, whose mission was to bring awareness of green building trends and resources to the WBC membership.

Although many of us approached “green building” with hesitation, sustainability has quickly transitioned from cutting edge to the accepted standard of care. In fact, the Washington, D.C. construction industry has in many ways lead the nation in promoting the goals of sustainability within the building



## Technology and Innovation

trades. Asking, “Do you want this building to be energy efficient and healthy?” is about as rare as asking, “Do you want this building designed and built to hold out water?” The industry has adapted quickly and grown to better understand the tenants of sustainability. While advancements in sustainability continue, the rate of new information no longer seems to warrant a separate WBC Committee. In short, the original mission of the Sustainability Committee has largely been served.

Conversely, technological advancements in the building industry are being achieved at an ever-increasing rate. Construction has been transformed from a traditional, slow-to-change industry, to one ripe with invention and ready to embrace new ways of building. Innovation comes in many diverse forms. Most projects these days utilize tremendously powerful cloud platforms for document control and distribution and many projects have taken the further step of becoming paper-free, using only digital documents. Many designers and contractors, having already harnessed the power of BIM and Revit for coordination and shop drawings, have dipped their toes into the waters of virtual reality and augmented reality for even better results. The proliferation of drones, three-dimensional scanning and other rapidly evolving camera technologies have allowed access to information previously too dangerous or too time consuming and costly to gather. We can now see through walls or survey unimaginable heights. We have utilized lightweight materials that are stronger than steel and transmitted volumes of information over hair-thin fiber cables. And 3D printing has progressed from a tool for creating architectural models to one used for producing actual building components.

At the same time, the benefits provided by all of this new technology has sometimes created unexpected burdens—compressed schedules, a need for constant training, and occasionally a misguided reliance on technology to replace human thought and analysis. As a tool, technology can be incredibly powerful and effective; but when used carelessly, it can turn into a paper crutch.

Looking back a decade, we realize it is nearly impossible to imagine what the coming years will bring us. How will the evolution of driverless cars impact both what we build and how we build it? What innovations in other industries will be applied to ensure worker safety on job sites? Will skilled labor be replaced by robotic labor? What technological tools will soon replace the nearly ubiquitous iPads as the source of all information on a job site? Will Net-Zero progress from a futuristic dream to a mainstream reality as quickly as sustainability became commonplace?

If these questions interest you, or if you are at all excited to share your experiences in technology and innovation with others, I invite you to join the newly formed WBC Innovation Committee. As we close the door on the Sustainability Committee, we are excited to start a new venture with a much broader, and yet intricately connected, scope. Our mission is to act as a resource for WBC members regarding advancements and innovations in all aspects of technology, in service to the design, construction and operation of the buildings we build. Which direction that will take us depends entirely on you. We meet once a month (2:00 on the third Thursdays at WBC’s office) to discuss new ideas, trends and developments in our industry. We hope to share that information with the membership in a variety of ways—through Bulletin articles like those in this issue, field trips to project sites, and through demonstrations and programs in collaboration with other committees. We hope you will find something here that interests you and hope you will join us in continuing to explore what else is just around the corner. **B**

*... Washington, D.C.  
construction industry  
has in many ways  
lead the nation in  
promoting the goals  
of sustainability within  
the building trades.*

# The Evolution of UAVs, and their Construction Appeal

By David Stone, Director of Virtual Construction, HITT Contracting Inc.



Initially UAVs (unmanned aerial vehicles) or drones were considered a cool but expensive toy that was marketed for consumers like hobbyists. As UAVs became more robust and easier to use, sales really started taking off. In the construction industry, we can see many parallels to the introduction of the iPad, which was clearly not designed for construction. Its features made it so compelling that within a fairly short time, iPads became standard on construction sites with the plethora of apps supporting better work flow.

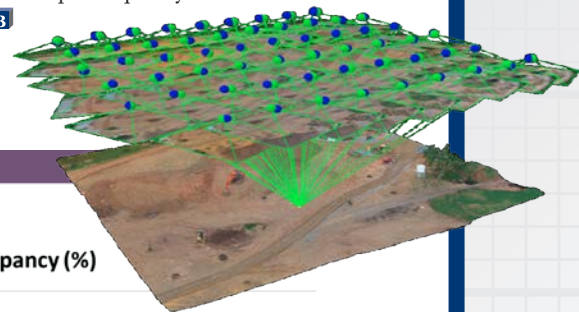
As an example, let's look inward at HITT. We initially purchased a quadcopter because we saw marketing potential in creating aerial photos and videos of company events. But as time passed, we started to leverage some of this low hanging fruit on a large 200-acre museum project. Since we already were required to take pictures of the site regularly, the quadcopter allowed us to do this at a lower cost and as needed. The next step in our evolution was supported by the development of software that utilized GPS navigation, allowing us to program consistent and safe flight paths which led to more consistent and reliable results.

All of this was nice, but we knew that we could do more. Enter photogrammetry! With a fairly reasonable investment in improved camera equipment and the right software, we gained the ability to turn photos into 3D models. With this powerful development, we were truly able to utilize much of our 3D collateral (such as site surveys, laser scans, BIM, solid and mesh models) on the project to provide fairly accurate estimates of cut and fill progress on-site as compared to the final grading shown on the civil 3D drawings. The end result yielded much

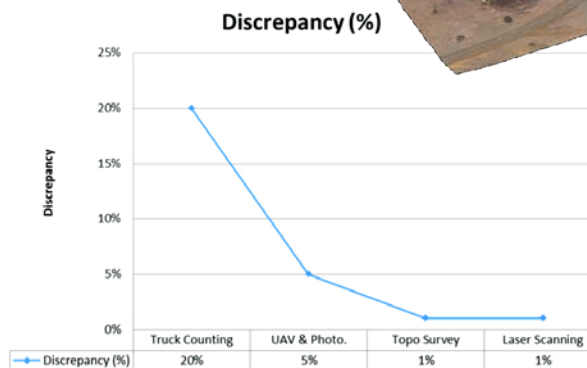
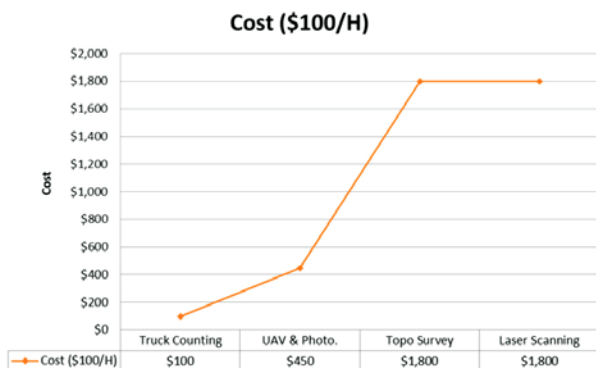
better results than traditional progress tracking methods (i.e., counting trucks to determine yardage, or surveying the site) when considering cost and accuracy. Additionally, we leveraged our UAV to document as-built conditions of the site, inspect hard-to-reach areas, and safely monitor high-risk work such as blasting bedrock.

Fast forward two years from our initial investment in a UAV, and we see technology improving as costs are dropping. New UAV features include better obstacle navigation, longer flights periods, self-stabilization, automatic return to home, and avoidance of restricted areas. What can we reasonably expect from UAVs in the future? If we consider the rapid evolution of computing power, self-driving cars, and LiDAR SLAM technology for scanning on the fly, we can make some predictions. It isn't unreasonable to predict that we will reach a point where UAVs are fairly autonomous similar to a floor cleaning robot (i.e., Roomba). Simply establish a base station, a set of routines that the drone will fly, scan the project on a regular basis to track progress, safety, and document great images of the project!

While adhering to site safety and FAA regulations, we clearly make a case that UAVs are becoming an essential tool for construction, while becoming much easier to use and affordable. When we consider the cost of labor in the construction industry, we can easily prove that UAVs save time, support safety, and improve quality with very minimal downside. **B**



### HOW WELL DID IT WORK?



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# VRF Technology – How Does It Work and What Are the Benefits?

By *Melissa Nelson*, Carrier Sales Engineer, Washington DC

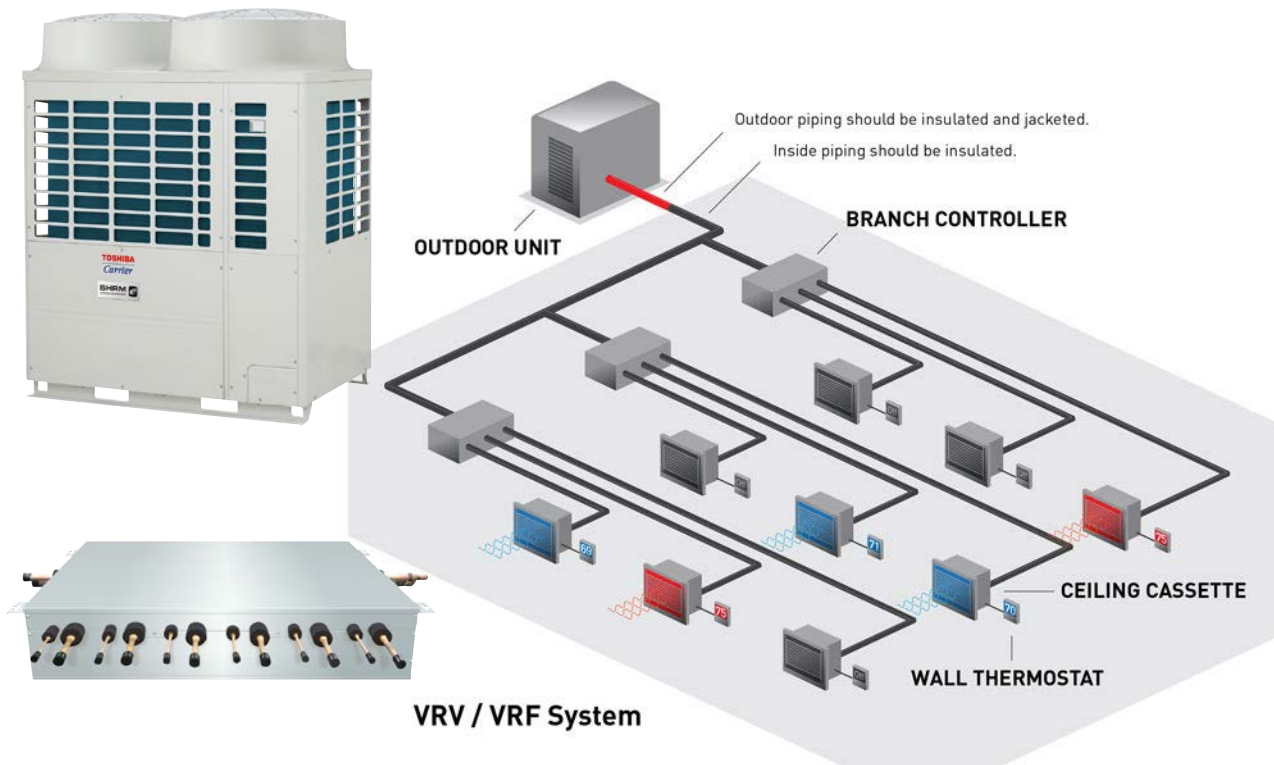
As the DMV development explosion persists, there are a high number of new projects in the Washington DC Metro Region that are being transitioned to VRF. This is a type of heating and cooling system that harnesses Variable Refrigerant Flow (VRF) technology. We could call “VRF” a buzz phrase or the flavor-of-the-month except for the fact that it has been installed with great success in Asia and Europe since the early 1980’s. With this recent technology adoption in the US, we are finding that with the right application, VRF makes all the sense in the world.

Let’s take a step back and briefly look at how the system works. There are indoor units (fan coils) and outdoor units (condensing units). One outdoor unit can range in size from around 6 tons capacity to nearly 38 tons. These outdoor units can be mated with multiple indoor units (up to 64 independent indoor units) to provide varying refrigerant flow through a piping system. Manufacturers have different designs of controlling the flow of the refrigerant to each indoor unit, by sending it through a multiple port device or single port and with a valve that may be controlled by units indoors or out.

Lines of copper refrigerant piping connect the indoor and outdoor units with either a 2-pipe or 3-pipe configuration. When working in concert, the indoor unit, port device and outdoor unit create the full VRF system. Is it right for your project? Let’s consider a bit further.

## Precise Zone Temperature Control

VRF systems deliver incredibly efficient, zoned comfort. The system adjusts the flow of refrigerant to each indoor unit based on its operating conditions. It computes the amount of refrigerant required by each indoor unit and controls the refrigerant flow to ensure desired comfort level without over cooling or heating of the space. In fact, with respect to energy efficiency, these systems can generate what is called heat recovery within the building. For example, if the location contains an office with a southern exposed wall of glass that requires cooling on the same floor as an interior office which needs heating, the heat from the sun exposed zone can be transferred to the cooler space via the VRF system. Additionally, the inverter driven compressors allow for variable speed and turn down capability



## Technology and Innovation

that far exceed hydronic systems. As the space needs rise and fall, the VRF can react to the temperature setting within each zone and will completely shut off when the space needs are met.

### Compact Footprint & Ease of Installation

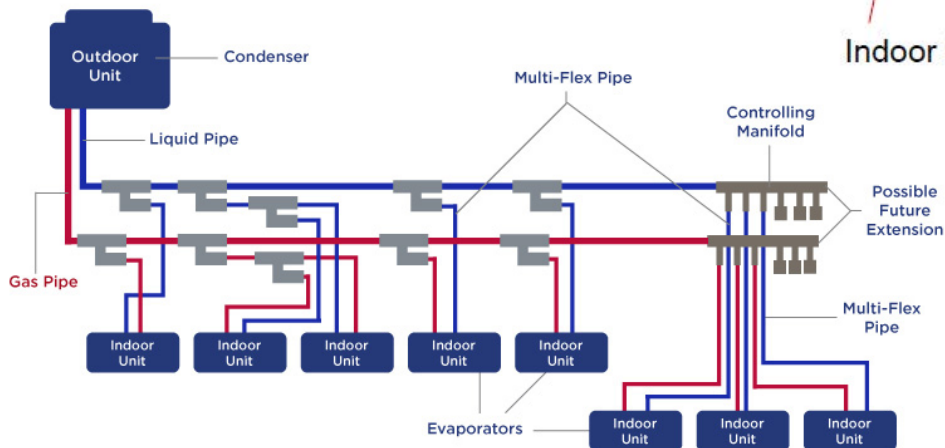
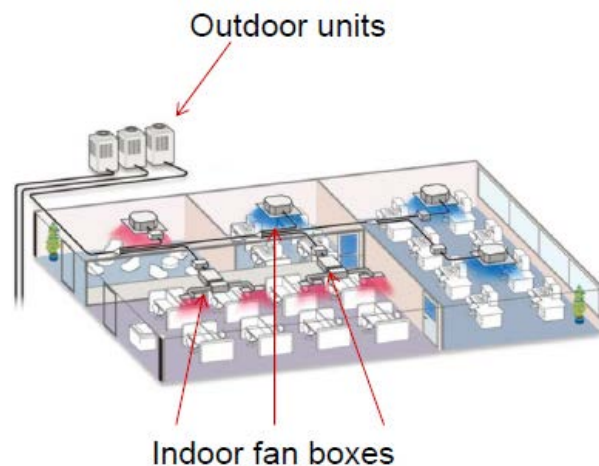
The efficiently designed VRF units eliminate the need for large distribution fans & ducts, water pumps & large hydronic pipes, and therefore, VRF provides installation advantages. These systems are easy-to-install and operate, without requiring dedicated maintenance or mechanical rooms or service shafts, freeing up valuable real estate space in the building. We especially see that getting rid of cooling towers and other large mechanical equipment on the rooftops allows greater space for amenities such as pools and common areas. Another key advantage of any VRF system is the installation flexibility. While all manufacturers have vertical and horizontal piping limits between indoor and outdoor units, the copper piping and a small equipment footprint is standard among all. This makes the system ideal for places where design space is limited within the building envelope—think cities and historic redesigns.

### Building Automation Integration & Tenant Billing

With the Internet of Things infiltrating all aspects of our daily lives, VRF technology similarly operates by controls that connect seamlessly into building automation systems. The controls are easy to install and have simple set-ups in the field for the building engineers to gain critical system access. The systems give you a real-time consolidated view of occupant comfort, energy usage, and all other operating conditions. VRF systems are designed for zoned locations and have the technology to divide up energy usage of the individual units on a monthly billing cycle. This is critically useful in spaces that are residential, condominiums or apartments, and the tenant is responsible for the energy bill. It becomes an amenity to your property

when you can advertise that the building is green and more cost effective than your competition because of VRF.

There are a myriad reasons that VRF technology is advantageous but it will always come down to whether it is right for the project in front of you. The system is simple to design, install, operate and maintain and it can be managed from a central location or monitored remotely. It is compact in size and flexible to layout. It provides comfort for individual zones of heating or cooling and can be billed out directly. From a college dorm, to an office building, or residential condominiums, even an elementary school, we have seen successful installations of all types and designs. It is a long utilized technology worldwide and I hope this helps you consider more confidently if VRF is right for your next job. **B**





# Commercial Solar in the DC Metropolitan Area

By Andrew Skinner, Project Manager, Prospect Solar LLC

About ten years locally and nationwide, early adopter business owners started going solar more often to meet environmental targets. Soon after, states started offering rebates and material prices began to decline. Suddenly the economics became attractive, offering great return on investments. By 2010 there were 851 Megawatts (MW) installed, and last year the growth hit 14,626 MW. Building owners around the DC metro area are catching on to the benefits, so what's driving the growth? It's simple. With commercial solar you can **lower your operating costs** and **increase profitability**. What's not as simple is determining if your building has the right situation to reap the benefits. This is where local solar market and commercial construction experience comes in handy.

First off, returns still vary depending on your state. The D.C. market yields the highest returns (by far compared to MD and VA) thanks to a strong Solar Renewable Energy Credit (SREC) market paying about \$400 for every 1000kWh of solar electricity generated. It's so good that owners with enough roof space in DC don't have to outlay any cash to go solar. An investor will own the system and sell you the electricity (for cheaper than you're currently paying). Maryland has now installed so much solar that they have depressed their SREC market. Luckily for Marylanders, it's still a good return especially with relatively high electric rates across the state. Virginia missed the first wave of the solar boom entirely, and is only now starting to grow after watching surrounding states (including NC) thrive and create thousands of jobs.

Regardless, now solar has dropped so far in cost that Virginia businesses even have a respectable ROI, especially considering the equipment warranties of up to 25 years. For example a small building owner could easily see a 10 year payback, which can improve with scale. In DC the payback is closer to 5 years, if you have the rooftop space. The irony, no matter what the ROI is, it's still better than an owner's current electric bill.

While the state market conditions vary, one thing is common; a perfectly located and installed solar system is good for business. The current code regulations and the engineering advancements on materials have made installations both safe and practical. It boils down to three options for commercial solar construction. Most properties can turn sunlight into energy with either a Roof, ground, or carport mounted array.

*Again, keep in mind owning any of the above options is better than forever paying a utility bill with no return.*

Take a look at a few recent installations by [Prospect Solar](#), sister company to [Prospect Waterproofing](#). **B**



**Roofs:** flat with minimal obstructions or pitched toward the south, east, or west are ideal as shown for the new Net-Zero Williamsburg Elementary School in Arlington, VA:



**Ground:** if an owner has the space can offset the majority of an owners kWh consumption, 600,000 plus per year for this farm:



**Carport:** as shown for this university which offsets the entire load of the garage:

# PROJECT HIGHLIGHT

## Sheridan Station Apartments

By Rob Wenger, Director of Preconstruction, WCS Construction



Sustainability and being “green” is no longer new to many in the construction industry. WCS Construction, LLC is no stranger to sustainable buildings and works to increase the efficiency of the resources our buildings will utilize. It is important to implement improvements in design, construction, operation, maintenance throughout the building’s lifecycle so that we can reduce the impact on human health and the environment. We assist owners in developing and implementing the best strategies utilizing our experienced staff during collaboration while addressing these issues.

The use of Photovoltaic Solar Panels is being incorporated more and more into many residential designs. The award winning 104 unit Sheridan Station Apartments, located in Ward 8 Washington, DC was the first awarded LEED Platinum certification from the US Green Building Council LEED for Homes Midrise in the District of Columbia. The first phase of a multi-phase building project consisted of 135,000 square feet constructed over a 55 car parking garage and loading dock where 40 bicycle storage racks are available for resident and staff use. The project was developed by Sheridan Terrace Redevelopment and designed by SK&I Architects. A cast-in-place podium slab supports the 4-story wood framed loft-style apartments. The one main feature that distinguishes this project from other wood framed apartments is the inclu-

sion of a solar power solution for increased energy savings. The rooftop displays 420-240V Photovoltaic solar panels mounted on a non-roof penetrating ballast rack system, interconnected with PEPCO provided service. The total system is capable of producing 100,800 KW/HR ACDC inverter rated @ 96% efficiency. The system meets approximately 30-40% of the building electrical requirements annually. Solar designs, alternative transportation, high-efficiency fixtures, green roof and building energy performance (thermal bypass air barrier inspections) contributed significantly to the building achieving the LEED Platinum level. <http://www.wcsconstruction.com/project/sheridan-station-apartments/>

The second, more recent project to include solar panels was developed by 2 M Street Redevelopment, LLC and designed by Eric Colbert & Associates. The award winning 2 M Street project also contains a rooftop solar array. The building comprises a total of 389,900 SF provided in a 12-story, 315 apartment unit, concrete tower, clad with masonry, cast stone, exposed structural steel, decorative metal panels and oversized and full height windows. Within walking distance and with a line-of-site view of the nation’s Capital, the building’s unique facade stands as a gateway to the gentrifying NoMa neighborhood. The Class A, LEED Gold project has roof top planters that contain both extensive “green roof plantings” and intensive



## Technology and Innovation



irrigated landscaping. Rainwater is also captured in the building's two garage level cisterns. The decorative story-high rooftop concrete canopy elements, laced with 3-ton, 18" tall accent beams, provide architectural interest, shade and serve to conceal and support the 187 panels of the buildings 50KW Solar array. 2 M Street also has an additional range of sustainable features, including Energy Star appliances, energy efficient lighting and green label certified paint and finishes.

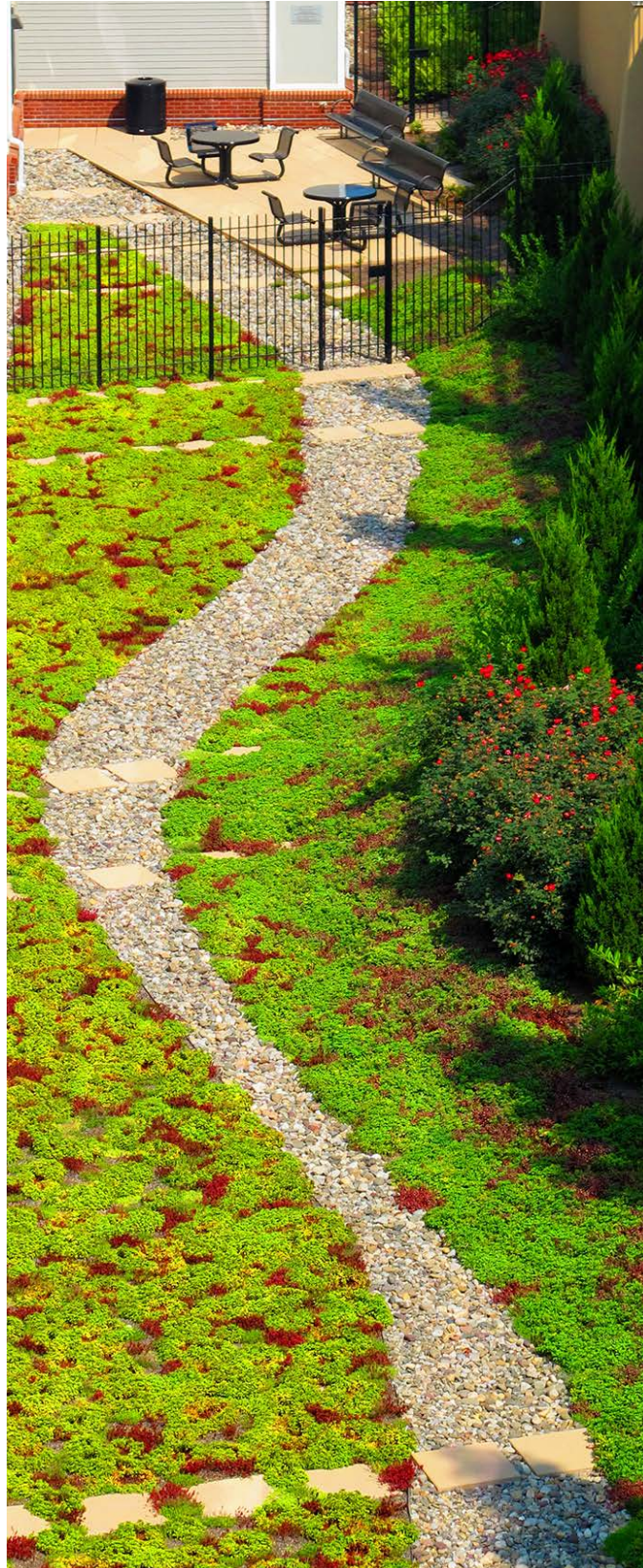
<http://www.wcsconstruction.com/project/2-m-street/>

Current projects under construction, with planned solar panel inclusion, are Archer Park and the Skyland Block 2 project.

Archer Park, developed by Archer Park Limited Partnership and designed by SK&I Architects, is located on Mississippi Avenue, SE between 13th Street and 10th Place, Washington, DC. The 183,098 SF 190 unit residential project will include four stories above ground and one story below ground. The project consists of two distinct 4-story masonry façade buildings linked by a 1-story building that houses a shared lobby and residential amenities. An opportunity for a green roof terrace is to be included by use of a concrete podium above the garage portion of the buildings. LEED Gold level certification is targeted. <http://www.wcsconstruction.com/project/archer-park/>

The Skyland Block 2 project will have 84,000 square feet of retail and 263 residential units. The town center project as a whole has been approved for 468 apartments and 325,000 square feet of retail. <http://www.wcsconstruction.com/project/skyland-town-center/>

Please contact WCS Construction, LLC at 202-889-3615. We'd love to answer any questions or concerns you may have regarding the inclusion of solar panels in your next project. **B**





### PROJECT HIGHLIGHT

# Net Zero Conversion: Renovation of American Geophysical Union Headquarters Models Sustainability

By Aimee Fogarty, CHC, LEED AP, Vice President, Skanska

The American Geophysical Union (AGU), one of Washington D.C.'s premier scientific non-profits, is dedicated to advancing science and ensuring a sustainable future. Recognizing that its aging building would require a major renovation after 20 years of service, AGU seized upon an opportunity to lead by example. The organization chose to design and engineer the modernization of its building to showcase real-world scientific advancement. Through innovative sustainable technology it will reach for an ambitious goal: to become the first commercial building in D.C. to produce enough energy on-site to meet its own annual energy consumption—a net zero building.

Built in 1994, the 62,000-square-foot building was originally conceived in response to AGU's desire to create distinctive architecture that expressed the spirit of its various scientific disciplines. After two decades of use, the necessity for renovation offered the chance to align the building's systems and architectural design with AGU's institutional values by incorporating green building and sustainable techniques.

While other developments strive for net zero from their initial planning, this project requires the overhaul of an existing commercial building to realize an annual balance between energy demand and generation. This will be achieved through a variety of architectural, engineering and advanced technology methods to reduce, reclaim, absorb resources and generate energy, including:

- 11-foot-6-inch high solar rooftop photovoltaic (PV) array to generate on-site renewable energy
- Municipal sewer heat exchange system to recover thermal energy from wastewater beneath Florida Avenue
- Living Green wall to improve indoor air quality and reduce energy load
- Water cistern to collect roof rainwater and condensate water from the dedicated outdoor air system, to produce the water needed for flushing low-flow toilets and on-site irrigation



- Direct current (DC) electrified grid with DC LED lighting to efficiently use power generated by the solar PV array
- Radiant cooling system that circulates chilled water through a network of pipes, using less energy than a traditional forced-air system
- Enhanced building envelope insulation, dynamic glass shading, and triple-pane glazing, among other interior and exterior high performance strategies

The project is a model for reducing the carbon and environmental impacts of business operations in a cost-effective and replicable way. Furthermore, the project couples net zero energy usage with other sustainability elements by reusing unique architectural elements, repurposing existing building materials and offsite recycling of demolition and construction debris.

The renovated headquarters building will also provide a collaborative, state-of-the-art conference center and work space for members, the public, and staff. As a scientific destination in the nation's capital, the new building will include an interactive public exhibit that highlights the impacts and innovations of Earth and space science. Suiting form to function, the AGU headquarters will embody the very scientific principles the organization advocates. **B**

**For more details on this project, please visit**  
<http://building.agu.org/>

The project team includes:  
Owner: American Geophysical Union (AGU)  
Architect: Hickok Cole Architects  
MEP Engineer: Interface Engineering  
Construction Manager: Skanska USA Building Inc.  
Share2



# PROJECT HIGHLIGHT

## DPR's Washington, DC Office



### Creating a Net-Zero Living Lab

Completed in 2016, DPR's Washington, D.C. office is the fourth DPR office to target net-zero energy and the first of its kind in the D.C.-metro region. Rather than building new, DPR chose to renovate the 20,000-sq.-ft. space, which had previously been vacant for more than seven years. This decision emphasizes DPR's commitment to environmental responsibility and to moving the industry forward, showcasing how a Class-C office space with an average skin system can become a net-zero, Class-A office in the Mid-Atlantic climate.

Accessibility was the main driver in moving the Washington, D.C. office from Falls Church to Reston, Virginia. A study on employee locations and commutes, along with the nearby metro line and proximity to the airport made Reston an easy choice. With so much vacant office space in northern Virginia, the team didn't see a need to build from the ground up. DPR chose to renovate the 20,000-sq.-ft. space, which had previously been vacant for more than seven years, but was close to public transportation, the town center and nearby recreational trails. This decision emphasizes DPR's commitment to sustainability and to moving the industry forward, showcasing how a Class-C office space with an average skin system can become a net-zero, Class-A office in the Mid-Atlantic climate.



The team set the following goals for its project to be considered a success:

1. Create an office of the future that invigorates our people and encourages creative work practices.
2. Do the right thing by incorporating sustainable strategies that contribute to the health and wellbeing of the environment and our people.
3. Make data-driven decisions based on cost-analysis, payback studies and team member expertise.
4. Build a living laboratory where we showcase technologies, products and systems, along with a robust educational program.



## Technology and Innovation

system that will eliminate all loads from devices not in use after 8 p.m.

- **Photovoltaic system** – A rooftop 147 KW solar array is designed to include 10% more energy than will be required to achieve a net-zero certification through the ILFI program. The Sun Power Helix photovoltaic system will be one of the first of its kind on the East Coast.
- **Water efficiency** – A highly efficient rooftop solar hot water system provides hot water for all domestic uses, while DPR partnered with Sloan to provide extremely water efficient fixtures in the restrooms and shower facilities.
- **Materials** – All finished materials in the space (carpet, wallcoverings, tiles, etc.) are certified as Cradle to Cradle. The most notable architectural element throughout the space is the reclaimed wood taken from barns in Connecticut and the eastern shore of Maryland, and installed by our own self-perform carpenters.
- **Connection to the outdoors** – Adjacent to the kitchen, the office offers access to the outdoors for employees to take a break and get some fresh air, or let the fresh air in. The office has a LED spotlight, programmed to let employees know if the outside weather conditions are acceptable to keep the door open.

### Environmental Responsibility

DPR's Washington, D.C. office is pushing the envelope when it comes to sustainability. Targeting LEED-CI v4.0 Platinum and designed to be net-zero energy, the space incorporates a variety of sustainable elements, including:

- **HVAC** – Aiming for net-zero energy, the office first had to reduce their current energy loads as much as possible, using fan-powered terminal units, allowing simultaneous heating and cooling of different areas in the office.
- **Radiant sails** – In select rooms, DPR Washington, D.C. used Radiant Sails, a system which transforms the centuries-old technology of radiant heating and cooling, into a modern architectural element that is also an extremely energy efficient way to provide thermal comfort to its occupants.
- **Natural daylight** – the entire 20,000-sq.-ft. area is illuminated by more than 24 SolaTubes that allow a tremendous amount of natural daylight in, while using very little energy for lighting throughout the day.
- **Lighting controls** – The LED lighting system, combined with a robust control, automation, and sensor system (donated by Watt Stopper) provides a consistent level of lighting throughout the day, while maximizing energy savings. Power outlets also use a phantom load-reducing

### Creating a living laboratory

As a living laboratory, it was important to the team to be able to educate others, while also continuing to monitor its progress against its environmental goals.

- **Lucid Dashboard** – A Lucid dashboard provides real-time information related to energy and water consumption, as well as energy produced by the PV array, so the team can visually see what is working and what needs tweaking in pursuit of net-zero energy certification.
- **Showcasing Products** – New products throughout the space are used as a way to educate clients and design teams on what is possible in an office of this scale. For example, the team installed four different finished concrete options, which allow owners and architects to see what different finished products look like and how they hold up to normal office wear and tear. Other technologies, such as the Radiant Sails, were placed in key, visible spaces so visitors have the opportunity to compare to more traditional systems.
- **Mechanical Room** – As a technical builder, providing a glass window into the mechanical room will allow DPR Reston an opportunity to educate visitors and its own staff about the functionality of office's complex MEP systems.

**Click [here](#) for more on how DPR's living labs are pioneering net-zero energy building certification.**



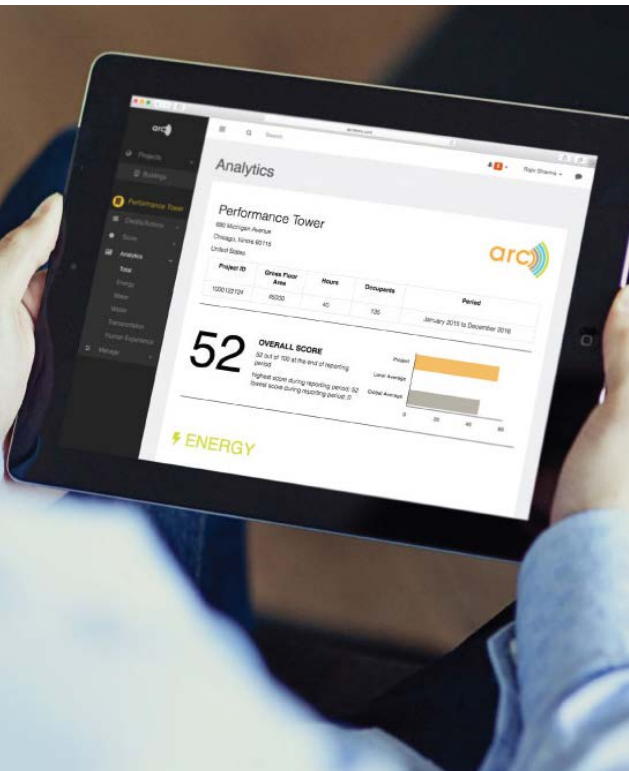
# Arc: Connect, Benchmark and Improve Your Building, Community and City

By **Gautami Palanki**, Director, U.S. Green Building Council

In 2016, Green Business Certification Inc. (GBCI) launched a new technology company, Arc Skoru Inc. This new venture will be the official host for Arc, a state-of-the-art digital platform available at [arcskoru.com](http://arcskoru.com). Arc allows any project—whether a single building, a community or an entire city—to measure improvements and benchmark against itself and projects around it. The goal of Arc is to support the missions of [USGBC](http://USGBC.org) and [GBCI](http://GBCI.org). LEED-certified buildings can use Arc to improve and benchmark against other certified buildings around them. Operational buildings that have not certified can use Arc to make incremental sustainability improvements to eventually achieve LEED certification.

Today more than ever before, the green building movement relies on technology and data, and the future of green buildings is focused on performance. Arc represents a new era for green building; the platform takes LEED to the next level through the shared use of technology, feedback and recognition of excellence.

[A platform like no other.](#)



### What is Arc?

- Arc is a simple digital platform for all projects pursuing LEED certification, including LEED v4 for Building Operations and Maintenance (O+M), LEED v4 O+M: Transit, LEED for Cities and will eventually include other green building rating systems, standards protocols and guidelines.
- Arc is inclusive of all projects, even those not pursuing certification, so that all buildings can measure performance and make incremental improvements.
- Arc facilitates connections to people and projects globally. It encourages innovation, enabling informed decisions on building design, operations and maintenance.

### How can you use Arc?

- Operational buildings can use Arc to pursue LEED v4 O+M certification and [precertification](#) using the [performance path](#).
- Projects that are currently pursuing and planning to register for LEED can also use Arc for performance data reporting.
- Cities, communities and districts can use Arc to start tracking data and earn [LEED pre-certification](#).
- All registered and previously certified LEED projects have access to Arc to keep their LEED certification up to date. Project leads can also use Arc for performance data tracking and reporting as per the initial requirements in LEED for data sharing.
- Projects previously using the LEED Dynamic Plaque are included in Arc.
- Material choices will reflect regional characteristics and consider life-cycle assessment and health impacts.

Leaders in our region, such as JBG Companies, Akridge and Tower Companies, are actively involved in the Arc platform and leading the movement towards a transparent, inclusive and high performance building portfolio. **B**

For more information, visit [arcskoru.com](http://arcskoru.com) or email [contact@arcskoru.com](mailto:contact@arcskoru.com).

# Healthy Building Technology – InstaScope

By Morgan Renard, Operations Manager, ServiceMaster National Capital Restoration

More often than not, new technology supplements current business practices causing incremental improvements over time. Productivity tools such as Google Docs grease the wheels of collaboration. iPads supplanting cumbersome laptop computers make document accessibility that much easier. It is only on rare occasion that a technological advancement changes an entire industry.

Enter InstaScope—a portable Wideband Integrated Bioaerosol Sensor (WIBS). The key feature of InstaScope is its ability to detect mold in real-time. For the first time, mold can be detected within a wall cavity, flooring system, HVAC or ceiling without the need for invasive cutting or demolition. Further, results are presented within minutes instead of days allowing property managers and decision makers to take action immediately and without delay.

At ServiceMaster NCR we saw the opportunity to use InstaScope to improve our business and provide a better product to our customers. Initially, we used the device to passively test the air for mold spores. This gave us real-time results, which was a significant improvement in its own right, but it wasn't until we discovered that the instrument could be used to detect mold in interstitial cavities that we realized the true game changing nature of the technology. By lightly vibrating the wall we can cause a brief disturbance in the mold colony that would allow spores to be released and pass through the C-channel or wall outlet. The resulting spike in the readings allows the operator to map out the mold distribution and essentially locate the growth.

The benefits of non-invasive mold inspections are abundant:

- Impartial, instrument-based analysis prevents personal agendas and prejudices from influencing the interpretation of air samples, and guarantees 100% continuity regardless of the operator.
- Elimination of an off-site laboratory from the chain of custody removes human error from the process and turn-around time has experienced a logarithmic reduction—from days to seconds.
- Real-time inspections with an active data display help to isolate areas of concern, i.e. HVAC involvement, hidden cavities, floor coverings, etc. This often negates the need for exploratory demolition work, which can be costly and may result in the loss of use of an area.
- Combined with innovations in mold remediation that allow for a 90% increase in salvaged material, the InstaScope has taken the average downtime and loss of use on a mold project from 8 days to 1.5. The positive impact on project timetables and client perception is immeasurable and is borne out by numerous case studies.



Though we currently use InstaScope to detect airborne particulate and mold, there are additional improvements to this technology currently under development. These improvements include the ability to detect and measure airborne bacteria—a capability that will have obvious applications in healthcare and food production facilities. We are excited about the many applications of this technology and its impact on building health. **B**



# Future Trends in Building Automation Controls

By **Matt Pastore, CxA**, Director of Design-Build Services, GHT Ltd.

**A**chieving openness for building automation controls is a vision shared by many—from owners and designers to the professionals installing the systems and the building engineers who are responsible for their operation. With the singular goal of reducing costs, time and difficulties during design and construction, we frequently advise our clients to consider selecting a freely distributed, openly licensed, open system. By presenting a clear picture of the short-term and far-reaching impacts of systems selection, GHT works with developers and building managers to build the system that achieves the design intent while ensuring long-term flexibility in maintenance.

### Defining an Open System

Our clients ask our project teams, how do I know my system will be truly open? We judge the openness of the system on three key criteria:

- Is it accessible, supported and competed within the free market?
- Is both the product and platform designed to communicate with other systems via open protocols and standards?
- Once deployed, can it be supported and maintained by the free market without unreasonable encumbrance?

It is important to dispel long-held myths that product openness directly correlates to a lack of security hardness. These two attributes must be evaluated independently and controls security should be included in early design discussions with your MEP engineer.

### Overcoming Proprietary Supplier Barriers

The system's ability to be accessible and competed within the free market is a fundamental requirement to ensuring the client receives an open system. During the last several decades of development in these systems, the market has come to bear products which are only sold and serviced by a single group or entity; limitations can also be placed by the manufacturer on the region to reduce the number of service providers. While unintentional, this results in real consequences for building owners seeking a non-proprietary system, whether it be a delay in accessing a skilled technician or price increases on necessary maintenance parts.

In the case of a truly open system, our clients are empowered to select the contractor who is best suited to provide the optimal result, through a determination based on qualifications, price and proposed solutions which achieve design intent. The client and end user are also free to select service providers as they see fit, allowing systems to be easily and affordably serviced, repaired and modified by parts readily available in the free market.

### Open Communication Matters Too

Dating back to the creation of DDC controls, owners and building managers have struggled with the dilemma of installing building systems which aren't able to talk to each other. Prevailing academic authorities and the engineering community hoped to overcome these challenges through the creation of BACnet and the ASHRAE 135 standard; however, suppliers and installers who wished to secure their market share circumvented these standards by developing creative distribution licensing and service models, regional contract agreements and proprietary software tools. The end result for building owners? Products which possess the ability to speak a common language (protocol) but are forbidden, through either manufacturer fiat or legalese, resulting in limited interoperability. As client demands increase for truly open systems, the market is now responding with high quality, powerful open control platforms which overcome current proprietary controls.

### Open Systems Drive Need for Open Maintenance

Accessing competitive service and maintenance agreements following construction is also high on our clients' list of wants when considering a controls and monitoring system. Larger commercial BAS manufacturers and distributors have developed exclusionary licensing agreements which seek to restrict which systems can be serviced by their technicians. With some of these restrictions remaining in effect for the lifecycle of the product, it is critical that owners closely evaluate products during the design phase to consider first whether their performance goals will be achieved and second to verify the long-term ease of use and affordability of the system's maintenance.

In some circumstances, such as client properties located in rural areas, our GHT team may recommend a less open product which still provides access to the best service providers in the region—however, we find these instances are growing increasingly rare as the market responds to changing owner preferences.

### Forecasting the Future

The call for open protocol monitoring & controls systems is definitely trending upwards, as developers, owners and end users seek a system which suits their needs while ensuring an open, competitive environment is maintained among suppliers and service providers. For our clients, asking the right questions will ensure that the market responds with powerful, secure and well-featured open-platform control solutions. **B**



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The background is a night-time aerial view of a city with illuminated buildings. A prominent skyscraper on the right is overlaid with a blue wireframe grid. Various digital icons are scattered across the scene: a bar chart, a tree, a document with a checkmark, a factory, a lightning bolt, a CO2 symbol, and a Wi-Fi symbol. Lines connect these icons to the wireframe building. Streams of binary code (0s and 1s) are also visible, appearing to flow through the city. In the top left, there is a white box containing the Siemens logo and tagline.

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## Member Projects



Donohoe Construction's project, **Camden NoMa**, has received a Certificate of Occupancy from Washington, DC. The firm has turned over the first phase of occupancy, which includes the three levels of below grade parking, amenity spaces, and units up to the third floor. Developed by Camden Properties and designed by **WDG Architecture**, the \$69 million project sits 15-stories high and is made up of 405 units along with many high-end amenities for residents to enjoy including a fitness center, a courtyard and rooftop pool. The 492,109-square-foot project broke ground in February 2015 and is currently ahead of schedule to reach its final milestone, substantial completion, in this spring.

Additionally, Donohoe Construction turned over the first phase of occupancy at **Insignia on M** after receiving the Certificate of Occupancy from Washington, DC, marking an important project milestone. Developed by **Donohoe Development Company** and **MetLife, Inc.**, the new multifamily building features 324 luxury units with upscale finishes in the kitchen and bathroom as well as hard wood flooring, keyless entry, customizable walk-in closets and built-in charging stations for USB devices. Select units also include floor-to-ceiling glass windows with waterfront and capitol building views, private balconies and frameless glass showers. Designed by **WDG Architecture** to achieve LEED Silver Certification, Insignia on M's extensive amenities include a resort-style rooftop pool, a penthouse club room, secure bike storage, a fitness center with yoga room, a pet spa, a 60-foot plaza with café seating and gardens. The 13-story high-rise sits directly above the Navy Yard–Ballpark Metro Station in D.C.'s Capitol Riverfront neighborhood. Additionally, the building contains 11,000



**top left:** Camden NoMa, Washington, DC; **top right:** Insignia on M, Washington, DC; **above:** Solaire 8250 Georgia Avenue (Ripley East), Silver Spring, MD



square-feet of ground-floor retail space and three levels of below grade parking.

**Lendlease** is providing construction services for the new **Solaire 8250 Georgia Avenue** residential project, also known as **Ripley East**. This will be Lendlease's second project with Washington Property Company. Ripley East will be a 20-story apartment project located on Georgia Avenue in the heart of Silver Spring, Md. It will contain 338-units, 15,200 gross square feet of retail space, and three-levels of below-grade parking. The total building area will be approximately 470,000 gross square feet. The project is scheduled to complete in the spring of 2019 and is targeting a LEED Silver designation.

**GORDON** has won a five-year **\$15 million nationwide Indefinite Delivery Indefinite Quantity (IDIQ) contract with the United States Department of Veterans Affairs (VA)**. This multiple award contract vehicle will provide planning and design services for veteran cemeteries across the country. GORDON is a multi-discipline site design firm with 80 civil engineers, planners, surveyors, and security professionals who provide regular support to both Department of Defense and civilian agencies. Building upon the firm's most recent VA cemetery work at the West Virginia National Cemetery in Grafton, West Virginia, the nationwide cemeteries IDIQ has afforded the firm the opportunity to pursue additional projects outside of their historically mid-Atlantic performance.

**Frost Miller** has been hired by **CORFAC International** to provide **content marketing services** for the organization. CORFAC International is a network of independently-owned, entrepreneurial commercial real estate brokerage firms with offices in 47 U.S. markets, as well as four Canadian and 26 other international markets. Frost Miller will evolve CORFAC's past efforts in public relations and advertising into a larger effort that encompasses content marketing. It will produce more materials that demonstrate the benefits offered by CORFAC members and distribute them in new ways to help the firms secure new business. **B**

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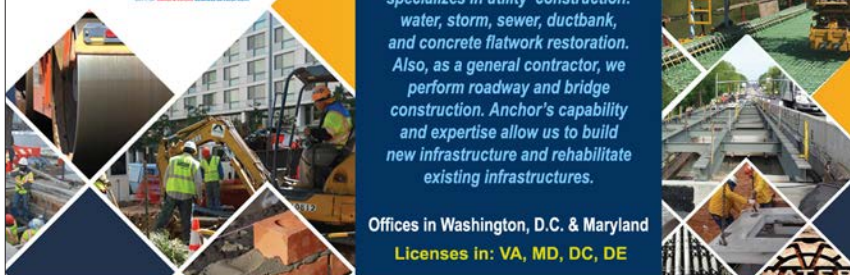
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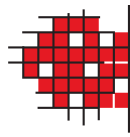
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f: 202-508-5858  
www.kilpatricktownsend.com  
Representatives: **John T. Bergin,**  
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### Lansdowne Construction

1741 Business Center Dr., Ste. 120  
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p: 703-464-1003  
f: 703-880-7319  
www.lansdowneconstructiongc.com  
Representatives: **David Brooks, Tony Reichel**

### Moretrench

100 Stickle Ave.  
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p: 973-627-2100  
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Representatives: **Jonathan Bennett, PE,**  
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### The Snead Company

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### Vitro Architectural Glass (formerly PPG)

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### Kilpatrick Townsend & Stockton LLP

The law firm of **Kilpatrick Townsend** is nationally recognized for its experience in construction and public contracts law. The firm's Construction Team was the U.S.'s 2015 and 2016 Team of the Year, according to Chambers USA, a leading evaluator of legal services. Their attorneys are leaders in dealing with complex construction matters throughout the United States and overseas. Through their exclusive focus on construction-related issues, the group has a vast amount of experience in virtually every type of construction project, including wastewater treatment plants, airports, tunnels, prisons, hospitals, office buildings, sports arenas, schools, hotels and resorts, power plants, and industrial facilities. Within the construction industry, Kilpatrick Townsend offers legal representation and advice on transactional matters, government contracting, and a wide range of disputes, including litigation, arbitrations, and mediations.

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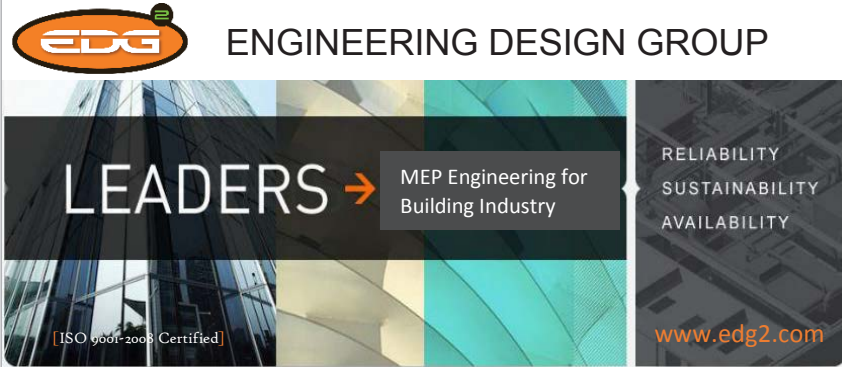
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# WBC Calendar & Advertising Information

## Events Calendar

### March 2017

- **March 31**, 5:15 – 9:30 p.m.  
61st Annual Craftsmanship Awards Banquet  
Marriott Wardman Park Hotel,  
Washington, DC

### April 2017

- **April 7**, 8:30 – 10:00 a.m.  
New Member Orientation Breakfast –  
By Invitation Only  
WBC Office

- **April 13**, 8:30 – 10:00 a.m.  
Avoiding Common Payment Pitfalls Seminar  
– A Primer on Federal Contracting Payment  
Remedies  
WBC Office

### June – December 2017

- **June 12**  
Golf Outing  
Golf Club at Lansdowne and Belmont  
Country Club  
Leesburg, VA

- **September 28**  
Fall Kickoff Bull & Oyster Roast

- **December 12**  
Holiday Party

## Editorial Calendar

**December / January**  
Members Giving Back

**February / March**  
Technology and Innovation

**April / May**  
Craftsmanship Awards and  
Hall of Fame

**June / July**  
Rebuilding Together

**August / September**  
TBD

**October / November**  
WBC Leadership and Committees

The **Bulletin** covers issues of importance to the building industry, news about WBC members and information about upcoming events. The topics listed below will be covered as feature articles in upcoming issues of the **Bulletin**. Persons interested in contributing information or advertising should contact WBC before the 15th of the first month of each two-month issue (for example, content for the February/March issue would be due February 15th). The **Bulletin** is published six times a year by WBC. To place an ad, submit material or for more information call **(202) 293-5922**.

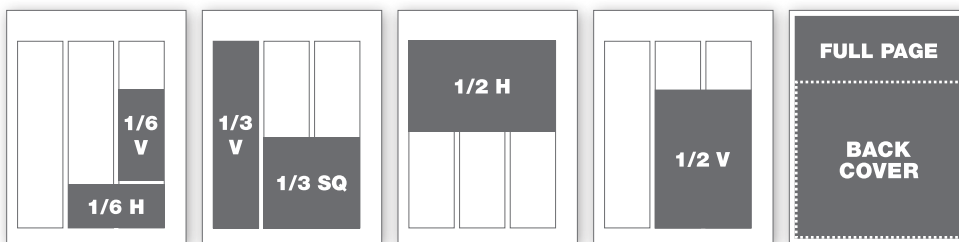
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Inside Front Cover	\$730	\$590	\$480
Inside Back Cover	\$730	\$590	\$480
Back Cover	\$830	\$670	\$540

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1/2 horizontal or vertical	\$581	\$473	\$392
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