

BUILDING THE NATION'S FUTURE

CIVIL AND STRUCTURAL ENGINEERING AND ARCHITECTURE ARE GROWING FIELDS AS THE COUNTRY'S INFRASTRUCTURE AGES.

As infrastructure continues to age and the economy rebounds, civil and structural engineers and architects will be needed to manage projects to rebuild bridges, repair roads, build and upgrade airports and buildings - and so much more.

This means additional employment opportunities in the both the architecture and civil/structural engineering fields. *Read more about this from Aerotek on page 47.*

Here, five engineers working at MWH (Stantec), Nordic PCL Construction, WSP | Parsons Brinckerhoff, KBR and HNTB, respectively, in the field share what they do, why they do it and how to succeed in this growing field.



MWH's Bernedo-Sanchez Ensures Safety against Mother Nature

Carmen Bernedo-Sanchez deals with Mother Nature's outbursts to help industry and communities.

With expertise in hydrology, hydraulics, river engineering and dam safety, Bernedo-Sanchez is a principal civil engineer with Broomfield, CO-based MWH, now part of Stantec, working on water infrastructure projects. She performs and supervises engineering analysis and designs for diversion structures and dam-water control/conveyance facilities. She also performs assessments to quantify and manage extreme storm events in North and South America and beyond.

"The opportunities I've had to work globally have been on amazing projects that have helped me grow my international experience," says Bernedo-Sanchez.

Carmen Bernedo-Sanchez, a principal civil engineer with MWH, now part of Stantec, loves how she can help protect against what Mother Nature conjures up. She counsels young professionals to be authentic, do what they love and never stop learning.



BY AMANDA N. WEGNER

Keen math skills, a penchant for challenges and growing up in Peru, which is prone to earthquakes and flooding, all influenced her decision to choose civil engineering.

"As a society, we cannot avoid the extreme hazards Mother Nature produces, but we can design and plan facilities to manage them," she says.

With MWH for about 12 years, it was during graduate school and in making connections with students from around the world that Bernedo-Sanchez realized she wanted to work for a global company.

"Learning about the opportunity to work for a company where I could apply my expertise and support the company's operations worldwide drew me to MWH," says Bernedo-Sanchez.

"The magnitude and complexity of the projects we work on is remarkable, and I love it. Working for a global company allows me the benefit of working on a geographically diverse business portfolio and provides an additional level of challenge and opportunity."

She advises young professionals to be authentic, do what they love and never stop learning: "You can paint your future. It comes from my mother, a true believer that with passion and hard work you can achieve anything you aspire to do."

Who MWH Is

MWH, now part of Stantec, employs 22,000 across six continents. Its work includes engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics.

The current and future workforce will face different challenges than the ones faced by our engineers 30 years ago, says Bernedo-Sanchez. "Climatic shifts, the special sociopolitical context and continued globalization are among those challenges. We need to be prepared to function in a VUCA - volatile, uncertain, chaotic and ambiguous - environment. It's also key to understand public involvement and to have great communication skills."

Go to mwhglobal.com/careers and stantec.com/careers.html to discover MWH and Stantec job opportunities, respectively. Connect on Facebook, Twitter, LinkedIn, YouTube and Google+.

Nordic PCL's Lee-Hill Goes From Teacher to Engineer

Each day Lakaysha Lee-Hill gets to see her work grow a little taller over the Honolulu, HI skyline.

Lee-Hill is a field engineer for Honolulu-based Nordic PCL Construction, Inc., which is part of PCL Construction, a group of independent construction companies based in Denver, CO, that works across Canada, the U.S., the Caribbean and Australia.

She supports project staff to ensure construction plans and designs are built correctly and meet expectations of clients. "I spend most of my time on a construction site reading blueprints and working with subcontractors to bring the plans to life," says Lee-Hill.

The engineer is working on her first project, Waiea at Ward Village, a luxury high-rise project in the heart of Honolulu. "This project is the first of its kind, and I'm in awe of what we're building."

A former teacher, Lee-Hill "fell into construction." With the company for a little more than one year, she started as a temp. Having caught the attention of management, they asked her to stay longer; she eventually asked for a full-time, salaried position, ultimately moving into her current position.

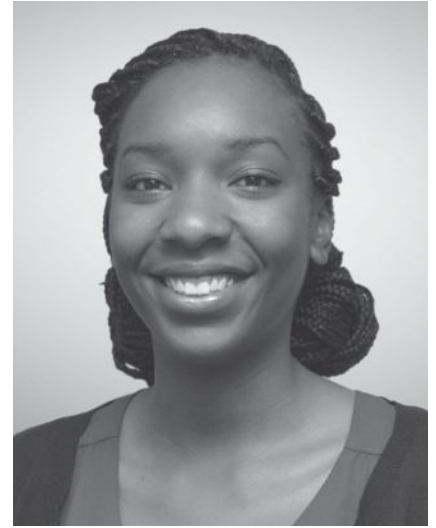
"I enjoy the fast-paced work environment, and I'm in awe [of] the creativity and hard work that goes into construction," Lee-Hill remarks.

To support her new role and gain technical skills, she's enrolled in a construction management certificate program at San Diego (CA) State University.

While Nordic PCL's culture and focus on diversity and transparency were attractive to Lee-Hill, she also appreciates the company's open-mindedness.

"In today's job market there are few companies that are willing to take the risk of hiring someone without proven experience directly related to the field. Nordic PCL looked beyond my previous job titles, and focused on the skills and unique perspective that I could bring to the company," she points out.

Young professionals, she believes, can position themselves for success in construction by taking the initiative and asking for what they want.



Lakaysha Lee-Hill, Nordic PCL field engineer, feels young professionals can position themselves for success in construction by taking the initiative and asking for what they want.

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"When I became a staff member, I immediately developed a 30-60-90 day plan and scheduled a meeting with my managers. I wanted to share my goals and an action plan to make sure I succeed in my role. They were really impressed I took the initiative to carve my own path, and I was taking ownership of my new role," explains Lee-Hill.

Who Nordic PCL Is

Nordic PCL is a general contractor established in Hawaii in 1938 under Nordic Construction Ltd. It merged with PCL Construction in 2008. PCL is a group of independent construction companies that carries out work across Canada, the U.S., the Caribbean and Australia.

She also advises young professionals to seek mentors as well as be a mentor.

"On my project there are people with more than 30 years of experience, so I constantly pick their brains and listen to their advice. I also mentor youth who challenge my perspectives and get me to think outside the box," she shares.

Look at

pcl.com/Careers/Pages/Search-Careers.aspx to locate Nordic PCL jobs. Connect on Facebook, Twitter and LinkedIn.

Steiner Merges Talents at WSP | Parsons Brinckerhoff

Safe transit is core to what Tasha Steiner does as a senior electrical engineer at New York, NY-based WSP | Parsons Brinckerhoff, a global engineering and professional consultancy.

"I manage electrical-related tasks on various roadway, bridge, tunnel, building and transit projects....The majority of my projects are related to lighting since that's been my specialty since joining the firm 12 years ago," describes Steiner.

For instance, she recently designed and reviewed the electrical aspects of a park-and-ride and truck-scale-and-weigh station. The proposed changes provided an additional scale and improved parking facilities for out-of-service and overnight trucks.

Exceeding in math and science as a young child, Steiner always knew she wanted to be an engineer. When it came down to civil and electrical, she was most intrigued by electrical engineering. Work-



Tasha Steiner, senior electrical engineer for WSP | Parsons Brinckerhoff, advises young engineers to take advantage of every opportunity and find a trusted mentor.

ing for a transportation engineering firm such as WSP | Parsons Brinckerhoff allows her to merge the two.

"It just seemed like the company was a perfect fit for my personality, and working here would give me the opportunity to work on some of the largest infrastructure projects in the country," says Steiner.

Who WSP | Parsons Brinckerhoff Is

Global engineering professional services firm WSP | Parsons Brinckerhoff employs approximately 36,500 people. It works in more than 500 offices across 40 countries to provide engineering and multidisciplinary services in a vast array of industry sectors.

What she enjoys most about her job is that it involves constant learning. "Each project is different in its own unique way, and I'm constantly faced with new challenges. But with these challenges comes the opportunity to learn more....Learning the technique of lighting design and the various applications has been the high-

light of my career. I've worked on lighting projects related to roadways, tunnels, bridges, buildings and transit centers. Through these experiences I've learned the latest in lighting practices and found my work to be very enjoyable."

Steiner also appreciates how the firm allows employees to become engaged with the local community. She facilitates activities and workshops to get local youth interested in engineering. "I'm grateful to work for a company that sees the value in giving back and supports its employees in doing so," she notes.

To develop herself professionally and expand her network, Steiner participates in local WTS International (Women in Transportation Seminar) and Conference of Minority Transportation Officials (COMTO) events.

She offers this advice: "Never close the door on an opportunity until you've made the effort to hear the offer. Everyone [also] needs to have someone they can trust to always give sound advice while relating to their situation."

Search

wsp-pb.com/en/WSP-USA/Join-us-USA and wsp-pb.com/en/Careers to uncover WSP | Parsons Brinckerhoff job possibilities. Connect on LinkedIn, Twitter, Facebook, YouTube and Google+.

KBR's Jeong Turns Childhood Fascination Into Thriving Career

Growing up, Minyoung Jeong, PE had many opportunities to visit shipyards with her father, a structural engineer. She watched giant modules and ships as big as football stadiums getting built, and was always fascinated by these big structures. She thought it would be interesting to know how to design one.

Now she wonders no more. Jeong is a senior structural engineer at Houston, TX-based KBR, Inc. in the engineering and construction group. She serves oil, gas and petrochemical industry clients, designing structural steel and concrete structures for the onshore plants. She recently worked on a plant that produces 470,000 metric tons of high-density polyethylene per year.

With the company for almost eight years, Jeong initially came to KBR as an intern after her junior year of college.



Minyoung Jeong, PE and a senior structural engineer at KBR in the engineering and construction group, turned her childhood fascination with how structures were built into a career. She advises others seeking to do so to find a firm where you fit, all while continuing

“YOU LEARN A LOT BY STUDYING THE MATERIALS TO PASS THE EXAM, AND YOU ALSO STAND OUT AMONG THE CANDIDATES WHO DON’T HAVE THESE LICENSES AND CERTIFICATES.”

“My internship experience at KBR was wonderful, because my managers and coworkers were extremely supportive of me learning the real-life engineering application for the first time. I felt like I fit right into KBR’s culture and its civil engineering team, so I decided to accept my full-time employment offer to return upon graduation,” she recalls.

Jeong appreciates KBR’s culture. “Throughout my career at KBR, my managers and direct supervisors have always challenged me to take new roles and greater responsibilities as my career progressed,” she notes.

Jeong feels a good company culture is critical to career success: “Finding the company where you fit and where you see room to grow is the most important aspect to look at when searching for a job.”

Who KBR Is

KBR, Inc. is a global provider of differentiated professional services and technologies. It employs more than 31,000 worldwide, with customers in more than 80 countries, and operations in 40 countries, across three synergistic global businesses: government services, technology and consulting, and engineering and construction.

Jeong recommends young professionals never stop learning. That includes taking graduate-level courses, in-person and online, and free industry-related webinars and journals available from organizations such as American Institute of Steel Construction (AISC) and American Society of Civil Engineers (ASCE).

She also recommends earning licenses and certificates: “You learn a lot by studying the materials to pass the exam, and you also stand out among the candidates who don’t have these licenses and certificates.”

Other factors for success in the field include confidence in your technical knowledge; excellent communications skills; discipline to stay on schedule and budget; and flexibility.

Trust is also paramount. “Trust people you work with on their expertise and the values they bring to the team,” advises Jeong.

View kbr.com/careers to browse KBR career possibilities. Connect on LinkedIn, Twitter, Facebook and Instagram.

HNTB’s Ambare Shapes Infrastructure with Her Keen Engineering Eye

Snehal Ambare, PE, is working to ensure Florida’s toll highways keep people and goods moving safely and efficiently.

Currently a project manager with HNTB working on Florida’s Turnpike Enterprise (FTE) general engineering consultant contract, Ambare manages various design-bid-build and design-build projects for FTE, such as capacity improvements, maintenance contracts, resurfacings, tolling and express lanes.



Snehal Ambare, PE and project manager with HNTB working on the FTE general engineering consultant contract, is using her skills to meet transportation demands and create good infrastructure. She feels to position yourself for success in engineering you must learn from others and work as a team because you’re only as strong as your weakest link.

“I really enjoy how a project comes together, piecing together different parts of the puzzle, problem-solving, coordinating with different disciplines and team members, and delivering quality work on time, under budget and to the clients’ satisfaction,” says Ambare.

“I have a wonderful client with whom I work every day. I believe my success is

based on the success of my client. Seeing them successfully deliver a project to the public gives me the most satisfaction.”

Ambare is currently working on several design-build projects in various stages for FTE. “These are fast-paced projects where the design consultant and contract team bids on the project.”

“WHAT I LOVE ABOUT THIS FIELD IS SEEING DESIGNS AND PLANS I’VE PRODUCED ACTUALLY BEING BUILT. IT’S GRATIFYING TO SHAPE THE WORLD AROUND US TO MEET TRANSPORTATION DEMANDS OF THE FUTURE AND PROVIDE GOOD INFRASTRUCTURE TO THE COMMUNITY.”

Turns out, this engineer has forever been captivated by structures. “Buildings, bridges and construction always fascinated me,” Ambare explains. “What I love about this field is seeing designs and plans I’ve produced actually being built. It’s gratifying to shape the world around us to meet transportation demands of the future and provide good infrastructure to the community.”

With Kansas City, MO-based HNTB for almost five years, Ambare was drawn to the company by its culture, which promotes and encourages talent.

The firm also has a career performance development process that helps employees set short- and long-term goals. In addition, HNTB offers in-house and outside training opportunities. Its employees are encouraged to attend conferences and be active in industry associations, too.

Who HNTB Is

HNTB Corporation is an employee-owned infrastructure solutions firm serving public and private owners and contractors. With more than a century of service, HNTB delivers a full range of infrastructure-related services, including planning, design, program and construction management.

To best position yourself for success in engineering, Ambare offers the following pieces of advice:

- Be proactive, work hard, take new initiatives and responsibilities, don’t be afraid to ask questions and reach out to mentors.
- Learn from others and work as a team because you’re only as strong as your weakest link.
- Treat everyone fairly.
- Have excellent written and verbal communication skills.
- Look beyond what you’re currently doing, and always seek to improve.
- Listen to your mentors and never give up.

In addition, networking is critical, so become active in professional organizations, just as Ambare is. She currently serves on the Central Florida WTS International board and the International Task Force for the International Bridge, Tunnel and Turnpike Association (IBTTA).

“It not only expands your knowledge and grows your professional network,” she asserts, “but it also gives you access to industry experts who can help mentor and shape your career.”

Explore hntb.com/careers to follow HNTB career paths. Connect on Facebook, Twitter, LinkedIn and Instagram.

The Future Looks Bright for Civil Engineering

As the manager of divisional operations for Aerotek’s environmental and engineering division, Ed Gruss has a pulse on the engineering industry and its talent needs.

Having worked for professional staffing firm Aerotek, aerotek.com, for 12 years, Gruss provides an employment outlook, plus insight for successfully entering the civil and structural engineering and architecture industry.

What’s the job outlook for civil/structural engineers today?

Gruss: The opportunity for employment in the civil engineering field is good. As the economy continues to improve, there’s pent-up demand for new residential and non-residential buildings. In addition, while government-funding levels to repair and upgrade public infrastructure will remain flat, the spending levels are significant. This demand will also be amplified by the skills gap created by workforce changes, such as Baby Boomers retiring and an increased dependence on technology. All together, these factors will sustain and increase the demand for architects and engineers of all disciplines for the foreseeable future.

How can one best prepare themselves for a career in the field?

Gruss: It’s critical that young professionals take full advantage of opportunities, especially internships, to build their skills and work experience before entering the job search.

Working several internships that focus on a range of projects or specializations is beneficial for college students who may not know what niche they’d like to pursue. Being as diverse as possible in internships will make you more marketable to a range of potential employers.