

Bulletin

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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.

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Chairman's Letter

Dear Members and Colleagues:



This issue of the *Bulletin* features several ousting articles focusing on sustainability issues in the commercial construction industry. I would like to extend special recognition to the Sustainability Committee, Chair Mike Holland (Boston Properties), Vice-Chair Ben Cohen (DAVIS Construction), and all of the outstanding contributors to this special edition.

On April 25, the Community Services Committee hosted the annual WBC Rebuilding Together workday. The committee successfully coordinated the efforts of over 50 volunteers represented by numerous firms contributing over 500 hours. Congratulations to everyone involved with this special project and thank you to House Captain and Vice Chair Ken Ellis (Langan) for his outstanding leadership. I would also like to recognize the Community Services Committee, Chair Kent Fee (LSM), Co-Captain Chris Deraleau (HITT Contracting Inc), Board Liaison Allen Slaughter (Dynalectric) and all of the volunteers who helped make this initiative a success. The August-September *Bulletin* will be dedicated to recognizing all of the individuals and firms who participated this year.

Please also take a moment to review the WBC Summer Golf Outing section recognizing our great sponsors and tournament winners. I would like to provide special acknowledgment to Tournament Sponsor Siemens Industry for their ongoing support of this event. Over 450 industry supporters came out for an outstanding day of golf followed by the awards reception at The Golf Club at Lansdowne. Thank you to the Golf Outing Committee, Co-Chairs Mike Piotrowski (Siemens Industry) and Dan Rakes (RM Thornton Mechanical), and Board Liaison Mike Baruccheri (Tishman Construction), for putting together another successful outing.

The WBC Spring Networking was held on May 28 at Spider Kelly's in Arlington with over 150 in attendance. On July 10, WBC held the first collaborative event with the Baltimore Building Congress and Exchange at the Nationals vs. Orioles game in Baltimore. Please be sure to join us for the always popular Summer Networking event at Cactus Cantina on August 19.

The 78th annual WBC Fall Kickoff, directly benefiting the Craftsman Hall of Fame, is scheduled for September 29 at Columbia Country Club. The Kickoff event will feature the return of the Silent Auction in support of the Hall of Fame. 100% of the proceeds from the evening will benefit the Hall of Fame. We are seeking donations of themed gift baskets for the auction from our members. Please contact the WBC for further information and mark your calendars now for the Hall of Fame Fall Kickoff on September 29.

The WBC Nominating Committee is seeking recommendations for the FY'16 Board of Directors to take office on October 1, 2015. Nominations are due no later than Friday, August 21. An official notice will be distributed at the end of August announcing the slate of candidates. Election of the new Board of Directors will take place at the annual membership meeting during the Fall Kickoff. The Nominating Committee will be chaired by Immediate Past Chairman of the Board Joel Zingesser.

I look forward to seeing you at the Summer Networking August 19 and the Fall Kickoff September 29. Thank you for your active participation and ongoing support of the WBC.

Best regards,

Tamara McNulty

WBC Chairman of the Board

On the cover:
US Coast Guard Green Roof
(Clark Construction Group)

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PSI Hires Gawron and Hasan



Abdel Hasan

Professional Service Industries, Inc. (PSI) has hired **Abdel Hasan**, E.I.T., as staff engineer in its Fairfax office, and **Michael Gawron** as staff specialist in its Herndon office.



Michael Gawron

Hasan has over 20 years of experience with construction projects. He earned his Post-graduate Diploma in Environmental Science from Ainslams University and his Bachelors in

Civil Engineering from the Zagazig University. Gawron earned his Associate of Science in Engineering from Germanna Community College in Fredericksburg.

Insurance Associates Promotes Snyder

Insurance Associates announced the promotion of **Troy Snyder** to director of employee benefits. As a member of the IA team since the inception of the Employee Benefits division, Snyder has been instrumental in growing this department, expanding agency capabilities, and enhancing the technology services available to clients. He has proven his skills in analyzing a company's current health objectives and needs and then advising them on a value-added solution based on his evaluation.

Having worked with many employers in various industries to establish efficient cost-effective health care plans, Snyder is an expert in the design of programs that control costs and enhance health care management.

Seven Ober|Kaler Lawyers Selected for DC Super Lawyers

The law firm Ober|Kaler announced today that seven of its attorneys have been selected for the 2015 edition of Washington DC Super Lawyers. Super Lawyers is a ranking of outstanding attorneys from over seventy practice areas who have attained a high-degree of peer recognition and professional achievement. The selection process is multi-phased and includes independent research, peer nominations and peer evaluations. The following Ober|Kaler lawyers were selected:

- **Julie E. Kass** – Health Care
- **John J. Miles** – Antitrust Litigation
- **Patrick K. O'Hare** – Health Care
- **Diane Shapiro Richer** – Real Estate
- **Gina L. Simms** – Criminal Defense: White Collar
- **Barbara G. Werther** – Government Contracts

Additionally, **Elizabeth J. Cappiello** was named a Washington, DC Rising Star in the category of Business Litigation.

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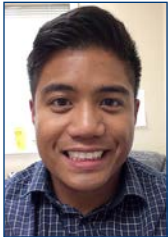
Image Credit: Bryan Becker

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PSI Announces Promotions

Professional Service Industries, Inc. (PSI) recently announced the promotion of **Alex Bacalso** to staff engineer in its Fairfax office, and **Redha Hasan**, E.I.T., and **Robert Dwyer**, E.I.T., to staff engineers. **Nicholas Mansourimoaied**, E.I.T., was promoted to branch manager of its Lanham office.



Alex Bacalso

Bacalso previously served as technician, and has concrete and soils technician experience. He earned his Bachelor of Science in Engineering Technology from Old Dominion University.



Redha Hasan

Hasan has over 20 years of construction quality control testing experience with knowledge and expertise in soils. He earned his Master of Science in Geotechnical Engineering and his Bachelors of

Science in Civil Engineering from the University of Technology in Iraq. He has been a member of the PSI team since 2013.



Robert Dwyer

Dwyer has experience in site development in construction materials testing in a field environment. He earned his Bachelor of Science in General Engineering from James

Madison University, and has been a member of the PSI team since 2013.



Nicholas Mansourimoaied

Mansourimoaied previously served as Manager-In-Training in its Fairfax office. He earned his Bachelor of Science in Civil Engineering from the Virginia Polytechnic Institute.

Insurance Associates Listed in Post's Top Workplaces 2015

Insurance Associates, Inc. announced that it was selected as one of *The Washington Post's* Top Workplaces 2015. The Top Workplaces are determined based solely on employee feedback from a survey. The employee survey is conducted by WorkplaceDynamics, LLC, a leading research firm on organizational health and employee engagement.

Last year the firm contributed to a local charity, sending employees out of the office to pull weeds and do yard work for a group home. Additionally, during the Thanksgiving season the employees donated more than 1,000 pounds of food and other non-perishable items to another local organization. Insurance Associates also promotes a wellness program in which it reimburses 50% of employees' wellness expenses.

"Insurance Associates is extremely proud to be named a Top Workplace in *The Washington Post*. This is an honor and it is wonderful to see that so many of our employees are this passionate, engaged,

and dedicated to the work that they do at IA," said Stephen A. Spencer, president of Insurance Associates, Inc.

The Washington Post published the complete list of Top Workplaces on June 21, 2015.

Kelley Joins Dominion Electric Supply

Dominion Electric Supply Company, Inc. welcomes **Bernie Kelley** as vice president of operations. Kelley has nearly 20 years of experience in the computer and telecommunications equipment distribution industry.

For 16 years, Kelley served as vice president of operations at Westcon Group in Chantilly, VA, managing their North American distribution centers, customer service, returns processing, equipment assembly and facilities functions. Most recently, he was director of global distribution operations at Ciena Corporation, a telecommunications hardware manufacturer based in Hanover, MD.

Scaffold Resources Welcomes New Employees

Scaffold Resource, LLC recently hired **Mark Tsirigos, Robert "Bob" Brundige** and **Bruce Herr**.



Mark Tsirigos

Tsirigos brings over 30 years of experience in the scaffolding and hoisting industry. He started in the field before moving into sales and project management, and ultimately vice president for the past 15 years. This experience has helped Tsirigos to build a wealth of knowledge in all areas of this very diverse industry. One of his many talents is his ability provide creative and innovative solutions for his clients most challenging projects.



Robert "Bob" Brundige

Brundige has more than 35 years of experience in the construction industry including building airport fuel farms and gas stations, hotels, office buildings and for the past eight years restoring and preserving historical building facades. He started in the field as a tradesman before being promoted to management over 20 years ago. Brundige's experience as the "end user" of many different scaffold and shoring systems over the years brings a "customer's perspective" to the team; that coupled with his core beliefs of safety, quality, customer

service and integrity make him a great fit at Scaffold Resource.



Bruce Herr

Herr joins Scaffold Resource, bringing 30 years of general contracting experience including 18 years of executive management with two of the Washington area's premier builders. His role with the company is to round out Scaffold Resources' core expertise in the scaffolding industry with best value management practices and risk administration, matching the company's corporate growth with proven industry leaders.



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JATC 2015 Graduates

Washington, DC JATC Holds its 69th Annual Graduation Ceremony

The Joint Apprenticeship and Training Program (JATC) celebrated the graduation of 110 apprentices and residential wireman in June. The graduates, both men and women, completed a rigorous electrical training program to become Journeyman Electricians.

Of the 110 graduates, 88 students graduated from the JATC's five-year Inside Wireman apprenticeship program. Graduates from this program completed over 800 hours of classroom instruction and 8,000 hours of supervised on-the-job training. In addition, two students graduated from the three-year Telecommunications program and became technicians. And lastly, 20 Residential Wireman completed the Residential program and were upgraded to Inside Electrical Journeyman.

"We are so excited to welcome another class of exceptional Journeyman

to the JATC family," said Sean Myers, assistant director, JATC. "Graduating from this program is not an easy task and I'm extremely proud for this class to be beginning their careers in the electrical industry."

This year's Inside Wireman valedictorian was Evan J. Bender who received the highest marks in his class. The salutatorians this year were Christopher S. Blau (Inside Wireman), Steven J. Stanford (Telecommunications) and Horacio Orta (R-A Upgrade).

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





1776 full building from street.

Credit: RTKL

Push for Platinum

While USGBC continues to raise the bar with each new iteration of LEED, constantly trying to stay ahead of the industry to affect change, construction of sustainable buildings in the Washington, D.C. region continues to keep pace with these refinements and revisions. According to USGBC's February 2015 ranking of new LEED space, Washington, D.C. led the country (by a huge margin) in square footage of new LEED Certified (or better) construction per capita. Because D.C. is a Federal city and not a state, it was not officially ranked. However, with Maryland ranked third of all states and Virginia following at fourth, it is clear that the National Capital Region was the pace-setter for all other regions of the country.

With recent changes to the codes and regulations in Washington, D.C., LEED-Certified has become the de facto floor for projects over 10,000 square feet. And if Silver is the new standard, Gold is now often the goal. But Platinum? That's still a reach for most projects. Yet in this region, Platinum projects are not nearly as scarce as they once were.

According to USGBC statistics, there are currently 66 Platinum projects in Washington, D.C. – 23 Commercial Interiors, 14 Existing Buildings, 7 Homes and 22 Core and Shell or New Construction, including Schools.

So what drives some owners to seek this previously elusive mark of excellence? We posed that question to the owners of three different projects – a speculative office building, a multi-family mid-rise, and a government build-to-suit project – to find out what drove their decisions, what challenges they faced and what lessons they learned.



1776 photovoltaic array.

Credit: RTKL

Skanska Internal Challenge Leads to New Technology at 1776 Wilson Blvd

Always looking to be a leader can be challenging. However those challenges and the inherent risks that come with breaking new ground are often what make one's job exciting. Leaders are those who seek to innovate and push the boundaries in order to grow individually and advance as an industry. That's the mindset that led Skanska to go Platinum on their speculative office building at 1776 Wilson Blvd, which was one of the first Platinum projects in the region when it delivered in November of 2012.

As a corporate philosophy, Skanska dictates that every project should push the envelope in at least one new way. They call it this the "Big Hairy Audacious Goal" or BHAG for short, and it ensures an extra level of innovation and creativity is incorporated into each new building. When combined with the corporate policy that all projects in all regions will be built to LEED Gold standards or better – an already elevated floor – it challenges employees to innovate, to explore new technologies and to seek new solutions. This edgy approach energizes their workforce, and it can be seen embodied in the 5-story LEED Platinum project.

According to Marc Johnson, Director of Development at Skanska, they did not immediately set out with the goal of delivering a Platinum building at 1776. The initial mandate had been for LEED Gold. However, as the project developed organically, it became clear that Platinum was within reach, due to many of the decisions that had already been made in setting the baseline at Gold. They were already committed to an extensive green roof, low-VOC materials, low-flow plumbing fixtures and electric vehicle charging stations – features that have become more common in the past 5-years throughout the region. They found, however, that for a Core and Shell project, the difference between Gold and Platinum was primarily a difference in the energy efficiency – a feature that would be attractive to any tenant. By switching direction and steering towards Platinum, Skanska believed the unique features of their building would be attractive to unique tenants and their project would stand out from the pack – something particularly important when proceeding on a speculative basis.

So with guidance from their architect, RTKL, their LEED consultant, Paladino and Company, and their MEP engineer, Girard, they began looking for opportunities to further improve on the energy-saving features of the building. They added CO2 sensors throughout the building and the garage, which both save energy by lowering the volume of fresh air being tempered when not needed and increase tenant comfort by introducing new fresh air when it was needed. They added individual temperature control for offices and for common spaces. This again proved to both reduce energy costs by eliminating the use of individual electric heaters brought by tenants and to increase tenant comfort and satisfaction. They tweaked other building systems to try to extract a bit more efficiency out of them as well.

One of the big moves they made was to submeter all of the tenant spaces not only for electricity usage, but also for water,



Enmetric plug-load monitoring system.

cooling and other utilities. They supplemented this with an active Building Dashboard, located in the main lobby for all to see. As is often said, you can't control what you can't measure. The very public monitoring of tenant energy use has not only become a point of pride for tenants in the building, but as they leave each day, it serves to remind those tenants of the impact their personal energy consumption has on the environment. The hope is that the environmental impact of the Dashboard will ripple beyond the office into the home environment.

But this still was not quite enough to put them into the Platinum discussion. So it was time to get really creative. The project had already taken advantage of its low, long profile by dedicating a large portion of the extensive roofscape to a roof garden. But now a portion of the higher tower roof would become the proving ground for innovation. The thing that would vault them from Gold to Platinum was the addition of over 80 photovoltaic panels to provide on-site renewable energy. As with anything attempted for the first time, there were design challenges that had to be worked through. The engineers had to determine the proper controls sequence and sort out the wiring complexities for mixing utility-provided power with on-site provided power. And Skanska had to work through the details of their first local photovoltaic installation in the Washington, DC region. However, the learning process was not particularly painful and the commissioned panels function as intended without any significant issues. The panels provide energy for over 1% of the total building load—not a huge net impact. And despite some helpful tax credits, the payback time for the investment is longer than is worth discussing. But weighing the total investment relative to the project budget, Skanska determined the investment was worth the reward. Perhaps as important as the renewable power, the photovoltaics provide a sense of identity for the building tenants and a differentiator for the owner hoping to lease to progressive-minded tenants.

The risks taken at the start of this project seem to have paid off. Tenants were attracted to the cutting edge feel of the project and the healthy attributes of the building. Each tenant

agreed to abide by the strict rules for their own build-outs, including requirements for low-VOC components, CO2 sensors to adjust fresh air induction, occupancy sensor controlled lighting and energy sub-metering. According to Mr. Johnson, “Not only did we get no pushback from tenants on the sustainability requirements, they clearly appreciated them because they knew this helped ensure a healthy building. These are tenants who shared some of the same goals Skanska had when we developed the building.” Indeed, several of the building’s tenants continued down the path of LEED Certification. The majority of tenants built their space out in accordance with the developer’s LEED goals, but opted not to certify due to the application and processing costs, which can become a significant portion of the TI budget, especially for small tenants.

Skanska, who is also a tenant in the building, further invested in energy saving technology by installing centralized intelligent monitoring and control of all electrical loads within their space. The system, by Enmetric, monitors the plug loads via wireless communication to power strips throughout the office. All power to plug loads and to lights are turned off at night unless over-ridden by the end user. The monitoring and analytic software enables them to isolate power drains, once identifying a printer that was not shutting down at night. With this system and other saving techniques, Skanska believes they are using between 50% and 60% of what other tenants in this already green building are consuming.

Despite starting without a tenant, the project was 92% leased in July of 2014 when Skanska sold it to Invesco, one of thirteen groups bidding aggressively for the building. The large pool of companies vying for the building serves as further evidence of the unique quality represented by Platinum designation.

Even those not directly affected by the project were energized by some of the innovation. Arlington County Board Members and other county officials, whom Skanska says should be credited for their early embrace of LEED and new building technologies, showed up for the grand opening to get a closer look at the Platinum project and to voice their support for pushing boundaries to benefit the environment and the business community.

Skanska continues to actively seek out new technologies, whether for use in their projects or in their construction business. They recently hosted a Stanford University presentation on translucent photovoltaics – essentially energy producing glass – which appears to be a technology that will be available in the near future. And they explored geothermal wells at length for a new project in the Capital Riverfront district, which would have provided heating and cooling for nearly 15% of the building load. Not every technology is ultimately deemed a good fit for their projects. However, the constant exploration and the desire to be leaders in the field often open doors to innovative and exciting opportunities.

Verde at Howard Square – Proving Stick-Built LEED Projects Pay Off

Earlier this year, Verde at Howard Square was awarded LEED Platinum Certification. This is a very impressive accom-

Did You Know...?



Washington, D.C. is the smallest city with over 100 Million square feet of LEED Certified space? In fact, it is only the 4th city to achieve this goal (Chicago, New York and Houston being the others)

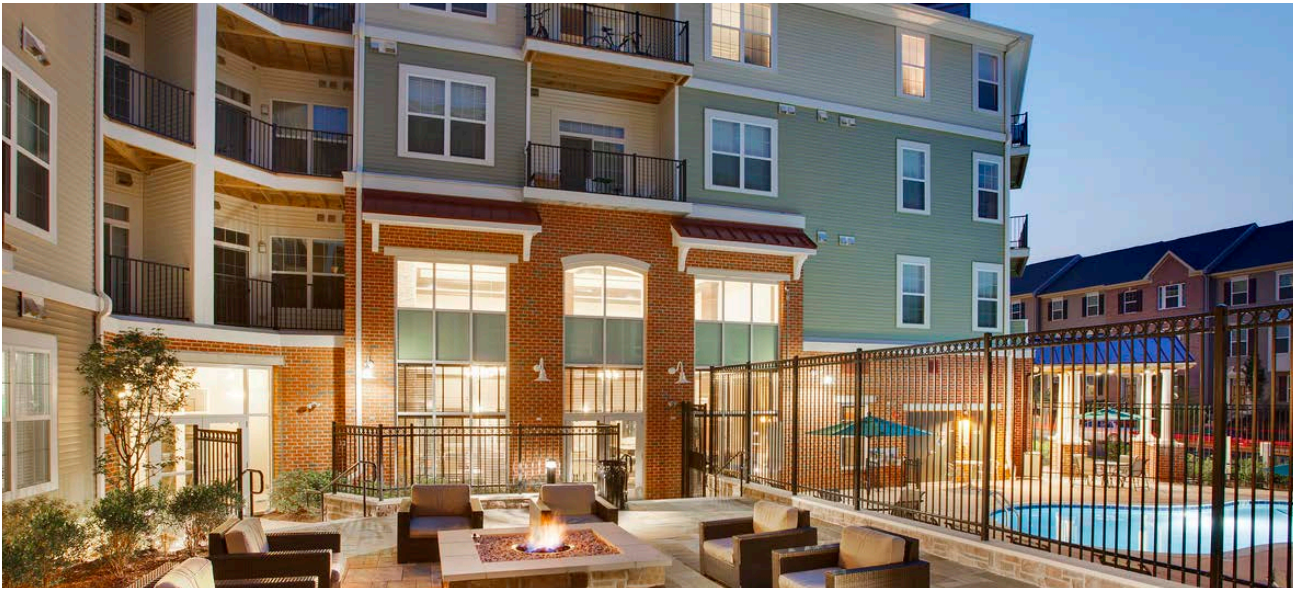
(Source: USGBC Website, “D.C. Joins Exclusive LEED 100 Million Club” article by Christopher Gray, 30 Sept 2014)

plishment and sets an example of leadership to other similar multiple-family apartments nationwide, as the project is the first LEED Platinum apartment building in the State of Maryland. Verde at Howard Square is a mixed-use development in Howard County Maryland and consists of eight four story wood framed apartment building containing 299 rental units with a 184,968 SF, 539 car concrete parking garage. Lend Lease performed construction management services for the project, which was a joint venture between The Dolben Company and Atapco Properties.

Verde at Howard Square came a long way from its inception to becoming a first in the State of Maryland. According to David Polonsky, Sr. Development Manager at Atapco Properties, the project was not originally intended to be LEED certified. The development team had committed to build a sustainable building, however, there were concerns over the additional capital required to obtain LEED certification. The discussion started to shift when the team began to investigate Howard County’s High Performance Building Credit which is one of the County’s Energy Conservation tax credits.

A high performance building credit is available for owners of a commercial building that achieves at least a Silver rating according to U.S. Green Building Council’s LEED rating system (Tax Credits – Energy Conservation Credits, 2014). The credit is granted against the County Tax imposed on the building for five years. The credit for new construction is 25% for LEED Silver, 50% for LEED Gold, and 75% for LEED Platinum.

At this point the project was in Design Development stage, and the team did not have the luxury to slow down the schedule and further investigate the potential costs associated with different LEED credits. In order to obtain this information and make an intelligent decision, the design team included add alternates for each LEED credit and had Lend Lease price the alternates. Utilizing this technique, the development team was able to determine the additional capital required to pursue LEED certification. After careful analysis, it was determined the five year 50% tax credit for achieving LEED would offset the additional costs. With this information, the team carefully selected credits and the project moved forward in pursuit of LEED Gold Certification.



Credit: Jeffrey Sauers Photography

Verde Howard Square

To further the environmental stewardship, the team was interested in the opportunity to add a solar array to the top of the garage, which would make LEED Gold a certainty instead of a challenge. In order to make the decision, the development team had to determine if the solar array would have an acceptable return on investment. Through various tax credits, selling Solar Renewable Energy Certificates (SERCs), depreciation, and value of energy utilized by the building, it was determined that the development team would obtain a suitable return so the team proceeded with the array. The PV Solar array proved to be a huge success and currently provides approximately 15% of the buildings total electrical consumption.

After deciding to proceed with the solar array, the team took another look at their checklist and it became evident that project was within an achievable range of receiving LEED Platinum. In order to achieve Platinum, the design and construction teams had to ensure all of their supporting documentation was flawless, as they could not afford to lose any of the attempted points. In the end, after a few appeals, the project was awarded exactly 80 points and was certified LEED Platinum.

Other sustainable features which helped the project achieve LEED Platinum certification include, 90.81% (by weight) diversion of construction and demolition waste from landfills and a 26.65% (by costs) use of recycled material contract. To conserve water during operation, the buildings include low flow toilets. The project uses 40% less water than Federal standards mandate for kitchen and bathroom fixtures. To optimize the quality of the indoor environment for tenants the buildings have operable windows, and all adhesives, sealants, paints and coatings, and carpet products contain low-VOCs (volatile organic compounds). To reduce operating costs and carbon emissions, the project targeted a 40% better energy performance than ASHRAE-90.1.

The real bonus for Atapco Properties and The Dolben Company was the 75% tax credit granted by Howard County. At this level, the tax credit exceeded additional capital required to achieve LEED Platinum. As stated by Mr. Polonsky, “One funny anecdote, everyone was telling us it (LEED Certification) was too costly and inefficient for stick-built apartments... I guess we proved them wrong.”

The LEED Platinum Charles McC. Mathias Laboratory at the Smithsonian Environmental Research Center

The Smithsonian Institution recently completed the construction of The Charles McC. Mathias Laboratory – the first Smithsonian building to achieve LEED Platinum certification. This 92,000 square foot lab at the Smithsonian Environmental Research Center consists of 69,000 square feet of newly constructed laboratories and offices, plus 23,000 square feet of renovated space which will be utilized as collaborative support space. Aside from leaving a lighter footprint on the Earth, more open and flexible laboratories will allow scientists to make new discoveries in biogenomics, conservation and other cutting-edge fields of environmental science.

A total of 15 laboratories conduct environmental research in the Mathias Lab on topics ranging from mercury and nutrient pollution to genomics and global change. To encourage sharing of ideas, the new building groups labs together instead of housing each in a separate room. Each lab has its own space, but labs in the same guild are not completely separated by walls, so ecologists can freely pass between them.

Initially, the team started the project with an aim to achieve a LEED Silver certification and used the LEED scorecard as their roadmap to face one of their significant challenges at the onset of the project. Steven Groh, Program Manager for the Smithsonian Institution, revealed that the

Sustainability

challenge was, “how to design an innovative, state-of-the-art environmental laboratory that would support the mission of the Smithsonian Environmental Research Center as a world leader in coastal-zone research and education, embrace the Smithsonian’s commitment to being a responsible environmental steward through the consideration of the environment in all its facilities operations, and do so cost-effectively.” As the design progressed, a target of LEED Gold seemed very achievable and the team began construction with high aspirations to go to the next level and achieve LEED Platinum. The team worked diligently to find a way to achieve this target – the addition of a 140-kilowatt parking canopy solar array raising the total on-site renewable energy production to 342 kilowatts, surpassing the point requirement required for Platinum.

Other sustainable features which helped the project achieve LEED Platinum certification include, a passive solar design, geothermal heating and cooling, automated lighting and building automation systems, heat recovery through enthalpy wheels, 100% water reclamation, rainwater capture, and a 4.56-acre constructed wetland for storm water management. In addition, 96% of construction waste was recycled and 70% of construction materials were regionally sourced. The project achieved 43% better performance than ASHRAE-90.1, reducing operating costs and cutting carbon emissions by an estimated 37%. All of these attributes support the mission of the Smithsonian Environmental Research Center.

One of the biggest construction challenges that the team faced was attaching a new 69,000 square foot facility to a completely operational 23,000 square foot lab. Once the new construction phase was completed, the lab moved to the new facility, and the renovation phase began. Steven mentioned this was a critical challenge because the new labs had to be fully operational immediately and the scientists and operations and maintenance staff had to overcome the challenge of the learning curve associated with new technology, including geothermal heating and cooling systems comprised of 250 wells that are 465 feet deep, enthalpy wheels for heat recovery, and innovative building automation systems. Other challenges included abatement of asbestos containing materials found during the renovation phase and harsh weather conditions in the early stages of the project.

When asked about the tenant’s reaction to the new space, Steven noted that the tenants love it. “The space is more collaborative, with circulation designed for interaction, increased conference rooms and a large open atrium. In addition, storage is significantly increased.”

Even with all of the challenges that the team faced and the lessons learned throughout the process, Steven stated that there was one particular thing that the team would not do differently— “to never stop reaching for the height of whatever your goal is. Be prepared to face challenges head on, but do so in a positive collaborative fashion that raises the spirit of your team.” **B**

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*Charles McC. Mathias Laboratory at the
Smithsonian Environmental Research Center*

Beyond Platinum – Net Zero for the Next Generation

Now that we are starting to see an increase in LEED Platinum projects in the Washington, D.C. region, the natural question is, “What’s next?” A few select projects have raised the bar again and are aiming for the ultimate target – Net Zero, meaning a building that has no carbon footprint and produces enough energy to sustain itself. A few years ago, when Mayor Grey announced that he wanted to see new Washington D.C. buildings be carbon-neutral by 2030, no such buildings existed in the city, so the goal seemed to be a politician’s dream. In 2013, the District Department of the Environment commissioned an extensive study of the costs, benefits and challenges of developing a net-zero building in the city (<http://newbuildings.org/sites/default/files/ZNECostComparisonBuildingsDC.pdf>). They found that while net-zero was costly for smaller buildings (a premium of 5% to 19%), it was certainly feasible. However, it became much less feasible, both from an energy and water perspective, for the larger projects more common in the District. Over the past few years, however, a few of these projects have become reality and others, including the Discovery Elementary School in Arlington, Virginia, being built by Sigal Construction, are soon to follow.

One such Net-Zero project is The Chesapeake Bay Foundation’s Brock Environmental Center, named in honor of Joan and Macon Brock, and constructed by Hourigan Construction. This ambitious project, which targeted LEED Platinum as well as Living Building Challenge certification, is reportedly the most environmentally sustainable building in Virginia. The center is located in Virginia Beach at Pleasure House Point on the Lynnhaven River. According to Aurimas Sabulis, managing director of WBC Member Intus Windows, who provided the glazing systems for the project, “This 10,000-square foot environmental education facility will focus on promoting preservation, sustainability, and education.” In addition to the money The Chesapeake Bay Foundation raised for land acquisition and construction of the state-of-the-art Living Building, they also raised funds for programs to improve water quality, environmental advocacy and education, restoration, and outreach.

The center will provide:

- A “net zero” impact on the surrounding environment
- State-of-the-art energy and resource-saving features
- An international model for green design and construction
- Headquarters to the Chesapeake Bay Foundation’s award-winning outdoor environmental education programs in Hampton Roads, which provides engaging, hands-on environmental education opportunities for thousands of teachers, students, citizens, and community leaders annually
- Active demonstrations of important restoration projects
- Office space for the Chesapeake Bay Foundation, Lynnhaven River NOW, and other local conservation groups
- Meeting spaces for the community

According to Sabulis, “Here at Intus Windows, we are proud to be a part of this exciting and important project. We know that importance of green building and net zero construction. We believe that sustainable homes and buildings will dominate the future of construction and we applaud the Chesapeake Bay Foundation’s commitment to educating people about sustainable building.” With all aspects of the project meeting the strictest of environmental standards, the Chesapeake Bay Foundation says that it believes the Brock Environmental Center will engage, inform, and inspire the Hampton Roads Community to solve the Bay’s challenges in innovative, sustainable, and collaborative ways.

According to Hourigan Construction’s website, there are currently only six Living Building Challenge Certified projects in the world, with twelve other projects actively seeking Certification. This truly makes the Brock Environmental Center one of the world’s greenest buildings. For more information on the Living Building Challenge, please see <http://living-future.org/lbc>. For more information on The Chesapeake Bay Foundation’s Brock Environmental Center, please see <http://cbf.houriganconstruction.com/about>. **B**



Credit: Hourigan Construction

The Chesapeake Bay Foundation’s Brock Environmental Center

Greening the Industry – Construction Practices Pushing Sustainability



US Coast Guard

With so much focus on sustainable buildings, ratings and rankings, certifications and accreditations, it is easy to overlook how much impact construction practices can have on the environment—both positive and detrimental.

The popularity of LEED® and other green ratings systems has changed certain aspects of construction forever. Construction waste, for example, which only a few years ago was predominantly sent to landfills, now has outpaced even USGBC's wildest expectations for recycling. Whereas USGBC offers 1 point of 50% recycling of construction waste, 2 points for 75%, it is uncommon to find a construction project that isn't sending at least 80 to 90% of their waste material to recycling facilities. With the change to comingled dumpsters, the industry advanced at a pace even faster than anticipated.

Similarly, with the proliferation of tablet devices on jobsites within every trade, the concept of a paperless construction project is inching closer to reality. Many projects throughout the Washington, D.C. region have replaced their countless rolls of drawings with large screen computer monitors, which are updated regularly with the latest contract documents. These electronic documents ensure that everyone is working from the same set of plans, in real time. All of this greatly benefits the environment.

Just as our built environment evolves to become more sustainable, the practice of construction is changing rapidly. Sustainability is quickly becoming the norm for

both environmental and business reasons (one of those typically being reliant on the other). The more we measure and benchmark, the more we can improve. The more we improve our processes, the more money we can save and the more competitive we become. Just as with the buildings we construct, being environmentally sound leads to being financially sound.

So where is this progress being made in construction? Typically, it isn't in radical new ideas, although there are certainly new technologies being touted every day to change the industry. Instead, the breadth of smaller changes and more subtle shifts in mentality seem to be pushing the industry in enormous ways. There have been similar transitions in the past—worker safety for example—that were much more groundbreaking, while others grew more organically. However, the change to environmentally-friendly processes has come almost out of nowhere with incredible speed—at least here in the National Capital Region.

The green economy has fostered new positions within the industry as most large contractors, subcontractors, architects, and engineers have instituted full-time sustainability leaders in house. At the same time, there has been a dramatic increase in the number of sustainability consulting companies, which have sprouted from nowhere to assist those without in-house expertise and to shepherd projects through the process of green construction and, often, building certification.

Sustainability

Let's take a closer look at some of the subtle, and also more overt, ways in which the construction process has come to support a sustainable future.

Clark Construction – Knowledge – The Most Important Sustainability Tool

At Clark Construction Group, there's a keen focus on education. Fulya Kocak, Clark's Director of Sustainability and the past chair of the National Capital Region Chapter of USGBC, heads the company's growing Sustainability Department. She is busy locally and nationally, traveling across the country to educate Clark's field and office teams on issues of sustainability. To support Fulya's efforts, and help steer the company's focus on sustainability, Clark has formed a Sustainability Committee comprised of both field operations and project management staff. The committee meets once a month to discuss sustainability challenges, review the latest trends and rating systems, and share information on new technologies. They turn this information into Green Toolbox Talks, giving presentations at Clark jobsites to employees and subcontractors on a variety of topics, including erosion and sediment control, water use reduction, and more. These bi-weekly talks are designed to educate the workforce about sustainability, and spur discussion around its importance for the environment, for their particular project, and the broader Clark mission. The desired impact does not stop there. The real hope is that as people are educated about protecting the environment at the jobsite, they may incorporate some of those practices within their own lives. As Fulya explains, "Once we explain that the average family wastes 300 to 400 gallons of water a day, hopefully they take that knowledge with them and change some of their own behaviors at home." And, of course, the Green Toolbox Talks typically include some version of educating the educators. This forum allows those responsible for problem solving in the field to express ideas, ask questions, and develop lessons learned, which in turn become topics for future seminars.

Clark's goal is to demonstrate to employees and clients alike that being socially responsible equates to being financially responsible. Many of their projects have abandoned paper drawings for the hyperlinked versions on video screens. In addition to saving resources, they recognized early in the transition that this greatly increased the productivity of their teams. On some jobs, they've paired this technology with video conferencing capabilities, which saves travel time and expense for both Clark personnel and project stakeholders. Whereas some decisions about sustainability need to be discussed in terms of cost vs. payback, these decisions were easy because what was resource efficient also turned out to be cost efficient and time efficient.

Other technologies continue to be reviewed within the framework of cost vs. payback, with an understanding that environmental stewardship is also a factor in that discussion. Some technologies have quickly proven their worth. For example, at the National Museum of African American History and Culture, Clark used LED temporary lighting—a decision not only reduces energy use but enhances job site safety while

reducing manhours spent on replacing often broken lamps for standard incandescent temporary fixtures. Other possibilities, like programmable thermostats, increased insulation for jobsite trailers, or flex fuel construction equipment, continue to be studied and tried on individual basis. And still others, like the solar generators utilized at the Chinese Embassy project, prove to be valiant attempts, but not worthy of continued trials at the moment.

Did You Know...?



DC has nearly 2,400,000 square feet of green roof area (54 acres!) and over 240 buildings with green roofs.

(Source: USGBC Website, "D.C. Proves to be a hub for green roofs" article by Nora Knox, 25 June 2015)



African American Museum (Clark).

Clark also continues to study the metrics of their business, measuring the company's carbon footprint. The company's headquarters in Bethesda, MD, is LEED-EB Certified and includes many green features, such as an electric vehicle charging station and a change to open office space with improved daylighting. Benchmarking their energy use has led the company to evaluate alternate approaches to travel, incorporate hybrid vehicles in their fleet, and change their business model. Clark's goal is to reduce the carbon footprint of their headquar-

Sustainability

ters and regional offices annually, which becomes more and more challenging the more progress they make. Resetting of the bar consistently has led them to look for ways to improve in areas beyond their core business—green legal policies and green leases, for example.

For Clark, the payback on education needs no further study. According to Fulya, the company currently has more than 350 LEED credentialed employees. They encourage green education, and reimburse employees for taking the LEED exams and for outside training. Clark's in-house training academy—Clark Corporate University—also offers green classes and webinars. Additionally, Fulya and her team produce quarterly articles for the firm's corporate magazine, *Superstructure*, and issue bi-weekly educational emails to Clark employees. And, of course, they stay busy educating themselves on sustainability topics, which are constantly in flux with advancing technologies and rapid changes to codes, laws, and ratings systems, not only in this region, but throughout the country. As part of their effort to stay educated, Clark recently reached out to their employees to survey them on their attitudes about sustainability, and interests in green topics.

Clark aims to be a resource to their own employees, their subcontractors, and especially their clients, who look to them for expertise in everything related to the construction of their important projects. *Engineering News-Record* recently ranked the company as the country's #2 Green General Contractor. What once was an afterthought in the industry, has now

become the new standard of care and, through education, Clark looks to ensure their expertise in construction extends to the sustainability of their practice as well.

HITT – Looking Beyond LEED to the Triple Bottom Line

When HITT first established their Sustainable Construction Department about 10 years ago, all the buzz was about LEED-Certification. However, over those 10 years, most people in the DC Metropolitan region associated with development and construction have developed a relatively good understanding of the LEED-Certification process. Even if each individual on a project team doesn't know all the details for each point, there is a common knowledge core in DC, which allows the conversation to begin at a much more advanced place than when LEED was first introduced.

So what is "beyond LEED"? It starts with a more broad idea of what it means to be sustainable. Kim Roy, who leads the Preconstruction and Strategic Services team, which includes Sustainable and Virtual Construction, points to their Corporate Social Responsibility (CSR) mandate of paying attention to the Triple Bottom Line – People, Profit and Planet. When one considers all three of these things in making corporate decisions, it becomes impossible to divorce Sustainability from Corporate Responsibility. In 2015 HITT added a Sustainability Statement to its CSR Plan, which has impacted much of what the company does. For example, 95% of all HITT

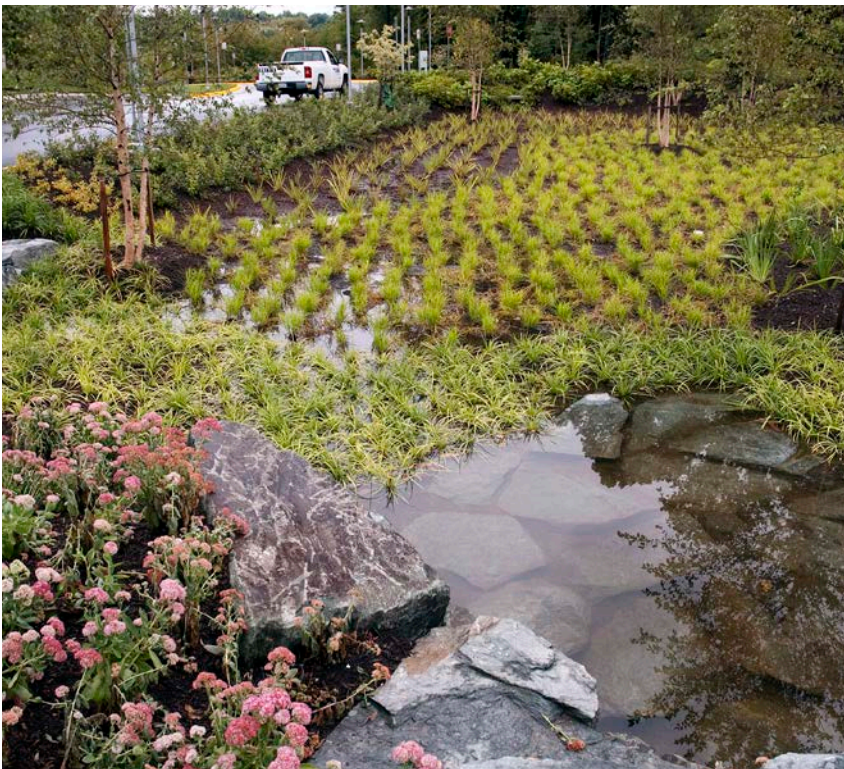


Photo Courtesy of HITT Contracting Inc.

HITT Corporate Headquarters – Rainwater Collection

Design-Build
General Contractor
MARRIOTT MARQUIS
Washington DC

- ★★★ 1,261,861 sf
- 1,175 keys
- 102,921 sf of event space
- 401 parking spaces
- 6 food & beverage outlets

HENSEL PHELPS
Plan. Build. Manage.
www.henselphelps.com



Photo Courtesy of HITT Contracting Inc., image by: Max Mackenzie

HITT Corporate Headquarters

Sustainability

and tenant projects. HITT's Sustainability Department needs to stay abreast of each of those regions' requirements as well. HITT's local Green Team is constantly busy working with owners, subcontractors and their own forces in different regions to ensure that none of their projects misses their LEED-Certification goals, a point of pride for the organization. And certainly here in DC, where all projects over 10,000 square feet are required to comply at least with the performance portions of LEED, there remains a healthy need for shepherding their clients through the process of certification. According to Kim, "DC's adoption of the Green Construction Code and the Green Energy Code was a game changer," particularly for many of their interiors clients.

HITT's own corporate headquarters, which they moved into in September 2009, is, as you might expect, a LEED-Gold facility. Even since moving in, they've continued to make improvements to the sustainable aspects of the building and to the building management practices. For example, they recently shifted their already-green housekeeping from night shifts to day shifts in order to reduce the electrical consumption in the evenings. The policies they've enacted in the office have started to make their way to the field sites as well. These are mostly small changes—putting water coolers on switches so they can be turned off at night when not needed, adding occupancy sensors and programmable thermostats to trailers to ensure utilities are not wasted, investigating more efficient operations for their tower cranes and other equipment, for example. Although each individual change may seem little, the cumulative effect can be significant.

HITT has started to look more closely at their temporary facilities in a way similar to how LEED looks at the permanent ones as well. Through a partnership with InScope Energy, they have piloted a program of measuring data points for energy usage at their trailer complexes. While it is still too early to produce metrics and establish new policies, they have taken the first step towards modifying policies, which is to measure and analyze what they are currently doing. The hope is that this data can be utilized to improve energy efficiency and recommend procedural changes, which will positively affect all three aspects of that triple bottom line.

By expanding the concept of Sustainability to include Corporate Social Responsibility and by viewing all projects through the lens of People-Profit-Planet, HITT has injected Sustainability into their corporate DNA. In the past 10 years, Sustainability has transitioned from an added service to an integral part of its construction best practices. The hope is that over the next 10 years, it will become so integrated into the practice of construction that sustainability will cease being discussed as its own thing. **B**

What innovative ways are you incorporating sustainability into your company's practices? Email WBC's Sustainability Committee to let us know and we'll get the word out in future Bulletins. Or come join the discussion at the Sustainability Committee's monthly meetings. Contact Steve Kenton (kenton@wbcnet.org) for more information.

jobsites, whether the project is seeking LEED Certification or not, have moved to single source waste management with a 3rd party verified company (Industrial Disposal Services – Broad Run Recycling). Not only was this shown to be a good value, but it was the responsible thing to do for the environment.

This Triple Bottom Line approach also led HITT to a slightly different approach to worker safety. In addition to the more traditional aspects of safety, HITT trained all of their Safety Superintendents in environmental policy, which is included as part of the safety review of HITT job sites. The company has also begun to look more broadly at worker health as a component of safety. Starting to explore some of the IAQ aspects of LEED for its temporary facilities, HITT has begun focusing on improved air filtering for improved employee health. These changes significantly expand the concept of site safety, but they are completely in line with HITT's Corporate Social Responsibility goals.

The focus on People, Profits and Planet has also unearthed some synergies between their Sustainability Group and Virtual Construction Group. BIM Coordination efforts, which continue to grow in importance as construction moves away from paper documents, are now viewed through the filter of the CSR policy. While HITT is not interested in supplanting the design team, it has developed the in-house expertise to explore questions like, "What does it mean to the energy model if we Value Engineer out this architectural feature, as is being considered?" Or perhaps, "If we alter the pitch of these fins during the shop drawing process, can we bring reflected light deeper into the tenant's space?" The integration of the Virtual Engineering Team with the Sustainability Team can sometimes lead to advancements or can reveal a hidden impact of a proposed change, which might not have been unearthed if just reviewed from a more basic cost-benefit perspective.

It should of course be noted that moving beyond LEED does not mean leaving LEED behind. To the contrary, HITT's Sustainability Department has remained busy with roughly 300 LEED projects nationwide. And regardless of whether or not the client is interested in pursuing LEED certification, HITT adopts the same green construction best practices for all projects. While LEED is pretty much the baseline here in DC, there are other ratings systems more common elsewhere in the country where HITT is busy constructing base building

Do You Benchmark?

By: **Ben Cohen, LEED AP ID+C**,
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What Is Benchmarking?

In today's real estate market, we are very familiar with the myriad uses of benchmarking. From measuring economic growth to environmental performance, benchmarking is a vital tool to better measure returns to stakeholders (people, communities, and society)—and the value that our companies deliver.

Starting with The Right Measures in Place

Dictionary.com defines benchmarking as “Any standard or reference by which others can be measured or judged”. Conceptually it sounds simple, however, to effectively benchmark (and avoid having too much data/too little useful information), we must have the right measures and targets in place. In real estate, companies are awash with strategically relevant financial data but are not as strong in measuring useful nonfinancial performance.

Having the buildings performance data is the first step in benchmarking as the analysis forms a key reference point for determining targets. We can achieve this in the following ways:

- **Comparing data temporally against itself** (e.g. to understand a single building's utility usage, an asset manager will compare year on year energy and water consumption).
- **Comparing data against a similar data set** (e.g. to understand why two identically sized buildings use the same amount of energy but have vastly different occupancy rates, an asset manager can compare data to conclude that the building with 100% occupancy has updated lighting systems/a more efficient HVAC system, while the building at 50% occupancy is outdated and does not).

The next step is to use the information to define and develop the measures that support the buildings overall strategy (both financial and performance)—then reconcile them with existing and desired goals. Companies that benchmark make innovative, organizational efficiencies and **informed** cost-saving decisions. As part of its benchmarking program, the District of Columbia requires companies to report utility consumption, and publicly disclose the information to provide more transparency and to “drive efficiency improvements”.

Beyond A Best Practice: Davis Construction

In construction, benchmarking is a critical component used to measure project, team and asset performance. As a leading general contractor, DAVIS Construction had always used benchmarking to ensure top notch performance and to remain at the forefront of sustainable construction innovation. On every project DAVIS partners with clients to assist their decision-making process and help identify the best project approach. Typical benchmarks include:

- **Project Lifecycle Costs** These range from providing overall cost comparisons per square foot, per parking spot, per project type and market sector—to real time cost analysis, broken out by trade (after the budget, updating at each completed design phase). On multi-phase projects, DAVIS compares costs from phase to phase.
- **Utility Consumption Costs** Many building owners and tenants obtain historic electric consumption data because they are required to pay for energy consumption in their lease, or per LEED requirements. They often pro-rate HVAC consumption on base building systems, and separately monitor HVAC equipment. On LEED projects, power consumption is divided into three categories: plug load, HVAC load and lighting load. Savvy building owners and tenants review usage information when proactively looking for ways to reduce consumption. After collecting accurate data for several periods, a valid baseline can be established for the project and more investigation can begin:
 - Why is one floor performing better than another?
 - Why is one building performing better than another?
 - What upgrades or building improvements should be considered to reduce utility consumption?
 - How can plug loads be reduced?

Equipped with this information, DAVIS helps owners and tenants to accurately analyze the results, identify targets and develop a strategy to reduce the projects carbon footprint.

Does Benchmarking Make A Company More Sustainable?

Sustainability is a commitment that has become a company-wide passion. Rather than making DAVIS more sustainable, benchmarking drives continuous innovation and efficiencies—enabling the company to set the pace, rather than following it.

As an employee-owned company, DAVIS is its own client and intuitively applies sustainability-driven benchmarking across every aspect of daily operations. For example, DAVIS is typically required to pay for utilities on ground-up construction projects. Monthly costs are estimated for temporary utilities at each project phase (including excavation, concrete—and once equipment comes online). These estimates are developed using real time and historic data to accurately identify **strategies to reduce utility consumption** and proactively develop effective **energy management systems** on every project type, at every project phase. By tracking and analyzing useful information, project teams can identify and put in place the right measures and targets needed to successfully benchmark. **B**

A Hard Rain Is Gonna Fall':

Construction Stormwater Permitting under the Clean Water Act in the District of Columbia, Maryland, and Virginia

Introduction

Changes within the past year to the National Pollution Discharge Elimination System (NPDES) procedures for discharges of stormwater from construction sites in Maryland and Virginia make this an appropriate time to summarize the basics of NPDES stormwater permitting in the Washington, D.C. region.

In 1972, the Clean Water Act was amended to create the NPDES (pronounced “nip’deez”) program. NPDES essentially prohibits the discharge of pollutants from any point source into the nation’s waters except as allowed under an NPDES permit. “Discharge of pollutants” includes, among other things, stormwater runoff carrying sediment from construction sites. Subject to certain exceptions and limitations, parties engaged in construction activities involving earth disturbances must have a NPDES permit in order to lawfully discharge stormwater from their sites.

The EPA has in recent years brought several NPDES enforcement actions against regional and national general contractors as well as well-known homebuilders and big-box retailers. Given the potential fines of thousands of dollars per day per violation and serious potential legal consequences such as debarment from participation in federal government contracts, applicable NPDES stormwater permitting requirements must be understood by owners, developers, and contractors.

Although the EPA generally oversees and enforces the NPDES program, many states have been delegated authority to administer NPDES permits within their boundaries. In Washington, D.C. metropolitan area, Maryland and Virginia have been delegated such authority, while the EPA retains the authority to issue permits in the District of Columbia. This article will summarize the differing regulations and procedures that exist in these three jurisdictions for issuing NPDES permits and for terminating permit coverage once projects are complete.²

District of Columbia

What projects require NPDES permit coverage?

As noted, the EPA directly administers NPDES permitting in the District of Columbia—although the District Department of Environment performs the inspections of permitted sites for compliance with the permit. The EPA requires NPDES permit coverage for discharges to the “waters of the United States” from any construction project in the District of Columbia that will disturb one or more acres of land, or will disturb less than one acre of land but is part of a “larger common plan of development or sale” that will ultimately disturb one or more acres of land. This one acre threshold for NPDES coverage has been carried over by almost all states that have been delegated NPDES authority. Note that the amount of land disturbance means only the surface area actually disturbed, not the size of the overall site.

“Waters of the United States” has a very broad legal definition that covers all types of waters (rivers, streams, lakes, ponds, wetlands, etc.) that could be used for, or could have an effect on, interstate or foreign commerce (e.g. tourism, recreation, fishing, industrial use, travel, etc.). Recently, EPA proposed to expand the definition to include most seasonal and rain-dependent streams and wetlands located near rivers and perpetual streams.

A “larger common plan of development or sale” is described by EPA as a “contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.” For example, if a developer buys a 20-acre lot and builds roads, installs pipes, and runs electricity with the intention of constructing homes or other structures sometime in the future, this would be considered a larger common plan of development or sale. A permit is required for each separate and distinct construction activity within the larger common plan, even if the individual construction activity (individual house in the example above) by itself disturbs less than one acre of land.

The great majority of construction projects in the District of Columbia can obtain NPDES permit coverage under EPA’s 2012 NPDES General Permit for Discharges from Construction Activities (commonly referred to as the “Construction General Permit” or “CGP”). Certain projects may be required to obtain coverage under an individual NPDES permit tailored to their special circumstances or under an alternate General Permit, instead of under the CGP. This article will focus only on CGP coverage.

¹ Apologies to Bob Dylan.

² Separate and apart from NPDES stormwater permitting, these jurisdictions also have state, county, or municipal regulations that pertain to erosion and sedimentation control. These “local” requirements are outside the scope of this article.

Which parties need EPA NPDES CGP coverage?

Each “operator” of a District of Columbia project meeting the project description above will need NPDES permit coverage. An operator is a party associated with a construction project that meets either of two criteria:

1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
2. The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g. they are authorized to direct workers at a site to carryout activities required by the permit).

This EPA definition of “operator” has been uniformly adopted by states that have been delegated NPDES authority.

These two criteria typically encompass both the project owner and the general contractor. Subcontractors are generally not considered operators, but they can be if they are contractually responsible for all stormwater measures and inspections at the site. A site can have multiple operators, and all of them are required to have NPDES permit coverage.

How is EPA NPDES CGP coverage obtained?

In the District of Columbia, an operator obtains coverage under the NPDES CGP by electronically submitting a Notice of Intent (“NOI”) directly through the EPA’s website. The NOI contains information about the operator, site, planned construction, anticipated discharges from the site, etc. The NOI also confirms that a Stormwater Pollution Prevention Plan (“SWPPP,” pronounced “swip”) for the project has been prepared in advance, and that certain endangered species protection and historic preservation requirements have been met.

The SWPPP is a very important document, and EPA’s CGP contains the detailed requirements for the contents of the SWPPP. Essentially, the SWPPP details all the factors relevant to stormwater at the site and explains how stormwater pollution will be prevented, including when and how stormwater control measures will be constructed, inspected, and maintained. Each operator may have an individual SWPPP or multiple operators on the site can jointly develop or follow a single SWPPP.

An operator must submit its NOI at least 14 calendar days prior to commencing earth-disturbing activities, or, if a new operator on an existing project, 14 days prior to taking over control. An exception to the advance submission requirement exists for “emergency-related projects.”

CGP coverage is effective 14 days after EPA acknowledges receipt of the NOI on EPA’s website, unless the EPA notifies that authorization has been delayed or denied. By EPA definition, installation of stormwater best management practices (“BMPs”) is not considered to be earth-disturbing activity, so silt fences, etc. can be installed prior to receiving permit coverage. This exemption for BMP installation is not clear in other jurisdictions.

How is EPA NPDES CGP coverage terminated?

NPDES permit coverage must be terminated. Timely terminating NPDES CGP coverage can be as important as timely obtaining coverage initially. Stopping stormwater site inspections and maintenance before coverage is formally terminated can lead to Clean Water Act violations. Unless you have transferred control of the site to another covered operator or you have obtained coverage under an individual or alternative general NPDES permit, termination of NPDES coverage under the CGP requires completion of all earth-disturbing activities at the site. In addition, four other conditions must be met:

1. You have finally stabilized any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) were under your control during construction; and
2. You have removed all construction materials, waste, and equipment; and
3. You have removed all temporary stormwater controls, unless biodegradable; and
4. You have removed all potential pollutants and pollution-generating activities associated with construction.

These conditions are somewhat paraphrased here, and contain additional details. For instance, “final stabilization” of the site has several criteria of its own. In particular, to be finally stabilized, all vegetatively stabilized areas must have uniformly established perennial vegetative cover (without bare patches) providing 70 percent or more of the density of coverage that was provided by vegetation prior to commencing earth-disturbing activities on the site.

When a site has met the requirements for termination of coverage, a Notice of Termination (“NOT”) must be electronically submitted to EPA within 30 days. The operator must identify the grounds for termination, and must certify that the information is true, accurate, and complete. Termination of an EPA NPDES permit is effective at midnight of the day that the complete NOT is processed and posted on the EPA’s website.

Did You Know...?



Washington, DC buys more green power than any other city in the country

Source: Sustainable D.C. Second Year Progress Report, April 2011

Maryland

Unlike the District of Columbia, Maryland has been delegated authority by the EPA to administer the NPDES program. The Maryland Department of the Environment (MDE) runs the state’s NPDES program. Maryland has its own General Permit for Stormwater Associated with Construction Activity

(“General Permit”), which resembles EPA’s CGP but with some significant differences. Maryland’s General Permit was recently revised, effective January 1, 2015. Almost all Maryland projects can obtain necessary coverage under the General Permit, but MDE may allow or require certain projects to be covered by an individual NPDES permit tailored to them or an alternative General Permit. The General Permit explains when and how an individual permit must be obtained instead.

What projects require a Maryland NPDES permit?

A person planning a construction activity involving clearing, grading, or excavation that will disturb one or more acres of land, or will disturb less than one acre of land but is part of a larger common plan of development or sale that will ultimately disturb one or more acres of land, must have NPDES permit coverage in order to discharge stormwater to the waters of the State. Land disturbance is measured by the surface area actually disturbed, not by the overall site size.

“Larger common plan of development or sale” means an area where multiple separate and distinct construction activities are occurring under one plan. Under Maryland’s CGP, the “plan” in a common plan of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that construction activities may occur on a specific plot. Therefore, construction of a building disturbing less than one acre of land may require NPDES permit coverage if additional construction is planned in the same development that will push the total land disturbance over one acre.

The definition of “waters of the State” differs from “waters of the United States” as used in the District of Columbia. It includes surface and underground waters in Maryland, the Atlantic Ocean off the Maryland coast, the Chesapeake Bay and its tributaries, and all ponds, lake, rivers, streams, tidal and nontidal wetlands, public ditches, tax ditches, and public drainage systems within this State. Also included in waters of the State is the flood plain of free-flowing waters determined by the Department of Natural Resources on the basis of the 100-year flood frequency, even though no water may be present. There is no requirement that the waters impact commerce.

Which parties need Maryland NPDES permit coverage?

A person planning a construction activity described above must have permit coverage. As a practical matter, the project owner almost always submits the NOI to obtain coverage. However, the General Permit requires a person submitting an NOI who does not intend to control the permitted activities on the site (such as the owner, typically) to transfer authorization under the General Permit to the person who will control the

permitted activities (typically the general contractor). In such cases, the owner and general contractor sign a Transfer of Authorization form and submit it to MDE.

How is Maryland NPDES permit coverage obtained?

NPDES coverage is obtained in Maryland by submitting an NOI via MDE’s new electronic system. The NOI contains information about the operator, the site, the planned construction, and discharges from the site. MDE will not begin processing the NOI until the applicant provides certification that an erosion and sediment control plan (ESC plan) was submitted to the local ESC plan approving authority (typically the County Soil Conservation District). Uniquely, Maryland also requires proof of workers’ compensation coverage as part of the NOI application and won’t begin processing the NOI without that proof.

Once processing begins, MDE will post a notice of the NOI on its website, and members of the public have the opportunity to request that the project be required to obtain an individually-tailored NPDES permit instead of coverage under the General Permit. This notice period lasts 14 days.

Once the notice period has expired without objection, and the applicant has shown MDE that the ESC plan and the stormwater management plan have been approved, MDE will make every effort to issue notice of approval of General Permit coverage within 48 hours. A transfer of coverage from an owner is effective upon MDE’s receipt of the Transfer of Coverage form signed by both the owner and party in control of the permitted activities at the site.

It is important to note that coverage under Maryland’s NPDES General Permit does not take the place of obtaining local approval of a stormwater management plan. State law requires approval of a stormwater management plan before grading or construction permits will be issued.

How is Maryland NPDES CGP coverage terminated?

As in the District of Columbia, NPDES General Permit coverage in Maryland must be timely terminated. When all portions of a site have been permanently stabilized and all stormwater discharges associated with construction activities have been eliminated, the permittee for the site must submit a Notice of Termination form to MDE. NPDES coverage expires upon MDE’s receipt of the NOT form.

“Permanent stabilization” under Maryland’s General Permit means that all soil disturbing activities at the site have been completed and the most stringent of the following criteria has been met:

- a. The site meets the stabilization requirements of the approved plans;
- b. The site meets the stabilization requirements in the 1994 Standards and Specification for Soil Erosion and Sediment control or any updated standards issued by MDE; or

- c. Either of the following two criteria are met:
- i. A uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
 - ii. Equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

NPDES coverage expires upon MDE's receipt of the NOT. Until Maryland creates an electronic system for submitting NOTs, it is best to submit NOTs by certified mail, so you have a record of MDE's receipt.

Virginia

Virginia has been delegated authority by the EPA to administer the NPDES program, now referred to in Virginia as VPDES (pronounced "vip'deez"). For years, stormwater discharge permitting was administered at the state level by the Virginia Department of Environmental Quality (DEQ), while erosion and sediment control permitting was handled at the local level. In 2014, however, Virginia law was changed to require many counties, cities, and towns to become approved local Virginia Stormwater Management Program ("VSMP") authorities to administer the VPDES program. The remaining jurisdictions were allowed to choose whether they accept delegation of VPDES stormwater administration.

All major Virginia jurisdictions are now approved VPDES authorities, including all the counties, cities, and towns in the Washington, D.C. metropolitan area. However, approximately 50 counties, a dozen cities, and 140 towns are not approved VSMP authorities, and DEQ remains the direct VPDES permitting authority in those jurisdictions.

Almost all Virginia projects can obtain necessary coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities ("VPDES General Permit"), but some projects may be required to obtain coverage under an individual VPDES permit tailored to their situations instead of coverage under the VPDES General Permit.

What projects require a VPDES permit?

VPDES permits are needed for all land-disturbing construction activities disturbing one or more acres of land that discharge to surface waters of the Commonwealth, with certain limited exceptions. As in the District of Columbia and Maryland, construction disturbing less than one acre will nevertheless need permitting if it is part of a larger common plan of development or sale that combined disturbs one or more acres. The definition of "surface waters of the Commonwealth" is identical to EPA's definition of "waters of the United States" discussed above with regard to the District of Columbia.

Approved VSMP authorities are allowed to reduce the threshold for requiring a permit to below one acre of land disturbance, so local VSMP requirements must always be checked.

Which parties need VPDES permit coverage?

All "operators" are required to obtain permit coverage to discharge stormwater from regulated construction sites. In the context of stormwater associated with construction activity, "operator" includes (i) the person/entity with direct operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications, and (ii) the person/entity with day-to-day operational control of those activities at a project that are necessary to ensure compliance with a stormwater pollution prevention plan for the site or other state permit or VSMP authority permit conditions. In other words, typically the project owner and the general contractor, and sometimes certain subcontractors, need to obtain VPDES permit coverage.

How is VPDES General Permit coverage obtained?

In most jurisdictions, an operator must submit an application for land disturbance, including a VPDES permit Registration Statement, to the local approved VSMP authority. The Registration Statement is Virginia's version of an NOI, and it contains information about the operator, site, planned construction, and anticipated discharges from the site. Typically, the operator must also submit erosion and soil control plans, a stormwater management plan, and/or a Stormwater Pollution Prevention Plan (SWPPP). If not required to be submitted, a SWPPP must at least be prepared as of the date the Registration Statement is submitted. Exact requirements vary among the local approved VSMP authorities.

For state or federal projects, and in jurisdictions without a local approved VSMP authority, the operator must submit the Registration Statement directly to the Virginia DEQ.

Single-family detached home construction that will disturb one or more acres or is part of a common plan of development or sale that will disturb one or more acres is exempted from the requirement to submit a Registration Statement but is still considered to be covered by the VPDES General Permit. A coverage letter must be downloaded from the DEQ website, and a SWPPP is still required.

The local VSMP authority is allowed sixty days to act on an application. Once the local VSMP authority approves the plans submitted with the Registration Statement, the authority will forward it to Virginia DEQ for issuance of the VPDES General Permit authorization. Virginia DEQ will then authorize coverage after the operator pays DEQ's invoice for the permit fee. In some jurisdictions, the local VSMP authority collects DEQ's share of the permitting fees up front. For state and federal projects and projects in jurisdictions without a local VSMP authority, DEQ will act on Registration Statements submitted directly to it within thirty days. Typically, issuance of VPDES permit coverage (where required) is a prerequisite to the local VSMP authority issuing a land disturbance permit or other local permit.

How is VPDES General Permit coverage terminated?

A notice of termination ("NOT") must be filed within thirty days after one or more of the following conditions have been met:

- 1. Necessary permanent control measures included in the SWPPP for the site are in place and functioning effectively and final stabilization has been achieved on all portions of the site for which the operator is responsible.
- 2. Another operator has assumed control over all areas of the site that have not been finally stabilized an obtained coverage for the ongoing discharge.
- 3. Coverage under an alternative VPDES or state permit has been obtained; or
- 4. For residential construction only, temporary soil stabilization has been completed and the residence has been transferred to the homeowner.

For conditions 2, 3, and 4, termination of coverage is effective at midnight on the date the NOT is submitted to the VSMP authority. For condition 1, coverage terminates upon notification from DEQ that the requirements have been met, or sixty days after submittal of the NOT, whichever occurs first.

Where more than one contractor is involved on a site, individual contractors who obtained VPDES permit coverage in their own names as "operators" may need to file separate NOTs when complete their respective scopes of work.

Conclusion

This article has summarized only the basics of obtaining and terminating NPDES construction stormwater discharge permits in the District of Columbia, Maryland, and Virginia. Not covered are the many detailed factors that may impact permitting, such as the presence of endangered or impaired waters or application of the Endangered Species Act. Of course, the obligations imposed by a NPDES permit during construction, such as the requirement for regular stormwater inspections of the site, are separate topics unto themselves. Nevertheless, this article covers the basic NPDES requirements, so you can obtain additional information if it appears that your project will require NPDES coverage. **B**



About the author
Nick Hoogstraten is Senior Counsel with the Washington, D.C. office of Peckar & Abramson, P.C. P&A is a nationwide law firm committed to providing a full range of legal services to the construction industry.

↓ ABC 2014 Masonry Subcontractor of the Year

↓ ABC 2014 Safety Training and Evaluation Process Award, Gold Level

↓ WBC 2014 Craftsmanship Award Winner

↓ ASA 2014 Carson V. Carlisle Jr. Safety Award

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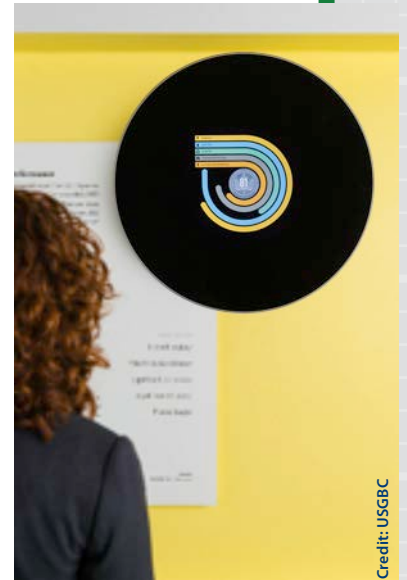
From Promise to Performance: Stories from the District about the LEED Dynamic Plaque.

WHAT'S NEXT? It's the question you hear often at the [U.S. Green Building Council](#) (USGBC). With a mission of market transformation, the Council continues to push the boundaries of green building design, construction and operation with a committed team and expert volunteers from the industry. USGBC is known for the development of the green building rating system, Leadership in Energy and Environmental Design (LEED). A framework adopted by 65,000 buildings and spaces worldwide, to demonstrate their commitment to green building practices. This is a positive milestone and indicator that together we are ready to take the next step; a step forward from the promise of lower impact, to performance; a measure of reduced impact. The LEED Dynamic Plaque was a result of this vision—a tool to measure outcomes from sustainable strategies implemented in buildings, for example is energy efficient HVAC equipment running optimally and resulting in lower energy use, are low flow water fixtures resulting in water use reduction, are aligned strategies lowering waste generation rates, improving indoor environments for human health and wellness, while engaging building users and leveraging building data. A simple tool to answer a simple question: Is your LEED Gold project performing at a LEED Gold level?

'YES!' say project teams engaged with the [LEED Dynamic Plaque](#). The JBG Companies, Akridge and the Tower Companies led the adoption of the LEED Dynamic Plaque in Washington, D.C. Together, they represent approximately 20 million square feet of LEED registered and certified space in the District. Even though the LEED Dynamic Plaque is a new product offering from USGBC and a performance based approach to LEED recertification, the organizations selected properties to engage with the platform, manage holistic building performance and collaborate with building users, demonstrating leadership and innovation yet again. Properties developed and managed by JBG, Akridge and Tower are landmarks in the metro area with cutting edge technology in their design and management, and sensitive thought to occupant engagement through Earth Hour, Earth Day and Green Team programs among others. The LEED Dynamic Plaque helps properties streamline building data management and visualize a robust yet simple LEED Performance Score. The score updates as often as new data is provided and is a reflection of the building's energy use, water use, waste management, indoor air quality and carbon emissions. It is based on the familiar LEED certification scale of 1- 100, i.e. a score of 80+ reflects Platinum, 60 – 79: Gold, 50 – 59: Silver, 40 – 49: Certified. Any LEED certified project can engage with the LEED Dynamic Plaque, by manually or automatically submitting measured data (kilowatt hours of energy, gallons of water, parts per million of interior carbon dioxide levels, etc.), and recertify to LEED every 12 months.

Jessica Long, Sustainability Manager with [The JBG Companies](#), is a key player in the development and adoption of the JBG Commercial Sustainability Program which sets goals of achieving LEED certification and ENERGY STAR labels for all stabilized operating assets and integrating sustainable best practices into the day to day operations. She sees sustainability as a growing value for investors, a means to improve the value of assets, and take responsibility as environmental stewards in a community they own and develop buildings in. The National Cancer Institute, a LEED Gold certified property, is a beautiful example of sensitive design combined with post occupant performance. The site has stormwater retention ponds with sand filtration systems that feed back to irrigation while reusing all rainwater captured onsite. Hence reducing potable water drawn from the utility. Working closely with property management and development teams, JBG's focus is to look at portfolio wide achievements, above and beyond trophy buildings, to have a true impact. Jessica will discuss the organization's efforts at [Updating the Rest of the Market: Class B and C Buildings](#), at the Greenbuild International Conference and Expo later this year in Washington, DC. Today, JBG leverages various tools for a robust understanding of their assets from EPA's Portfolio Manager to real time energy management. Jessica is excited to take the next step, align these efforts with the LEED Dynamic Plaque and continue to look 'beyond energy'. The sustainability group continues to engage building users, the primary drivers of resource use, in lowering the environmental impact of the building. She adds, "The LEED Performance score provides a succinct way to communicate information beyond energy and strategically identify areas for improvement."

At Akridge, corporate leadership, internal policies, and community involvement are the building blocks to achieving goals, and they endeavor to lead the industry in innovative sustainability practices. Kaitlin Brokaw, Senior Property Manager at the Homer Building; an outstanding combination of new development and historic preservation, describes a "commitment to a long-term vision that entails using new technology and conscientious planning to minimize negative environmental impacts on the city, the region and the planet". The development of the second LEED Platinum building, under the LEED Core and Shell rating system in D.C, at 700 Sixth Street, featuring the city's largest green roof on a private commercial facility is another example. It isn't just about the buildings, Akridge encourages their team to reduce transportation related carbon emissions; with the use of alternative



Credit: USGBC

Sustainability



Credit: The JBG Companies

National Cancer Institute

transportation and access to Zipcar and Capital Bikeshare memberships. The organization's efforts towards deeper visibility and increased transparency are evident from the publicly available key performance indicators on their website. The LEED Dynamic Plaque proactively supplements these ongoing efforts, providing up-to-date scores for participating properties and annual recognition through LEED recertification.

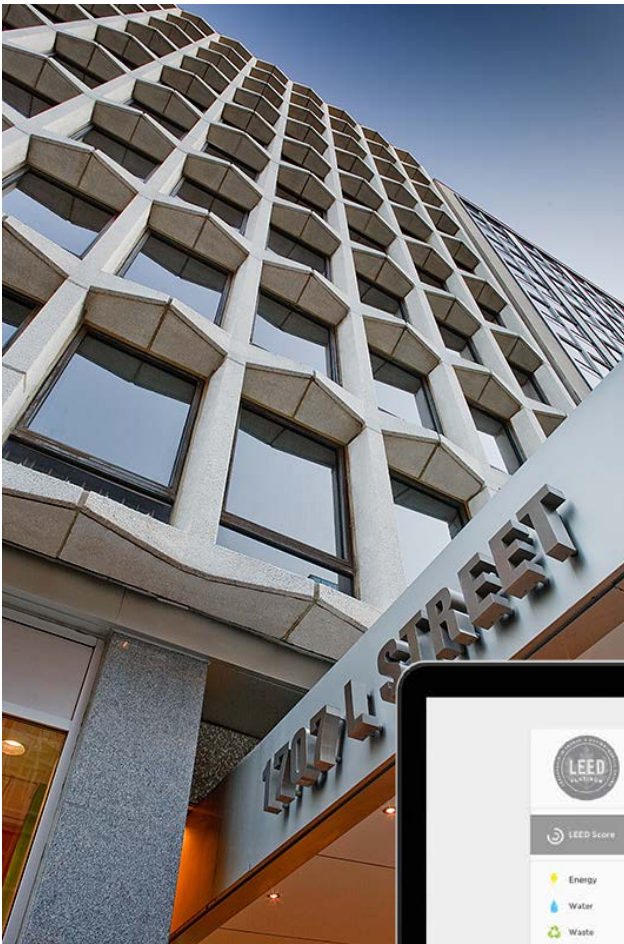
Communication and collaboration are as important as implementation when it comes to sustainability efforts and special projects, agrees Eugenia Gregorio, Director of Corporate Responsibility at Tower Companies. The LEED Performance Score provides a tangible metric that resonates with stakeholders and encourages action, while making it simple to aggregate data through automation and increasing visibility into the portfolio. The organization believes sustainability is not only a responsibility but also an opportunity to improve building operations, reduce operating costs, train staff, and attract and retain like-minded clients who have their own corporate sustainability goals and values that align. "When making business decisions, we always consider the triple bottom line—people, planet, profit—and find ways to make all three align to yield successful projects that have a positive impact on the environment, our stakeholders and the overall community, and make business sense with viable economics." Eugenia will discuss **DOE Better Building Challenge: Water Pilot & Success Stories** at Greenbuild this year. The vision of building performance beyond energy use resonates across all three organizations. The Tower Companies Headquarters at 2000 Tower Oaks is a



Credit: Akridge

Homer Building

Sustainability



1707 L Street

Credit: Ron Blunt

LEED Platinum property, and designed with Vedic Principles. This framework addresses occupant health, wellness and productivity, and Tower chose to pursue the guidelines even before these topics became a real conversation in the industry, to demonstrate that it can be done.

JBG, Akridge, Tower and organizations worldwide are aligning operational metrics to strategic corporate goals and taking steps to improve ongoing building performance, lower cost and enhance user experience in new and existing buildings. Are you ready to take the next step and begin your performance story?

About the author

Gautami Palanki is a Sustainability Committee member at the Washington Building Congress and LEED staff at USGBC. She will discuss LEED: New Approaches for Building Performance at Greenbuild 2015.



LEED Dynamic Plaque

Credit: USGBC

Did You Know...?



The District has more LEED Certified projects (577) and more ENERGY STAR Certified projects (327) than any other city in the country.

(Source: Sustainable D.C. Second Year Progress Report, April 2015)

Greenbuild International Conference and Expo

The U.S. Green Building Council is bringing the Greenbuild International Conference and Expo to Washington, DC from November 18-20, 2015, for the first time ever. This is your chance to join thousands of sustainability and building industry professionals in a world class conference setting. With DC boasting the most square footage of LEED-certified space per resident in the country, it's only fitting that the conference comes to the nation's capital. Themed "Monumental Green," this year promises an exciting and diverse set of offerings to appeal to green building professionals in all fields and from across the globe. With previous celebrations including a keynote from Hillary Clinton and performance by Bon Jovi, it's anyone's guess this year. Check out this [recap video](#) for a taste of what the conference has to offer!

Why should you attend Greenbuild?

Greenbuild is the world's largest conference and expo dedicated to green building. The green building community gathers to share ideas and innovations at Greenbuild, sparking a contagious buzz throughout the week.

When industry leaders, experts and frontline professionals dedicated to sustainable building in their everyday work come together, the result is a unique and palpable energy. Participants are invigorated and inspired. They find themselves equipped to return to their jobs with a renewed sense of purpose.

Greenbuild features three groundbreaking days of inspiring speakers, invaluable networking opportunities, industry showcases, LEED workshops and tours of DC's greenest buildings.

Who exhibits at Greenbuild?

Greenbuild provides the opportunity to visit and network with more than 550 suppliers and top manufacturers of the latest green building equipment, products, services and technology available in today's market.

Who typically attends the conference?

Greenbuild's diverse group of attendees include the following:

- Architects
- Builders/Contractors
- Building Owners
- Code Officials, Developers
- Educators/School Officials
- Engineers
- Financial Service Providers
- Green Building Thought Leaders
- Government Agencies
- Interior Designers
- International Delegations
- Product Manufacturers
- Sustainability Officers
- Utilities Professionals
- and more!

We've had over 20,000 attendees in the last few years.



What types of learning opportunities are offered?

Attendees will come together for three days of outstanding educational sessions, renowned speakers and special seminars. Greenbuild education sessions are eligible for continuing education credits for a number of professional credentials and organizations. [Click here](#) to find out more about the Greenbuild education program.

What is the Greenbuild Tours program?

Greenbuild tours are one of the conference's most popular and exciting features, providing the opportunity to explore notable projects in the area, ranging from Class A office space and the National Zoo to the Smithsonian Museum and former Solar Decathlon projects. Full and half-day tours bookend the conference. Each tour package features three to five sites per tour. Not only are the tours a chance to earn continuing education credit, you don't have to be a full-conference attendee to sign up. Tours can also be **sponsored**, which gives local organizations a chance to gain some added exposure.

View Tour Schedule

The Greenbuild Tours Program was developed by the Greenbuild 2015 Host Committee, USGBC National Capital Region (USGBC-NCR). [Learn more](#) about USGBC-NCR and how they are preparing for Greenbuild.

How do I find out more about the conference?

Visit the [Greenbuild website](#) frequently or follow the event on [Twitter](#), [Facebook](#), and [Google+](#) for the latest conference and expo updates.



Community Forklift – 10 Years of Lifting Up Local Communities

The first thing that grabs you is the sheer enormity of the space—40,000 square feet of reclaimed materials under one roof! That’s about twice the size of the Lincoln Memorial. And that doesn’t even include the yard, which is overflowing with bathtubs, roofing materials, stone slabs and iron railings. Where could all of this come from? Once you’ve adjusted to the scale of the warehouse and allowed your eyes to actually rest on some of the contents, your imagination takes over and your treasure hunting instincts kick in. What is that thing? And what could I use it for? Wow—I haven’t seen one of those since...well, I’m not sure I’ve ever seen one of those, to be honest.

This is Community Forklift. It isn’t a museum, but a living, working green business whose mission is to salvage reusable construction materials before they head off to recycling or to landfills and put them to good use in the community. Their message—“Turning the waste stream into a resource stream for local communities”—makes it easy to see why this non-profit program was voted the “Best Green Business” of 2014 and 2015 by the Washington, D.C. City Paper. Their version of sustainability not only benefits the environment by diverting construction waste to better use, but it also directly benefits the individuals in the community they serve by making those diverted resources available at greatly reduced prices to homeowners, contractors, small businesses and community organizations who may be in need. The work those contractors do to improve homes and buildings further benefits the neighborhoods we live in. It provides opportunities for those who might otherwise not be able to afford to make improvements and it provides green jobs within the communities they serve. In addition, the donations they receive are tax deductible, providing a benefit to the donating individuals and companies who would otherwise pay to have the waste hauled from their construction sites. Job creation, landfill reduction, community improvement, support for local small businesses. This isn’t just a “win-win” situation. It’s a business model (or perhaps a model business) that benefits everyone involved.

It all started a variety of dreamers. A collection of environmentalists around the region were inspired by The Load-

ing Dock, a Baltimore project started in the 1980’s to help low-income homeowners. An architect on Capitol Hill was bothered by the waste his work created, and wanted to become part of the solution. He began working with homeless veterans and unemployed residents in tough neighborhoods in DC, and vowed to prove that salvage could create jobs. A plucky group of citizens in the Port Towns, a blue-collar neighborhood just outside NE DC, decided that green industry would be the key to positive economic development in their neighborhood, and set out to lure an “anchor” green business to an empty warehouse off Kenilworth Avenue. As soon as the reuse center opened in 2005, the donations started pouring in and it quickly became apparent that renovators and builders were grateful to have an alternative to the landfill.

When an idea benefits so many, it tends to grow exponentially. The organization has now grown to 40 employees, each dedicated to the mission and each enthusiastic about the different ways Community Forklift is supporting the community and the environment. At least as impressive as the internal growth is the synergy created by the community of green businesses and organizations this project has brought together. Through partnerships with other local organizations and a variety of in-house programs and classes, they are building the green economy and drawing other green businesses to the region. This June, they co-hosted the first Green Job Fair in Prince George’s County, connecting local green businesses with potential employees. Their outreach continues with numerous on-site and off-site green events and classes for their employees, their patrons and their partners.

Some Impressive Statistics:

Whether from construction left-overs, building demolition or discarded overstock of out-of-style inventory, Community Forklift notes that construction waste makes up about 30% of the nation’s waste stream. The environmental impact of discarding that material is further exacerbated by the environmental impact of producing new material to replace it—whether from the mining of raw materials, the energy used to produce

Sustainability

new product or the fuel used to transport it to the marketplace. This cycle of consumption and waste can be short-cycled by making use of what already has been produced. Just as the most environmentally friendly new building is an existing building, the most environmentally friendly materials are those which have already been produced.

In 2014 alone, Community Forklift offset 1400 metric tons of greenhouse gases by reusing materials already produced. They repurposed over 35,000 doors, 20,000 windows and 16 miles of lumber stacked end-to-end. Since they came to be 10 years ago, they have salvaged over \$12 million of construction materials for reuse in the local economy. In addition to helping the environment, they've assisted the local community through "HELP" (Home Essentials Program), which donated over \$20,000 of materials and appliances to over 150 neighbors in need in 2014 alone. Similarly, they donated over \$13,500 of material to 95 local charitable organizations through their Community Building Blocks program. And they are on track to double those numbers in 2015. Recipients include housing groups like Habitat for Humanity and Behrend Builders, schools, job training programs, animal shelters, nonprofit theaters, civic associations and scout troops. They've also hosted countless educational tours, construction classes and workshops to teach DIY skills to local residents and small businesses.

As recognition for their dedication to the green economy, Community Forklift was awarded the 2014 People and Planet Award by Green America, one of many such awards they've received from both local and national groups promoting sustainability.

How it works:

The Community Forklift warehouse and yard is not just filled with the unusual. In fact, it is predominantly filled with the pedestrian—wood doors, kitchen cabinets, wood trim, tile flooring, metal conduit and PVC piping. They even take usable paint, which can be particularly difficult to dispose of properly. Anything you can imagine that might be left over from a construction site, you're bound to find here. And most of these materials don't stay here for long. There is a steady stream of homeowners and small contractors leaving Community Forklift with their trucks loaded up for the projects on hand.

Donations are either brought to the warehouse or can be picked up by the Community Forklift staff. These donations are the fuel that keeps the business going. Every day trucks back up to Community Forklift's loading dock to unload their materials. Then the staff—including paid professionals, trainees from workforce development programs and volunteers—sorts each item, categorizes it, prices it, tags it and transfers it out onto the warehouse floor where it remains until sold. Sometimes they get reclaimed materials from older homes, which are attractive to antique dealers and collectors. Sometimes they get raw building materials, which are popular with small contractors in the area who find the prices (often 75% less than retail) allow the contractors to stay competitive. Sometimes they get appliances and cabinets, which are a huge help for individual homeowners or charities who cannot otherwise afford to buy new. And

sometimes they get the unforeseen and unusual, which might make their way into the local crafts scene as repurposed decorative pieces (the front of the warehouse is shared by Tanglewood Works, a particularly fun and funky upcycled art shop).

Most of the more standard materials do not stay long in the warehouse or the yard. There is always a good market for unused PVC pipe or left-over wood trim. And items like exterior doors, flooring materials and insulation are in constant demand. Appliances that are in working order—especially window air conditioning units—are a huge help to the underserved population in the region. While the more unusual materials often stay on the floor longer than the more common ones, when someone finds a connection to a unique item, they are typically thrilled to have found just the odd part or piece they were looking for—perhaps a beautifully crafted radiator or an historic piece of door hardware that they could not have found anywhere else.

Over the course of their 10 years, Community Forklift has done quite a bit of study on the materials they collect. They've analyzed the environmental impact of salvaging everything that comes into their warehouse and they often take materials which are difficult to move because the positive environmental impact outweighs the difficulty of storing them for long periods of time. They've also analyzed what moves quickly, what is needed most by whom and what materials are difficult to partner with end users and have little impact on the environment. It is a constantly shifting evaluation that informs their business.

Did You Know...?



DDOT, DDoE and Casey Trees planted 11,590 trees in the District in 2014

Source: Sustainable D.C. Second Year Progress Report, April 2015

Web of Partners:

This constant evaluation and research has led Community Forklift to develop numerous connections with similarly minded businesses in the region. Those businesses have developed into a network of shared resources and shared goals, which is more transformative than any one company could be on their own. If Community Forklift can't directly use a particular donation, they probably know someone who can. For example, when Catholic University offered bunk beds from a dorm renovation, Community Forklift worked with social service partners to find parents in need. A large load of pallets was given to Wangari Community Gardens, who turned them into sturdy fencing. Each summer, when the Smithsonian Folklife Festival ends, the Forklift staff reaches out to artists and landscapers to find homes for all sorts of odd items—everything from vinyl banners and tent flaps to Welsh rock cairns and Chinese bamboo gates. If you need to dispose of something

unusual, ask the Forklift for advice—their connections allow them to extend their reach beyond just their own core mission.

One of their frequent partners is Details, a company that specializes in deconstructing buildings, as opposed to demolishing them. While this process takes longer than simply knocking the building down, it prevents the rubble from being sent to local landfills and returns a significant amount of reusable building material—sometimes historic building material like reclaimed timbers—back to its original purpose. Thanks to the tax deductions for donating these materials to Community Forklift, the property owner can often break even—or even save money—compared to traditional demolition. In addition, Details provides a significant social benefit, as deconstruction creates 6 to 8 times more jobs per projects than demolition, and provides an ideal entry-level position for individuals who have barriers to employment, such as ex-offenders and special needs workers. They learn basic job skills, as well as the specific skills needed to perform this work.

How you can help:

There are a number of ways you can participate and help Community Forklift succeed in their mission.

- **Donate** – The easiest way is to donate materials. If it's in reasonably good shape and can be used by others, they'll find a partner who needs it. Their website lists the types of materials they can accept and any restrictions (<http://communityforklift.org/donate/donate-materials/donation-guidelines/>), but there are very few items that cannot be repurposed. It is always worth calling ahead if you have any questions about the materials you'd like to donate, particularly since there are no dumpsters on site to discard materials they cannot accept. However, as long as it is not hazardous or broken, the list of items they cannot accept is very short. Materials that can be reused in the residential trades—appliances (other than dishwashers, which break quickly), doors and windows, cabinets, wood trim—are in particularly high demand. However, many products from commercial and industrial projects—masonry, stone countertops, ceiling tile, VCT, carpeting—can also be repurposed for local small businesses, restaurants, churches and community organizations looking to improve their facilities. They are also grateful for antiques and tools that are in working order.

It is always best if you can deliver your donations to their warehouse just outside Northeast D.C. in the Hyattsville area; however, Community Forklift does offer a free pickup service as well. All it takes is a call to their Donation Coordinator at 301-832-0781 or a visit to their website (www.CommunityForklift.org) to schedule a donation. A little notice for a pickup is always appreciated, but they'll work hard to accommodate the contractor community. And don't forget—not only will you reduce your disposal costs, but your donation, whether a single box of hardware or a complete building you are having deconstructed, is tax deductible. Of course, Community Forklift is always happy to accept monetary donations as well.

- **Teach a trade** – Nearly every weekend, Community Forklift hosts classes for local small contractors and DIY homeowners looking to improve their skills. If you have a skill related to the construction trades (and if you're reading this, you probably do), here's an opportunity for you to pay it forward. The skill you teach may help someone in the community secure a job or spark an interest.
- **Volunteer** – It takes a lot of work to receive and organize all of the materials that come in to Community Forklift. Even with 40 employees, a large portion of the workforce is made up of community volunteers and interns. If sorting and organizing donations doesn't appeal to you, perhaps you'd be interested in staffing a booth at a street festival, greeting customers or helping out at one of their many community improvement events—cleanup along the Anacostia River, Christmas in April, or any of their other frequent outreach programs.
- **Connect** – Community Forklift's facility is open to the public seven days a week. Stop by and browse their warehouse or yard. Perhaps make a purchase. There are things here you won't find anywhere else. Or make a connection with one of their partner organizations. Whether a sustainability partner, a small business partner or a local charitable partner, there are a lot of good organizations doing good work in our community. You can connect with them through Community Forklift. Visit their website for more information or stop by and make a more personal connection anytime.

Whatever you have to offer – material or monetary donations, skills and expertise, time and energy—Community Forklift has a way to put it to use for someone else in need. You'll be helping the environment, helping the local community and helping yourself at the same time.

Congratulations to Community Forklift for 10 years of doing well by doing good! 

CommunityForklift.org

To Make a Donation: 301-985-0781

Store Phone: 301-985-5180

Store Hours: Open Mon–Sun from 9am–6 pm
and now open till 7pm on Wed & Fri!

Dropping off a donation or picking up a bulky item?
Please arrive at least 30 min. before closing

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Smart Thinking From Every Angle

Authors: Ben Cohen, LEED AP ID+C, VP Interiors, DAVIS Construction

Louise Boulton-Lear, CPSM, VP Integrated Marketing Communications, DAVIS Construction

Contributor: Tina O'Connell, Director of Programs, Kenilworth Aquatic Gardens

The natural environment has been in competition with the built environment since before the industrial revolution. In most instances the built environment's needs and considerations had the upper hand—especially concerning development. This competition was driven by traditional financial bottom line thinking, rather than holistic planning, which begged the question: *Why were financial and environmental needs so often pitted against each other?*

This finally changed in the mid-1990's, with the emergence of the Triple Bottom Line (TBL). Led by John Elkington, a world-renowned CSR author, thought leader and strategist, TBL provided an accounting model that combines **three elements: social, environmental and financial**. This model redefines the traditional bottom line and seamlessly integrates into a company's business model as part of its CSR strategy. Today, maximizing the triple bottom line is common practice. From non-profits and government agencies to private companies, we are looking at the broader impact of our projects.

Sustainability Is Everyones Business.

Nationally and locally, the daily strain on our natural environment costs billions of dollars each year. Rivers flood more frequently and runoff pollutes our waterways, continually damaging our aging urban infrastructure. Education and sustainable construction best practices significantly help to reduce this damage, but we must think globally and act locally. Our biggest opportunity to impact real change starts with our immediate community. Many hyperlocal strategies are used to successfully decrease the impact of rain runoff, water pollution and flooding in the DC area. The following examples reduce—and in some instances, eliminate precipitation from entering rivers, streams and central processing facilities (like DC Water's Blue Plains Advanced Wastewater Treatment Plant).

Green Roofs:



Credit: © 2009 Dan Poyourow

Green roof at 1225 Connecticut Ave, NW

- Reduces energy use and cost, air pollution and greenhouse gas emissions.
- Enhanced stormwater management and water quality.
- Decreases the impact of runoff. Reduces the urban heat island effect.
- Improved tenant health and comfort

Rain Barrels:

- Captures water runoff from the roof and provides a free supply of soft water (which does not contain chlorine, lime or calcium making it ideal for garden irrigation + outdoor cleaning). Diverts water from storm drains and decreases the impact of runoff to streams.
- Harvested to provide non-potable water.

Did you know? Per an Environmental Protection Agency (EPA) study, lawn and garden watering make up nearly 40% of total household water use during the summer. A rain barrel can capture up to 1,300 gallons of water during the peak summer months



Credit: © Little Falls Watershed Alliance
<http://www.lfwa.org/rain-barrels>

Household rain barrel.

Graywater Cisterns:

- Captures and filters 'gently used' water (from a roof, shower, sink, dishwasher, washing machine rinse water).
- Harvested to provide non-potable water.

Paver System:



Credit: ©Ed Weimann

Pavedrain at the National Arboretum, infiltrates up to 4000 inches of water per square foot per hour handling direct rainfall and run-off

- Allows water to permeate through the surface, but durable enough for fire trucks and heavy equipment.

CSR Case Study: Kenilworth Aquatic Gardens.

Another pathway to building an environment that is more resilient to flooding is to **preserve riparian areas and wetlands**. These areas naturally absorb and filter runoff—removing the opportunity to pollute our streams. Kenilworth Aquatic Gardens is the only spot in Washington, DC that serves this purpose, providing crucial flood control, impactful environmental stewardship and valuable educational opportunities for every age.


Managed by the National Park Service (NPS), Kenilworth is a true hidden gem that is home to the only remaining tidal marsh wetland in DC. This unique historic site was discovered in the 1800's by Walter Shaw, a wounded Civil War veteran. He found the wetlands to be the perfect place to build his water garden and fuel his gardening hobby. It is the only national park dedicated to aquatic plants, such as the American lotus.

A key driver of Kenilworth's success is partnership and shared mission. The Friends of Kenilworth Aquatic Gardens is a 501(c)3 nonprofit organization that work in unison with NPS to connect people to the park through volunteer engagement, community events, education and recreation. The organization recognized early on that their mission and values seamlessly combined the social and environmental elements that are the bedrock of CSR strategy.

Understanding the valuable opportunity that supporting Kenilworth offers like-minded companies, Friends of Kenilworth Aquatic Gardens developed their innovative Corporate Partnership Program. By supporting Kenilworth companies can authentically round out and maximize their triple bottom line—impacting real environmental change,

and developing employee and community engagement. From monthly volunteer pond rehab projects and custom weekday events, to partnering with neighboring nonprofits such as Outdoor Afro and DC Promise Neighborhood Initiative to provide social experiences, supporters both enhance community well-being, and help ensure healthy ecosystem function.


Volunteers can literally get their boots muddy during a pond rehabilitation project. The removal of invasive plants, and planting of native vegetation ensures a healthy ecosystem, effective flood control and provides important habitat for wildlife.

When considering CSR partnership, one rarely finds a single organization helps both people and planet. Friends of Kenilworth Aquatic Gardens is proud to work with the most socially and environmentally conscious partners in the DC area to reduce the social, environmental and financial burden on existing infrastructure and waterways. To learn more please contact, **Tina O'Connell, Director of Programs** at 202-494-0456 or tina@friendsofkenilworthgardens.org 



Credit: © The Friends of Kenilworth Aquatic Gardens

People and teams (of all sizes) play an important role in providing much-needed labor to the park.



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1st Place: **J.E. Richards – Team 2**

2nd Place: **J.E. Richards – Team 1**

Men's Longest Drive Contest: **Jeff Kruse**

Womens' Longest Drive Contest: **Sara Collins**

Closest to the Pin Contest: **Jose Benitez**

Putting Green Contest: **Keith Foote**

JONES COURSE

1st Place: **Chesapeake Electrical Systems**

2nd Place: **Telligent Masonry**

Men's Longest Drive Contest: **Jeremy Stover**

Closest to the Pin Contest: **Mike Occi**

Putting Green Contest: **Mark Warren**

NORMAN COURSE

1st Place: **Engineering Design Group (EDG2)**

2nd Place: **Siemens Industry – Team 1**

Men's Longest Drive Contest: **A.J. Vertino**

Womens' Longest Drive Contest: **C.C. Bartholomew**

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Member Projects



Archer Park, Washington, DC

SIGAL Construction Corporation will start work on construction of the replacement Kilby Elementary School in Woodbridge, VA. The new 98,500-square-foot public school for Prince William County will consist of two separate buildings and will address critical overcrowding issues currently faced by many schools along the I-95 corridor.

The existing school will be torn down following completion of the new facility. The two new buildings are connected by an indoor corridor and will include classrooms, teacher/ faculty lounges, a gymnasium that also serves as a cafeteria, and office space for faculty and administration. Construction consists of a steel frame and masonry structure with masonry exterior and roofing system. Interior finishes, casework, building systems, FF&E, utilities, a new bus loop, parking, and miscellaneous site work are also included. The school is targeting LEED for Schools 2009 certification and has an expected completion



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Discovery Elementary School: anticipated first Net Zero Energy school on the east coast

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Member Projects

date of Fall 2017 (which includes the demolition of the existing school).

Archer Park, Limited Partnership has awarded **WCS Construction, LLC** the Archer Park Phase I Site Work located at Mississippi Avenue, SE between 13th Street and 10th Place, Washington, DC. The initial site work for Archer Park consists of excavation, site utilities, retaining wall, curb and gutter and paving. Upon completion of the site work, construction of Archer Park Apartments—the 183,098-square-foot, 190 unit residential project will include four stories above ground and one story below ground—will begin.

Grunley Construction Company, Inc. and Samaha Architects were selected by the City of Falls Church and Falls Church City Public Schools for a \$15M contract to provide design and construction services for Mount Daniel Elementary School. The project scope includes a 21,000-square-foot renovation and a 64,000-square-foot addition to the K-2 school, which will be designed to accommodate 792 students with a total of 85,000 square feet. The three-story addition will include new classroom space, day care offices, and a gymnasium, cafeteria and media center. All of the spaces for community use will be located on the lower entry level, which will promote visual security at entrances and secure the remaining areas of the building.

Earlier in July, **Donohoe Construction Company** celebrated with a Topping Out luncheon for project team members after the placement of the final beams brought the 625 H Street NE multifamily project to its highest point. The \$55.3 million project will consist of 307 units within a nine-story concrete apartment building and a five-story wood frame building. A courtyard with a Bocce court and grill area, rooftop pool, fitness room and a multi-functional area with a fireplace and kitchen will be amenities for residents to enjoy. Additionally, three levels of below grade parking and ground retail will also be included. The 464,876-square-foot project broke ground in February 2014 and is on schedule to reach substantial completion next spring. **B**



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New Members

New Members

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Representative: **Jeff Eichenauer**

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www.habitatnova.org
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New Member Descriptions

Colonial Electric Supply

From parts and materials, to technical support and project management, Colonial Electric divisions specialize in connectivity solutions for electrical and telecommunications contractors, utilities, and providers. With more than 100 years of experience, they support their clients in installing and maintaining systems that assure the seamless and efficient flow of light, power, data and communications from source to end user.

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Consolidated Electrical Distributors Inc. (CED) is an American-owned, privately held wholesale electrical supply. They have two locations in the DC Metro area: Catalano (Sterling), VA and Cheverly, MD. As self-sufficient profit centers of the CED family, these two locations have all of the resources of a large corporation with the personal attention of smaller, local supply houses. Since 1957, CED has continued to perform daily practices with the same three principles it was founded on: Service, Integrity and Reliability.

GEO-Instruments, Inc.

GEO-Instruments, Inc. provides instrumentation and monitoring solutions. They supply, install, and integrate geotechnical sensors and geomatic systems, and automate the collection, processing and delivery of data.

Geo-Technology Associates, Inc.

Geo-Technology Associates, Inc. (GTA) is currently celebrating its 30th year in business. They have 16 offices throughout the mid-Atlantic region and Carolinas and provide services to residential, commercial, and industrial clients; public institutions; and local, state and federal government agencies. With more than 285 engineers, geologists, scientists, and support personnel, GTA focuses on geotechnical and foundation engineering, subsurface exploration,

construction observation and materials testing, environmental issues from Phase 1 Environmental Site Assessments through management of remediation for contaminated water and soil, groundwater resource evaluations, and natural resource services ranging from natural resource inventories to federal and state permit processing. GTA prides itself in providing value to its clients and their projects. Superior delivery of service and creative solutions compliment their capabilities and collective commitment.



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Habitat for Humanity of Northern Virginia

Habitat for Humanity of Northern Virginia (Habitat NOVA) brings communities together to build decent, affordable housing—and provide hope—to people in need. Habitat NOVA provides a “hand up” to home ownership through sweat equity, donor generosity, volunteer labor and interest-free mortgages. They are locally chartered, self-sustaining and an independently operated affiliate of Habitat for Humanity International. Founded in 1990, Habitat NOVA is headquartered in Alexandria, Fairfax and Falls Church. They perform all of the fundraising, site selection, home construction, mortgage servicing, and partner family selection and support in their service area. Since Habitat NOVA’s founding, they have built 84 homes, rehabilitated eight homes, and repaired the exteriors of 25 homes in Northern Virginia. Their unique approach to home building in the Washington, DC metro region includes participating in the Neighborhood Stabilization Program, a project funded by the U.S. Department of Housing and Urban Development, and building multi-family housing.

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MAGNA provides construction, maintenance and other services including: new construction, renovation, rough and finish carpentry, millwork, door frames and hardware, punch-out carpentry, accessories and furnishings, after construction final cleaning, labor force, facility management, exterior grounds, interior areas, office cleaning, emergency clean-up and snow removal.

Price Modern

Price Modern is one of the largest contract furniture dealers in the DC area and has been in business for over 100 years. They are also the largest Haworth dealer in the world. Price Modern provides furniture services for commercial, multi-family, hospitality and healthcare projects. Furniture products include, but aren’t limited to: workstations, private offices, demountable walls, raised flooring, ancillary furniture, etc.

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WBC Calendar & Advertising Information

Events Calendar

August 2015

- **August 15**, 10:00 a.m. – 12:00 p.m.
Food & Friends
219 Riggs Road, NE, Washington, DC
- **August 19**, 5:00 – 7:00 p.m.
Summer Networking
Cactus Cantina, Washington, DC

September 2015

- **September 16**, 5:30 p.m.
Board of Directors Meeting & Dinner
Location TBD
- **September 19**, 10:00 a.m. – 12:00 p.m.
Foods & Friends
219 Riggs Road, NE, Washington, DC

October 2015

- **October 17**, 10:00 a.m. – 12:00 p.m.
Foods & Friends
219 Riggs Road, NE, Washington, DC

November 2015

- **November 21**, 10:00 a.m. – 12:00 p.m.
Foods & Friends
219 Riggs Road, NE, Washington, DC

December 2015

- **December 8**, 6:00 – 8:30 p.m.
Holiday Party
Congressional Country Club, Bethesda, MD

Editorial Calendar

February / March

Labor Shortage

April / May

Craftsmanship Awards & Hall of Fame

June / July

Sustainability / Green Building

August / September

Rebuilding Together / Community Services

October / November

WBC New Board & Leadership

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 third week of the month preceding the issue. The **Bulletin** is published ten times a year by WBC. To place an ad, submit material or for more information call **(202) 293-5922**.

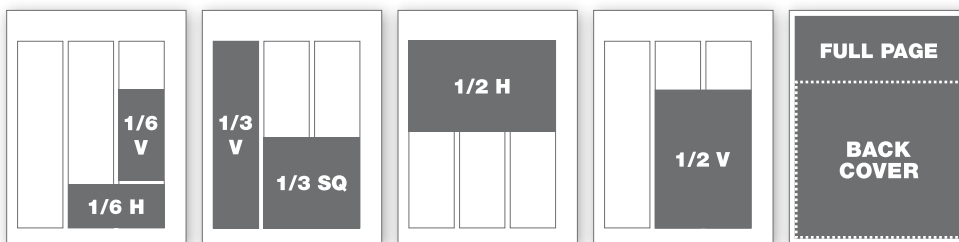
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